











OASYS

Open Architecture Synthesis Studio

Parameter Guide

-  OPEN ARCHITECTURE SYNTHESIS SYSTEM
-  EXPANSION INSTRUMENTS
-  EXPANSION SAMPLES
-  EXPANSION EFFECTS
-  KARMA KEY ALGORITHMIC REALTIME MUSIC ARCHITECTURE
-  REMS
-  GENERAL MIDI
-  CD-RW
-  USB2.0
-  TouchView
Graphical User Interface
-  SONDIUS-XG
-  CMT

KORG

Contents

Program mode: HD-1	1
HD-1 Overview	1
Program P0: Play	2
0-1: Main	2
0-6: KARMA GE	7
0-7: Controller View/Effect	11
0-8: Audio Input/Sampling	12
0-9: Control Surface	18
Program P1: Basic/Vector	33
1-1: Program Basic	33
1-5: Vector Control	39
1-6: Vector Envelope	43
1-8: Set Up Controllers	46
1-9: Set Up Pads	47
Program P2: OSC/Pitch	49
2-1: OSC1 Basic	49
2-2: OSC1 Pitch	54
2-5: OSC2 Basic	57
2-6: OSC2 Pitch	57
2-9: Pitch EG	57
Program P3: Filter	61
3-1: Filter1	61
3-2: Filter1 Modulation	64
3-3: Filter1 LFO Modulation	68
3-4: Filter1 EG	69
3-5: Filter2	72
3-6: Filter2 Modulation	72
3-7: Filter2 LFO Modulation	72
3-8: Filter2 EG	72
Program P4: Amp/EQ	74
4-1: Amp1/Driver1	74
4-2: Amp1 Modulation	76
4-3: Amp1 EG	79
4-5: Amp2/Driver2	81
4-6: Amp2 Mod	82
4-7: Amp2 EG	82
4-9: EQ	82
Program P5: LFO	84
5-1: OSC1 LFO1	84
5-2: OSC1 LFO2	87
5-5: OSC2 LFO1	87
5-6: OSC2 LFO2	87
5-9: Common LFO	88
Program P6: AMS Mixer/Common Key Track ..	90
6-1: OSC 1 AMS Mixer	90
6-5: OSC 2 AMS Mix	96
6-9: Common Keyboard Track	97
Program P7: KARMA	100
7-1: GE Setup/Key Zones	100
7-2: MIDI Filter/CC Offset	103
7-3: Module Parameters-Control	105
7-4: Module Parameters-Trigger	110

7-5: GE Real-Time Parameters	113
7-6: Perf Real-Time Parameters	116
7-7: Dynamic MIDI	120
7-8: Random Seeds	122
7-9: Name/Note Map	125
Program P8: Insert Effect	127
8-1: Routing	127
8-5: Insert FX	130
8-6: Track View	133
8-7: IFX 1-12	134
8-9: Common FX LFO	136
Program P9: Master/Total Effect	138
9-1: Routing	138
9-2: MFX1	140
9-3: MFX2	141
9-4: TFX1	141
9-5: TFX2	141
Program: Page Menu Commands	142
<hr/>	
Program mode: EXi	159
EXi Program P0: Play	159
0-1: Main	160
0-6: KARMA GE	161
0-7: Controller View/Effects	161
0-8: Audio Input/Sampling	161
0-9: Control Surface	161
EXi Program P4: Basic/Vector	163
4-1: Program Basic	163
4-2: EXi Audio Input	168
4-5: Vector Control	168
4-6: Vector Envelope	169
4-8: Set Up Controllers	169
4-9: Set Up Pads	169
EXi Program P5: Modulation	170
5-1: Common Step Seq	170
5-2: Common LFO	173
5-3: Common Keyboard Track	173
EXi Program P6: EQ	173
EXi Program P7: KARMA	173
EXi Program P8: Insert Effect	173
EXi Program P9: Master/Total Effect	173
EXi Program: Page Menu Commands	174
<hr/>	
EXi: AL-1 Analog Synthesizer	175
AL-1 Overview	175
EXi Program P0: Play	176
0-1: Main	176
Program P4: OSC Pitch	178

4-1: OSC Basic	178
4-2: Sub/Noise/Ring Mod	181
4-3: Mixer	182
4-4: Pitch Common	184
4-5: Pitch EG/Mod	186
Program P5: Filter	188
5-1: Filter Basic	188
5-2: Multi Filter	191
5-3: Filter Modulation	192
5-4: Filter LFO Mod	195
Program P6: Amp	196
6-1: Amp/Driver	196
6-2: Amp Modulation	198
6-3: Amp EG	200
Program P7: EG 1-4	203
7-1: EG 1 (Filter)	203
7-2: EG 2 (Pitch)	206
7-3: EG 3	206
7-4: EG 4	206
Program P8: Step Seq/LFO	207
8-1: Step Sequencer	207
8-2: LFO 1	209
8-3: LFO 2	212
8-4: LFO 3	212
8-5: LFO 4	212
Program P9: AMS Mixer	213
9-1: AMS Mixer	213
AL-1: Tone Adjust	214
AL-1: Page Menu Commands	216

EXi: CX-3 Tonewheel Organ	217
CX-3 Overview	217
EXi Program P0: Play	218
0-1: Main	218
Program P4: Basic	220
4-1: Basic	220
4-2: Controllers	221
Program P5: Split & Drawbars	223
5-1: Keyboard Split	223
5-2: Drawbars	224
5-3: EX Drawbars	225
Program P6: Percussion	227
6-1: Percussion	227
6-2: EX Percussion	228
Program P7: Amp, V/C, Rotary Speaker	230
7-1: Amp & V/C	230
7-2: Rotary Speaker	232
Program P9: AMS Mixer	235
9-1: AMS Mixer	235
CX-3: Tone Adjust	236
Changes from the original CX-3	237
CX-3: Page Menu Commands	238

EXi: STR-1 Plucked String	239
STR-1 Overview	239
EXi Program P0: Play	241
0-1: Main	241
Program P4: String	243
4-1: Pluck and Noise	243
4-2: PCM Oscillator	245
4-3: PCM Oscillator Pitch	247
4-4: Excitation Mixer	250
4-5: String Main	252
4-6: Damping and Dispersion	256
4-7: String Pitch	258
4-8: Pickups and Feedback	260
4-9: Mixer	263
Program P5: Filter	265
5-1: Filter Basic	265
5-2: Multi Filter	268
5-3: Filter Modulation	269
5-4: Filter LFO Mod	272
Program P6: Amp	273
6-1: Amp	273
6-2: Amp Modulation	274
6-3: Amp EG	276
Program P7: EG 1-4	279
7-1: EG 1 (Filter)	279
7-2: EG 2 (Pitch)	279
7-3: EG 3	279
7-4: EG 4	279
Program P8: LFO 1-4	279
8-1: LFO 1	279
8-2: LFO 2	279
8-3: LFO 3	279
8-4: LFO 4	279
Program P9: AMS Mixers and String Track	280
9-1: AMS Mixers 1-2	280
9-2: AMS Mixers 3-4	280
9-9: String Track	280
STR-1: Tone Adjust	282

EXi: MS-20EX	285
MS-20EX Overview	285
On-screen knobs and switches, and the Parameter Details area	286
EXi Program P0: Play	287
0-1: Main	287
Program P4: Oscillators & Filters	289
4-1: Oscillators & Filters	289
Program P5: MG, EG, & Modulation	293
5-1: MG, EG, & Modulation	293
Program P6: Patch Panel	297
6-1: Patch Panel	297

Program P7: EG 3-6	307
7-1: EG 3	307
7-2: EG 4	307
7-3: EG 5	307
7-4: EG 6	307
Program P8: LFO 1-4	307
8-1: LFO 1	307
8-2: LFO 2	307
8-3: LFO 3	307
8-4: LFO 4	307
Program P9: AMS Mixers	307
9-1: AMS Mixers 1-2	308
9-2: AMS Mixers 3-4	308
MS-20EX: Tone Adjust	309
MS-20EX: Page Menu Commands	311

EXi: PolysixEX

PolysixEX Overview	313
On-screen knobs and switches, and the Parameter Details area	314

EXi Program P0: Play

0-1: Main	315
-----------------	-----

Program P4: Main

4-1: Main	317
-----------------	-----

Program P5: Modulation & Arpeggiator

5-1: Modulation & Arpeggiator	322
-------------------------------------	-----

Program P7: EG 2-3

7-1: EG 2	324
7-2: EG 3	324

Program P8: LFO 1-2

8-1: LFO 1	324
8-2: LFO 2	324

Program P9: AMS Mixers

9-1: AMS Mixers 1-2	324
9-2: AMS Mixers 3-4	324

PolysixEX: Tone Adjust

EXi: MOD-7 Waveshaping VPM Synthesizer

MOD-7 Overview

Using the Parameter Details area	329
Loading DX sounds	329

Synthesis with the MOD-7: a guided tour

Overview	331
Individual oscillators and subtractive synthesis	332
VPM (aka FM)	333
Filtered VPM	334
PCM as a VPM modulator	335
Waveshaping	336
Ring Modulation	338

EXi Program P0: Play

0-1: Main	340
-----------------	-----

Program P4: Patch Panel

4-1: Patch Panel	342
------------------------	-----

Program P5: Oscillators

5-1: Osc Main	346
5-2: PCM Osc	350
5-3: PCM Mod	352
5-4: VPM Osc1	355
5-5: VPM Oscillator 2	365
5-6: VPM Oscillator 3	365
5-7: VPM Oscillator 4	365
5-8: VPM Oscillator 5	365
5-9: VPM Oscillator 6	365

Program P6: Filter

6-1: Filter Basic	366
6-2: Multi Filter	366
6-3: Filter Modulation	366
6-4: Filter LFO Mod	366

Program P7: Amp

7-1: Mixers 1-3	367
7-2: Main Mixer	368
7-3: Amp	369
7-4: Amp Modulation	369
7-5: Amp EG	369

Program P8: EG 1-9

8-1: EG 1	370
8-2: EG 2	373
8-3: EG 3	373
8-4: EG 4	373
8-5: EG 5	373
8-6: EG 6	373
8-7: EG 7	373
8-8: EG 8	373
8-9: EG 9	373

Program P9: Step Sequencer, LFO 1-4, and AMS Mixers

9-1: Step Sequencer	374
9-2: LFO 1	374
9-3: LFO 2	374
9-4: LFO 3	374
9-5: LFO 4	374
9-6: AMS Mixers 1-2	374
9-7: AMS Mixers 3-4	374
9-8: AMS Mixers 5-6	374
9-9: AMS Mixers 7-8	374

MOD-7: Tone Adjust

MOD-7: Page Menu Commands

Combination mode

Combination P0: Play

0-1: Program Select/Mixer	377
0-6: KARMA GE	383
0-7: Controller View/Effect	386
0-8: Audio Input/Sampling	387

0-9: Control Surface.....	389
Combination P1: EQ/Vector/Controller.....	401
1-1: Timbre EQ.....	401
1-5: Vector Volume Control.....	403
1-6: Vector CC Control.....	406
1-7: Vector Envelope.....	409
1-8: Set Up Controllers.....	412
1-9: Set Up Pads.....	413
Combination P2: Timbre Parameters.....	415
2-1: MIDI.....	415
2-2: OSC.....	416
2-3: Pitch.....	418
2-4: Delay.....	419
2-5: Wave Sequence/KARMA.....	420
2-6: EXi Audio Input.....	422
Combination P3: MIDI Filter/Zones.....	423
3-1: MIDI Filter1.....	423
3-2: MIDI Filter2.....	424
3-3: MIDI Filter3.....	425
3-5: Keyboard Zones.....	426
3-6: Velocity Zones.....	428
Combination P7: KARMA.....	430
7-1: GE Setup/Key Zones.....	430
7-2: MIDI Filter/CC Offset.....	434
7-3: Module Parameters-Control.....	435
7-4: Module Parameters-Trigger.....	436
7-5: GE Real-Time Parameters.....	438
7-6: Perf Real-Time Parameters.....	441
7-7: Dynamic MIDI.....	443
7-8: Random Seeds.....	444
7-9: Name/Note Map.....	446
Combination P8: Insert Effect.....	448
8-1: Routing1.....	448
8-2: Routing2.....	451
8-5: Insert FX.....	452
8-6: Track View.....	454
8-7: IFX 1-12.....	455
8-9: Common FX LFO.....	457
Combination P9: Master/Total Effect.....	458
9-1: Routing.....	458
9-2: MFX1.....	459
9-3: MFX2.....	460
9-4: TFX1.....	460
9-5: TFX2.....	460
Combination: Page Menu Commands.....	461

Sequencer mode..... 467

Sequencer Overview.....467

MIDI sequencer.....	467
Setup parameters & Musical data.....	469
Tip: Auto Song Setup.....	470

Sequencer P0: Play/REC.....471

0-1: MIDI Track Prog Select/Mixer.....	471
0-2: Audio Track Mixer.....	477
0-3: MIDI Track Loop.....	482

0-5: Preferences.....	484
0-6: KARMA GE.....	488
0-7: Controller View/Effect.....	490
0-8: Audio In/Sampling.....	491
0-9: Control Surface.....	493

Sequencer P1: EQ/Vector/Controller.....505

1-1: MIDI Track EQ.....	505
1-2: Audio Track EQ.....	507
1-5: Vector Volume Control.....	508
1-6: Vector CC Control.....	511
1-7: Vector Envelope.....	514
1-8: Set Up Controllers.....	517
1-9: Set Up Pads.....	519

Sequencer P2: Track Parameters.....521

2-1: MIDI.....	521
2-2: OSC.....	523
2-3: Pitch.....	525
2-4: Delay.....	526
2-5: Wave Sequence/KARMA.....	528
2-6: EXi Audio Input.....	530
2-7: Audio Track Delay.....	531

Sequencer P3: MIDI Filter/Zones.....532

3-1: MIDI Filter1.....	532
3-2: MIDI Filter2.....	533
3-3: MIDI Filter3.....	535
3-5: Keyboard Zones.....	536
3-6: Velocity Zones.....	538

Sequencer P4: Track Edit.....540

4-1: Track Edit.....	540
4-2: MIDI Track Name.....	542
4-3: AUDIO Track Name.....	543

Sequencer P5: Pattern/RPPR.....544

5-1: Pattern Edit.....	544
5-2: Pattern Name.....	546
5-3: RPPR Setup.....	547

Sequencer P7: KARMA.....550

7-1: GE Setup/Key Zones.....	551
7-2: MIDI Filter/CC Offset.....	555
7-3: Module Parameters-Control.....	556
7-4: Module Parameters-Trigger.....	557
7-5: GE Real-Time Parameters.....	558
7-6: Perf Real-Time Parameters.....	560
7-7: Dynamic MIDI.....	561
7-8: Random Seeds.....	562
7-9: Name/Note Map.....	563

Sequencer P8: Insert Effect.....565

8-1: MIDI Routing1.....	565
8-2: MIDI Routing2.....	567
8-3: Audio Routing1.....	568
8-4: Audio Routing2.....	570
8-5: Insert FX.....	571
8-6: Track View.....	572
8-7: IFX 1-12.....	574
8-9: Common FX LFO.....	576

Sequencer P9: Master/Total Effect.....578

9-1: Routing.....	578
9-2: MFX1.....	580

9-3: MFX2	581
9-4: TFX1	581
9-5: TFX2	581
Sequencer: Page Menu Commands	582
System Exclusive events supported in Sequencer mode	618
<hr/>	
Sampling mode	621
Sampling Overview	621
Sampling to RAM, or direct to disk	621
Sampling features	621
Sampling P0: Recording	625
0-1: Recording	625
0-8: Audio Input	631
0-9: Control Surface	636
Sampling P1: Sample Edit	643
1-1: Sample Edit	643
Sampling P2: Loop Edit	646
2-1: Loop Edit	646
Sampling P3: Multisample Edit	649
3-1: Multisample Edit	649
Sampling P4: EQ/Controller	652
4-1: EQ	652
4-8: Set Up Controllers	653
4-9: Set Up Pads	655
Sampling P5: Audio CD	657
5-1: Audio CD	657
Sampling P8: Insert Effect	660
8-1: Routing	660
8-5: Insert FX	662
8-6: Track View	664
8-7: IFX 1-12	665
8-9: Common FX LFO	666
Sampling P9: Master/Total Effect	668
9-1: Routing	668
9-2: MFX1	670
9-3: MFX2	670
9-4: TFX1	670
9-5: TFX2	670
Sampling: Page Menu Commands	672
<hr/>	
Global mode	699
Global P0: Basic Setup	699
0-1: Basic Setup	699
0-2: Audio Input	705
Global P1: MIDI	708
1-1: MIDI	708
1-2: External 1	714
1-3: External 2	716
Global P2: Controller/Scale	717
2-1: Controller	717

2-2: User Scale	718
Global P3: Category Name	720
3-1: Program Category	720
3-2: Combi Category	721
3-3: KARMA Category	721
Global P4: Wave Sequence	722
4-1: Sequence Parameters	722
4-2: Per-Step Parameters	727
Global P5: Drum Kit	731
5-1: Sample Setup	731
5-2: Sample Parameters	735
5-3: Voice Assign/Mixer	736
Global P6: Plug-in Info	738
Global: Page Menu Commands	740
<hr/>	
Disk mode	749
Disk P0: File	751
0-1: Load	751
0-2: Save	753
0-3: Utility	754
0-9: Media Information	755
Disk P1: Audio CD	756
1-1: Make Audio CD	756
1-2: Play Audio CD	758
1-9: Media Information	760
Disk: Page Menu Commands	761
<hr/>	
Effect Guide	787
Overview	787
About effects resources	787
Effects in each mode	788
Dynamic modulation (Dmod) and Tempo Synchronization	789
Common FX LFOs	790
FX Control Buses	790
Effect I/O	792
Insert Effects (IFX1...IFX12)	794
In/Out	794
Routing	794
Mixer	804
Controlling the Insert Effects via MIDI	805
Master Effects (MFX1, 2)	807
In/Out	807
Routing	807
Mixer	811
Controlling the Master Effects via MIDI	812
Total Effects (TFX1, 2)	813
In/Out	813
Routing	813
Mixer	814
Using MIDI to control the Total Effects	814
Outputs	815

Main Outputs	815	051: Stereo Phaser	866
Individual Outputs	815	052: Stereo Random Phaser	867
Effect/Mixer Block Diagrams	816	053: Stereo Envelope Phaser	868
Dynamics.	819	054: Bi Phaser	868
000: No Effect	819	Modulation and Pitch Shift	870
001: Stereo Dyna Compressor	819	055: Stereo Vibrato.	870
002: Stereo Compressor.	820	056: Stereo Auto Fade Mod.	871
003: Stereo Expander	823	057: 2-Voice Resonator	872
004: St.Multiband Compressor.	824	058: Doppler	873
005: Stereo Limiter	826	059: Scratch	874
006: Multiband Limiter	827	060: Grain Shifter	874
007: Stereo Multiband Limiter	828	061: Stereo Tremolo.	875
008: Stereo Mastering Limiter	829	062: Stereo Envelope Tremolo	876
009: Stereo Gate	830	063: Stereo Auto Pan	877
010: Stereo Noise Reduction.	831	064: Stereo Phaser+Tremolo.	878
EQ and Filters	832	065: Stereo Ring Modulator	879
011: Stereo Parametric 4EQ	832	066: Stereo Frequency Shifter.	880
012: Stereo Graphic 7EQ	833	067: Detune.	881
013: Stereo Master 3EQ	834	068: Pitch Shifter	881
014: Stereo Exciter/Enhncr	835	069: Stereo Pitch Shifter	882
015: Stereo Isolator.	836	070: Pitch Shifter BPM.	883
016: Stereo Wah/Auto Wah	836	071: Stereo Pitch Shifter BPM.	884
017: St. Vintage/Custom Wah.	838	072: Pitch Shift Mod.	885
018: Stereo Random Filter.	839	073: Organ Vibrato/Chorus	886
019: Multi Mode Filter	840	074: Rotary Speaker.	886
020: Stereo Sub Oscillator	841	075: Rotary Speaker Pro OD	888
021: Talking Modulator.	842	076: Rotary Speaker Pro CX.	889
022: Stereo Decimator	843	Delay	891
023: Stereo Analog Record	844	077: L/C/R Delay	891
024: Stereo Wave Shaper.	844	078: L/C/R Long Delay	891
025: Piano Body/Damper	846	079: Stereo/Cross Delay	892
026: Vocoder	846	080: Stereo/Cross Long Delay	893
Overdrive, Amp models, and Mic models	848	081: Stereo Multitap Delay	893
027: OD/Hi-Gain Wah	848	082: Stereo Modulation Delay	894
028: OD/HyperGain Wah	849	083: Stereo Dynamic Delay	895
029: Stereo Guitar Cabinet	850	084: Stereo Auto Panning Delay	896
030: Guitar Amp Model +P4EQ	850	085: Tape Echo	897
031: Guitar Amp Model +Cabinet	851	086: Multiband Mod. Delay	898
032: Stereo Bass Cabinet	852	087: Reverse Delay.	899
033: Bass Amp Model	852	088: Hold Delay	900
034: Bass Amp Model +Cabinet	853	089: Auto Reverse	901
035: Bass Amp TubeDrive +Cab	854	090: Sequence BPM Delay	902
036: Tube PreAmp Modeling.	855	091: L/C/R BPM Delay	903
037: St. Tube PreAmp Modeling	855	092: L/C/R BPM Long Delay	904
038: Mic Modeling +PreAmp	856	093: Stereo BPM Delay	905
039: St. Mic Modeling +PreAmp	856	094: Stereo BPM Long Delay	906
Chorus, Flanger, and Phaser	857	095: Stereo BPM Multitap Delay	907
040: Stereo Chorus	857	096: Stereo BPM Mod. Delay	908
041: Stereo Harmonic Chorus.	858	097: St. BPM Auto Panning Dly.	909
042: St. Bi-phase Modulation	859	098: Tape BPM Echo	910
043: Multitap Cho/Delay 4Taps	860	099: Reverse BPM Delay.	911
044: Multitap Cho/Delay 6Taps	860	Reverb and Early Reflections	913
045: Bi Chorus.	861	100: Overb.	913
046: Ensemble	863	101: Reverb Hall.	914
047: Polysix Ensemble	863	102: Reverb Smooth Hall	914
048: Stereo Flanger.	864	103: Reverb Wet Plate	914
049: Stereo Random Flanger.	865	104: Reverb Dry Plate	914
050: Stereo Envelope Flanger.	865	105: Reverb Room	915
		106: Reverb Bright Room	915

107: Early Reflections	916
108: Early Reflections Hi Dens	916
Mono-Mono Serial	918
109: P4EQ - Exciter	921
110: P4EQ - Wah	921
111: P4EQ - Chorus/Flanger	921
112: P4EQ - Phaser	922
113: P4EQ - Multitap Delay	922
114: Comp - Wah	922
115: Comp - Amp Sim	923
116: Comp - OD/HiGain	923
117: Comp - P4EQ	923
118: Comp - Chorus/Flanger	924
119: Comp - Phaser	924
120: Comp - Multitap Delay	925
121: Limiter - P4EQ	925
122: Limiter - Chorus/Flanger	925
123: Limiter - Phaser	926
124: Limiter - Multitap Delay	926
125: Exciter - Comp	927
126: Exciter - Limiter	927
127: Exciter - Chorus/Flanger	927
128: Exciter - Phaser	928
129: Exciter - Multitap Delay	928
130: OD/Hi Gain - Amp Sim	928
131: OD/Hi Gain - Cho/Flanger	929
132: OD/Hi Gain - Phaser	929
133: OD/Hi Gain - Multitap Dly	929
134: Wah - Amp Sim	930
135: Decimator - Amp Sim	930
136: Decimator - Comp	931
137: Amp Sim - Tremolo	931
138: Cho/Flanger - Multitap Dly	932
139: Phaser - Chorus/Flanger	932
140: Reverb - Gate	932
Mono/Mono Parallel	934
141: P4EQ // P4EQ	937
142: P4EQ // Comp	937
143: P4EQ // Limiter	938
144: P4EQ // Exciter	938
145: P4EQ // OD/Hi Gain	938
146: P4EQ // Wah	938
147: P4EQ // Chorus/Flanger	939
148: P4EQ // Phaser	939
149: P4EQ // Multitap BPM Dly	939
150: Comp // Comp	939
151: Comp // Limiter	940
152: Comp // Exciter	940
153: Comp // OD/Hi Gain	940
154: Comp // Wah	940
155: Comp // Chorus/Flanger	941
156: Comp // Phaser	941
157: Comp // Multitap BPM Dly	941
158: Limiter // Limiter	941
159: Limiter // Exciter	942
160: Limiter // OD/Hi Gain	942
161: Limiter // Wah	942
162: Limiter // Chorus/Flanger	942
163: Limiter // Phaser	943
164: Limiter // Mtap BPM Dly	943

165: Exciter // Exciter	943
166: Exciter // OD/Hi Gain	943
167: Exciter // Wah	944
168: Exciter // Chorus/Flanger	944
169: Exciter // Phaser	944
170: Exciter // Mtap BPM Dly	944
171: OD/Hi Gain // OD/Hi Gain	945
172: OD/Hi Gain // Wah	945
173: OD/Hi Gain // Cho/Flanger	945
174: OD/Hi Gain // Phaser	945
175: OD/Hi Gain // Mt BPM Dly	946
176: Wah // Wah	946
177: Wah // Chorus/Flanger	946
178: Wah // Phaser	946
179: Wah // Multitap BPM Dly	947
180: Cho/Flange // Cho/Flanger	947
181: Cho/Flange // Phaser	947
182: Cho/Flange // Mt BPM Dly	947
183: Phaser // Phaser	948
184: Phaser // Mtap BPM Dly	948
185: Mt.BPM Dly // Mt.BPM Dly	948

KARMA GE guide 949

About the KARMA GE guide 949

How to read the "GE Guide"	949
How GE parameter names are displayed	949

About KARMA 951

Overview	951
Theory Of Operation	951
KARMA Architecture (Diagram)	952

GE (Generated Effect) Group 953

Overview	953
GE Global Parameters	953

Note Series Group 956

Overview	956
Parameters	956

Phase Group 960

Overview	960
About Phase Patterns	960
General Parameters	960
Phase Specific Parameters	962
End Loop Parameters	963
Pattern Parameters	963

Rhythm Group 965

Overview	965
About Rhythm Patterns	965
Global Parameters	965
Pattern Grid & Associated Parameters	966
Random Weighting Parameters - Pools	967
Random Weighting Parameters - Ties	967
Associated Parameters	968

Duration Group 970

Overview	970
About Duration Patterns	970
Pattern Grid & Associated Parameters	970
Associated Parameters	970

Random Weighting Parameters - Pools	971	Pattern Editing Grid	
Random Weighting Parameters – Ties	972	& Associated Parameters	1003
Associated Parameters	972	Associated Parameters	1004
Index Group	973	Random Weighting Parameters– Pools	1005
Overview	973	Random Weighting Parameters– Rests	1006
About Index Patterns	973	Associated Parameters	1006
Pattern Grid & Associated Parameters	973	Direct Index Group	1010
Associated Parameters	973	Overview	1010
Random Weighting Parameters	974	General Parameters	1010
Associated Parameters	974	Duration Parameters	1011
Cluster Group	977	Repeat Parameters	1012
Overview	977	Bend Parameters	1012
About Cluster Patterns	977	Appendices	1014
Pattern Grid & Associated Parameters	977	Using Auto-Bend	1014
Random Weighting Parameters	978	Random Weighting Curves	1015
Associated Parameters	978		
Velocity Group	979	<hr/>	
Overview	979	Appendices	1019
About Velocity Patterns	979	Alternate Modulation Sources (AMS)	1019
Global Parameters	979	Alternate Modulation Overview	1019
Pattern Grid & Associated Parameters	980	Alternate Modulation Source (AMS) List	1021
Random Weighting Parameters	980	Alternate Modulation settings	1025
Associated Parameters	980	Dynamic Modulation Sources (Dmod)	1030
CCs/Pitch Group	982	Overview	1030
Overview	982	Dynamic Modulation Source List	1030
About CC/Bend/Pitch Patterns	982	Controller Assignments	1033
Pattern Grid & Associated Parameters	982	SW1/2 Assignments	1033
Random Weighting Parameters	983	Realtime Knobs 5–8 Assignments	1034
Global Parameters	984	Foot Switch Assignments	1035
Associated Parameters	984	Foot Pedal Assignments	1036
WaveSeq Group	986	Dynamic MIDI Sources & Destinations	1038
Overview	986	Dynamic MIDI Sources	1038
About WaveSeq Patterns	986	Dynamic MIDI Destinations	1040
Global Parameters	986	MIDI transmission from OASYS controllers	1045
Pattern Grid & Associated Parameters	987	OASYS and MIDI CCs	1049
Random Weighting Parameters	988	Responses to standard MIDI controllers	1049
Associated Parameters	988	Parameters controlled by MIDI CCs #70-79	1052
Envelope Group	989	MIDI applications	1055
Overview	989	About MIDI	1055
About Envelopes	989	Connecting MIDI devices & computers	1055
Parameters	989	Messages transmitted	
Level Combinations	992	and received by the OASYS	1056
Time Combinations	992	MIDI Implementation	1068
Repeat (Melodic Repeat) Group	994	Error and confirmation messages	1072
Overview	994	A (ADC–Are You Sure)	1072
General Parameters	994	B (Buffer)	1072
Range Parameters	997	C (Can’t calibrate–Completed)	1072
GE Mode = Real-Time Parameters	997	D (Destination–Disk)	1073
Bend Group	999	E (Error–Exceeded)	1074
Overview	999	F (File–Front)	1074
General Parameters	999	I (Illegal–Index)	1076
GE Mode = Real-Time Parameters	1001	M (Master–Multisample)	1076
Drum Group	1003	N (No data–Not enough song memory)	1077
Overview	1003	O (Obey copyright rules–Oscillator)	1078
About Drum Patterns	1003	P (Pattern–Program)	1079

R (Rear sample–Root)	1079
S (Sample–Source)	1079
T (The clock–Track)	1080
U (Unable to create directory–USB Hub)	1081
W (Wave).	1081
Y (You).	1081
Disk mode information	1083
AIFF and WAVE format details: importing . . .	1083
AIFF and WAVE format details: exporting . . .	1083
About KORG format files	1084
CD-R/RW disks on the OASYS: UDF and packet-writing	1086
EXB-DI option board, additional memory, & calendar battery	1089
Safety precautions	1089
Overview: user-installable hardware	1090
Installing an option board, memory/calendar battery	1090
EXB-DI option.	1094
Updating the system	1096
Using the included Restore CDs to restore the system and factory sounds	1097

Voice Name List	1099
Combinations	1099
Programs	1102
Drum Kits	1114
GM Drum Kits	1114
KARMA GEs	1115
External Setups	1148
Multisamples	1153
Drumsamples	1159
Wave Sequences.	1170
Preset Patterns	1171
Template Songs.	1171
Demo Songs	1172

- * Screen shots from the KARMA software that appear throughout this guide are © 1994-2004 by Stephen Kay, Karma Lab LLC. Used by permission. All rights reserved.
- * KARMA Technology can be located on the internet at: www.karma-lab.com.
- * Linux is a trademark or registered trademark of Linus Torvalds in the United States and in other countries.
- * This product was developed under license of physical modeling tone generator patents (<http://www.sondius-xg.com>) owned by Stanford University USA and Yamaha Corporation.
- * Company names, product names, and names of formats etc. are the trademarks or registered trademarks of their respective owners.

* KARMA[®] (Kay Algorithmic Realtime Music Architecture) Technology has been licensed from Stephen Kay, and is protected by U.S. Patents 5,486,647, 5,521,327, 6,084,171, 6,087,578, 6,103,964, 6,121,532, 6,121,533, 6,326,538, and 6,639,141. Other patents pending.

* KARMA[®] and the KARMA Logo are registered trademarks, and Generated Effect[™] (GE), Melodic Repeat[™], Direct Index[™], Manual Advance[™], SmartScan[™], Freeze Randomize[™], Random Capture[™], Random FF/REW[™] and Scene Matrix[™] are trademarks of Stephen Kay, Karma Lab LLC. This manual copyright © 1994-2004 by KORG Inc. and Stephen Kay. All rights reserved.

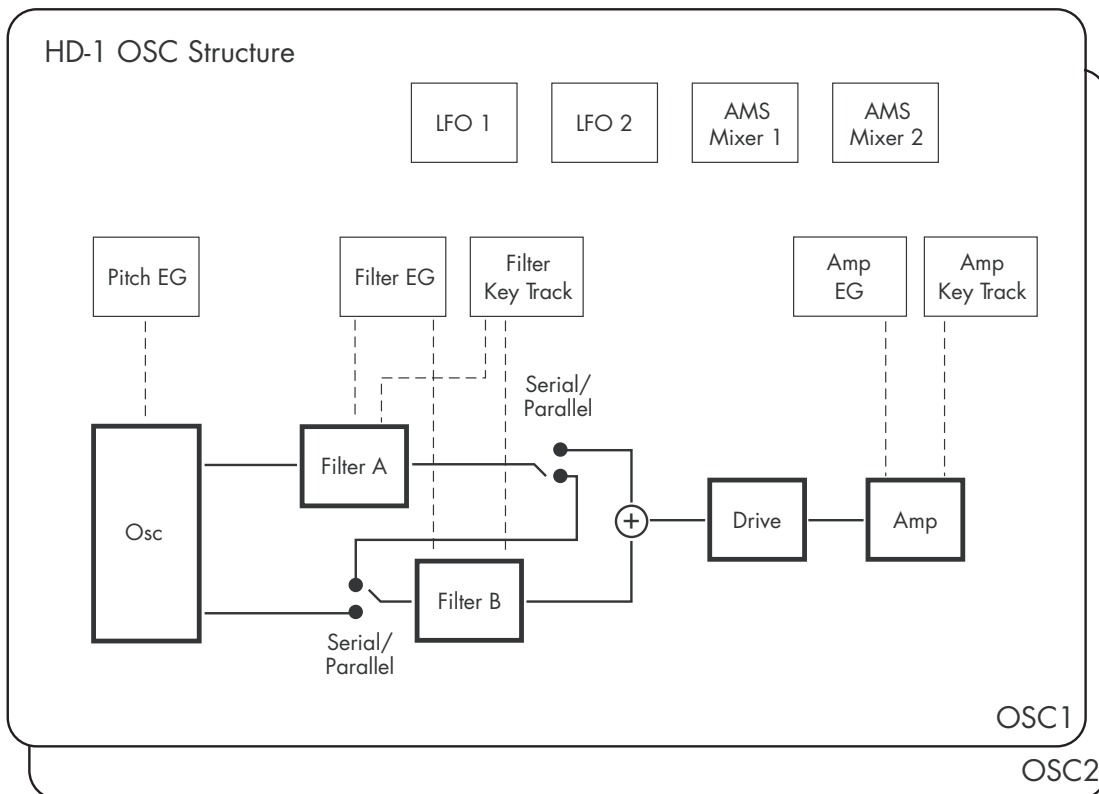
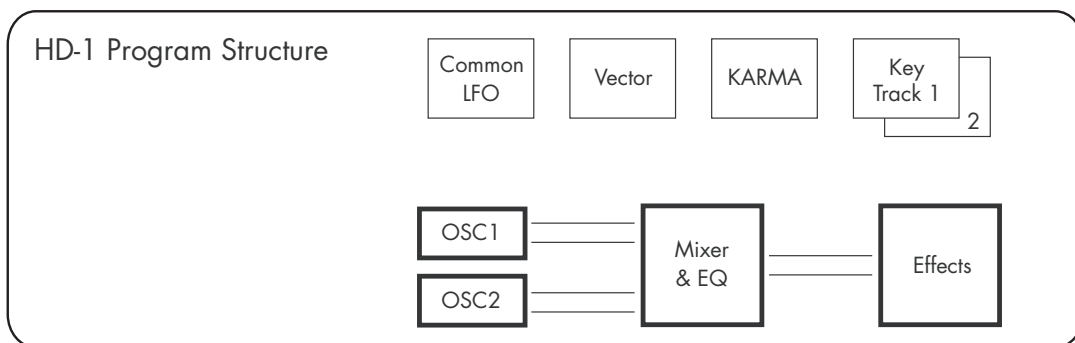


Program mode: HD-1

HD-1 Overview

The HD-1 High Definition Synthesizer is Korg's new flagship PCM synthesis engine, featuring outstanding sound quality, unique sound-design tools, and a rich array of modulation possibilities, including:

- Ultra-high-quality sample interpolation, based on new, proprietary technology, for minimal aliasing and crystal-clear high frequencies
- Over a gigabyte of ROM and EXs sample libraries
- Dual-OSC structure, providing two complete voice chains for layers and splits
- Within each OSC, up to four-way velocity splits and crossfades (including two-way layers)
- Wave Sequencing, for creating rhythmic patterns or complex, evolving timbres
- Vector Synthesis
- Dual multi-mode resonant filters
- Drive and Low Boost, for adding per-voice grit, girth and distortion
- Three envelopes, two LFOs, and two AMS Mixers per OSC, plus a common LFO, Vector envelope, and KARMA for the Program as a whole
- Two complex key tracking generators per OSC, plus two more for the Program as a whole
- Extensive real-time modulation capabilities



Program P0: Play

This is the main page of Program mode for HD-1 Programs. Among other things, you can:

- Select Programs
- Jump directly to the main editing pages
- Make basic edits to KARMA
- Set up the audio inputs and resampling options
- Use the control surface

Auto Song Setup

The Auto Song Setup feature copies the current Program or Combination into a Song, and then puts the OASYS in record-ready mode.

If inspiration for a phrase or song strikes you while you're playing, you can use this function to start recording immediately. To do so:

1. **Hold down the ENTER key and press the SEQUENCER REC/WRITE key.**

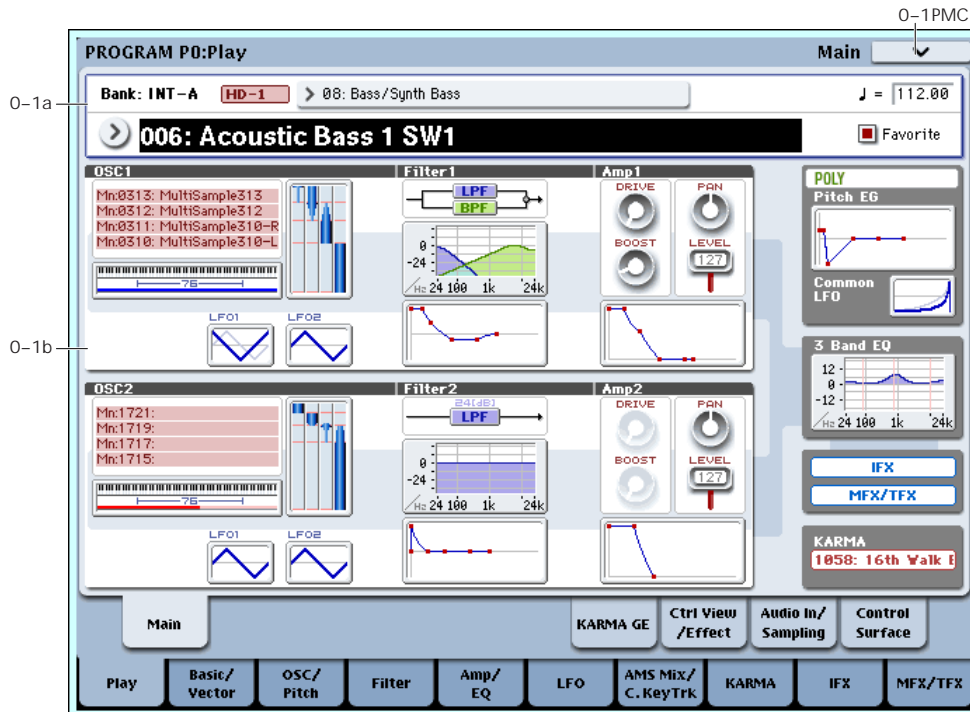
The Setup to Record dialog box will open and ask "Are you sure?"

2. **Press OK.**

You will automatically enter Sequencer mode, and will be in the record-ready state.

3. **Press the START/STOP key to start the sequencer and begin recording.**

0-1: Main



This is the main page for selecting Programs, which are the basic sounds of the OASYS. It also includes an interactive overview of the most important Program parameters - just touch a parameter, and you'll jump to the corresponding edit page.

Tip: Wherever you are in the Program mode pages, pressing EXIT three times (or fewer) will take you back to this page, and select the Program name. You can then immediately use the numeric keys or Δ/∇ switches to select a different Program.

For instance, if you're on any page other than P0: Play:

- Press it once to go to the previously-selected tab on the main P0 page, such as Control Surface or Audio In/Sampling.
- Press it again to go to the first tab on the main P0 page—the main Program Play page. If you had previously selected a parameter on this page, that parameter will be selected.

- Press it a third time to select the main Program name parameter.

0-1a: Program Select

Bank [INT-A...F, GM, g(1...9), g(d), USER-A...G]

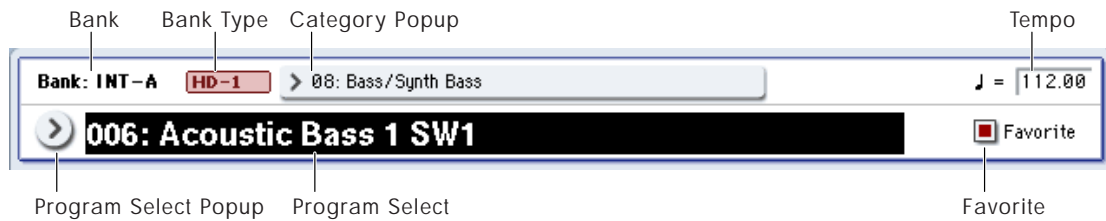
This is the Bank of the current Program.

You can change the Bank either via the on-screen menu, or by using the front-panel Bank buttons.

Banks GM, g(1...9), and g(d): General MIDI

The GM bank contains a full set of General MIDI 2 Programs, as well as variation sub-banks g(1)–g(9) (GM2 variation programs), and bank g(d) (drums).

Each time you press the front-panel INT-G button, you'll step through these variation banks in the following order: GM→g(1)→g(2)...g(8)→g(9)→GM...



If a variation bank doesn't have a different version of the current Program, the basic GM sound will be recalled instead. In this case, an asterisk * will be added to the beginning of the Program name.

You can edit GM Programs, but you must then save them to a different Bank; the GM Programs themselves cannot be over-written.

Program Bank Contents

As shipped from the factory, the contents of the Program Banks are as follows:

Program bank contents

Bank	Contents	Bank Type
INT-A...D	HD-1 Programs	HD-1
INT-E	HD-1 Programs; requires the EXs1 ROM Expansion PCM	
INT-F	AL-1 and CX-3 Programs	EXi
GM (INT-G)	GM2 main Programs	GM
g(1)...g(9)	GM2 variation Programs	
g(d)	GM2 drum Programs	
USER-A, 000...007	HD-1 Programs; requires the EXs2 Concert Grand Piano PCM.	Bank type can be set to either HD-1 or EXi
USER-A, 009...010	HD-1 Vocoder and demo song Programs	
USER-A, 11...127	Initialized HD-1 Programs	
USER-B	Initialized HD-1 Programs	
USER-C	MOD-7 Programs	
USER-D	MS-20EX and PolysixEX Programs	
USER-E	STR-1 Programs	
USER-F	AL-1 and CX-3 Programs	
USER-G	Initialized HD-1 Programs	

For details on the factory Programs, please see the "Voice Name List" on page 1099.

Optional EXi and demo mode

The MOD-7, MS-20EX and PolysixEX are optional EXi. Initially, they will be in demo mode. You'll be able to play, edit, and save Programs, Combis, and Songs which use these EXi—but until you purchase an authorization code, their sound will fade out periodically.

To purchase authorization codes, and to download additional, free banks of sounds, go to www.korguser.net. Once purchased, you can enter the authorization code on the Plug-In Info page in Global mode.

For more information, see "Global P6: Plug-in Info" on page 738 of the Parameter Guide.

Bank Type [HD-1, EXi]

This shows whether the current Bank contains HD-1 Programs or EXi Programs. The two Program types can't be mixed in a single bank.

HD-1: The Bank contains HD-1 Programs.

EXi: The Bank contains EXi Programs.

Changing the Bank Type for USER-A...G

Banks can contain either HD-1 Programs or EXi Programs, but not both. This assignment is fixed for the INT banks, but can be set separately for each of the USER banks.

To change the type of a USER bank:

1. Press the front-panel GLOBAL button to enter Global mode.
2. Select the Basic tab.
3. Press the page menu button, and select Set Program User-Bank Type.
4. Change the Type for the desired banks. Leave all of the other banks set to "No Change."

Setting a bank's type will erase all of the Program data in the bank - so make sure that you're not erasing any Programs you want to keep!

5. Press the OK button.

An "are you sure?" dialog appears.

6. If you're certain of the change, press OK again.

The selected banks will now be initialized to use the new Program types.

Program Select [(0...127 (INT and USER Banks), 1...128 (GM Banks))]

This is the current Program. When this parameter is selected, you can select programs using the Inc Δ and Dec ∇ buttons, numeric buttons 0-9 (followed by ENTER), or the Value dial.

You can also change Programs via MIDI Program Change message, or by pressing a footswitch. For more information, see "Foot Switch Assignments" on page 1035.

Standard Programs are numbered from 0 to 127, while GM Programs use the range from 1 to 128, as per the GM specification.

Note: On this page only, the VALUE slider functions as a modulation source - which means that you can't use it to select Programs.

Press the popup button to call up the "Bank/Program Select" menu, as described below. This shows all of the Programs in memory, organized by Bank.

Bank/Program Select

1. Press the popup button at the left of "Program Select" to open the Bank/Program Select menu.
2. Press one of the tabs on the left to select a specific bank.
3. Select a program from the list. You can touch a Program's name directly, or use the Inc \triangle and Dec ∇ buttons.

The popup shows 16 Programs at a time. To browse through all of the Programs in the current bank, use the scroll bar at the bottom of the window.

When you select Bank INT-G, the **Variation** button appears at the bottom left of the dialog. This button cycles through the GM variation banks, just like repeatedly pressing the front-panel INT-G Bank button, as described under "Banks GM, g(1...9), and g(d): General MIDI," above.

The **Favorite** button trims the list to show only Programs you've marked as favorites. If the selected Bank contains no Programs marked as Favorites, the button can't be turned on.

For more information, see "Favorite," below.

4. Press the OK button to confirm your choice, or press the Cancel button to exit without changing the Program.

Category

[00...18, Name]

All programs are classified into one of eighteen categories, such as Keyboard, Organ, Strings, etc. Each of these categories may also have up to eight sub-categories.

Selecting by Category lets you search for a specific type of sound (like an electric bass, for example), without concern for what Banks the sounds are stored in.

Press the Category popup button, and the "Category/Program Select" menu will appear, as described below.

Category/Program Select

1. Press the Category popup button (above the Program Select parameter) to open the Category/Program Select menu.
2. Press one of the tabs on the left to select the desired category.

If no Programs are assigned to a particular category or sub-category, you won't be able to select its tab.

3. Press a tab in the second from left column to select a sub-category.

All: All programs in the category will be shown. Choose this when you don't need to use sub-categories.

0...7: The programs will be shown by sub-category.

4. Select a program from the list.

You can touch a Program's name directly, or use the Inc \triangle and Dec ∇ buttons.

If there are more Programs than can be shown on the screen at one time, use the scroll bar to browse through the entire Category.

The **Favorite** button trims the list to show only Programs you've marked as favorites. If the selected Category contains no Programs marked as Favorites, the button can't be turned on.

5. Press the OK button to confirm your choice, or press the Cancel button to exit without changing the Program.

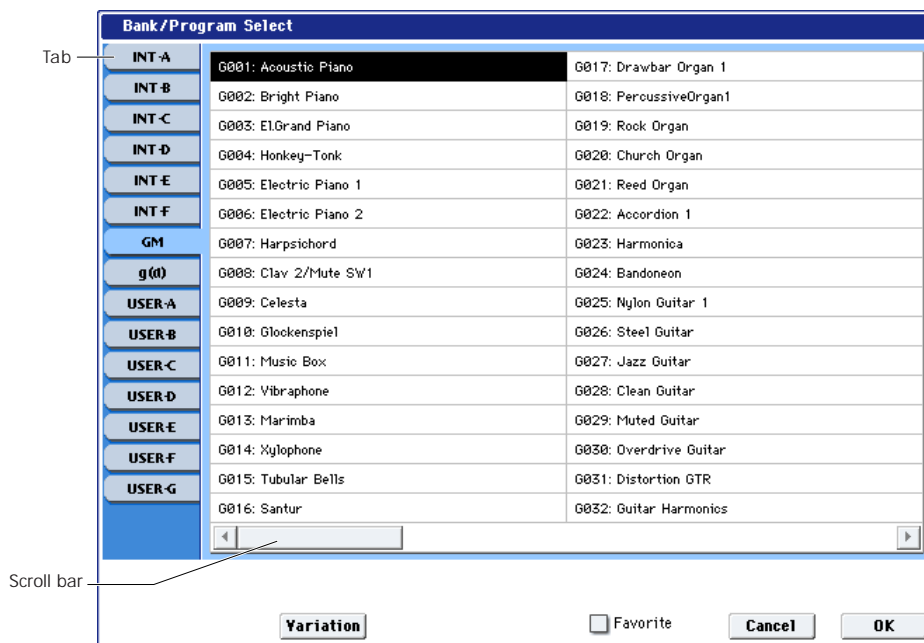
You can assign a category to a Program in the "Write Program" dialog. For more information, see "Saving your edits" on page 59 of the Operation Guide, and "Writing a program or combination" on page 170 of the Operation Guide.

Favorite

[Off, On]

This button marks the Program as a "favorite," which makes it easy to find in the Bank/Program Select and Category/Program Select dialogs.

Bank/Program Select menu



Note that you must write the Program in order to save changes to this setting.

Tempo (♩) [040.00...240.00, EXT]

This is the tempo for the current Program, which applies to tempo-synced LFOs and Wave Sequences, the Vector EG, KARMA, and tempo-synced effects.

EXT means that the tempo will sync to external MIDI clocks. You'll see this if the Global MIDI page **MIDI Clock** parameter is set to **External MIDI**, or if it's set to **Auto** and the OASYS is currently receiving MIDI clocks. For more information, please see "MIDI Clock (MIDI Clock Source)" on page 710.

040.00...240.00 allow you to set a specific tempo in BPM, with 1/100 BPM accuracy. In addition to using the standard data entry controls, you can also just turn the TEMPO knob, or by playing a few quarter-notes on the TAP TEMPO button.

0-1b: Overview and Page Jump

This section shows an overview of the most important Program settings, such as the selected Multisamples or Wave Sequences and their velocity ranges, filter settings, EGs and LFOs, and so on.

The graphics give you a quick way to check all of these settings at a glance. They also let you jump instantly to any of the displayed parameters. Just touch one of the graphics, and you'll jump to the page containing its parameters. For instance, if you touch the Filter EG graphic, you'll go to the Filter EG page.

OSC1

OSC1 Multisample/Wave Sequence/Drum Kit

This area shows OSC1's four Multisamples or Wave Sequences. Colors and abbreviations are used to distinguish between the various possibilities, as detailed below.

- Red: ROM Multisamples
- Green: RAM Multisamples
- Blue: Wave Sequences
- Orange: Drum Kits
- Grey: Off
- Mn: Mono
- St: Stereo

Touch this area to jump to the corresponding Program P2- OSC1 Basic page.

Key Zone

This indicates the key zone in which OSC1 will sound. The 76- or 88-note keyboard region is also shown.

Touch this area to jump to the corresponding Program P1- Program Basic page.

MS1...4, Velocity Zone Graphic

This shows the velocity zones for OSC 1 multisamples 1-4.

Touch this area to jump to the corresponding Program P2- OSC1 Basic page.

OSC1 LFO1, OSC1 LFO2 Graphic

This shows the waveforms of OSC1 LFO1 and OSC1 LFO2. If "MIDI/Tempo Sync" is selected, this will indicate "MIDI."

Touch this area to jump to the corresponding Program P5- OSC1 LFO1 page or OSC1 LFO2 page.

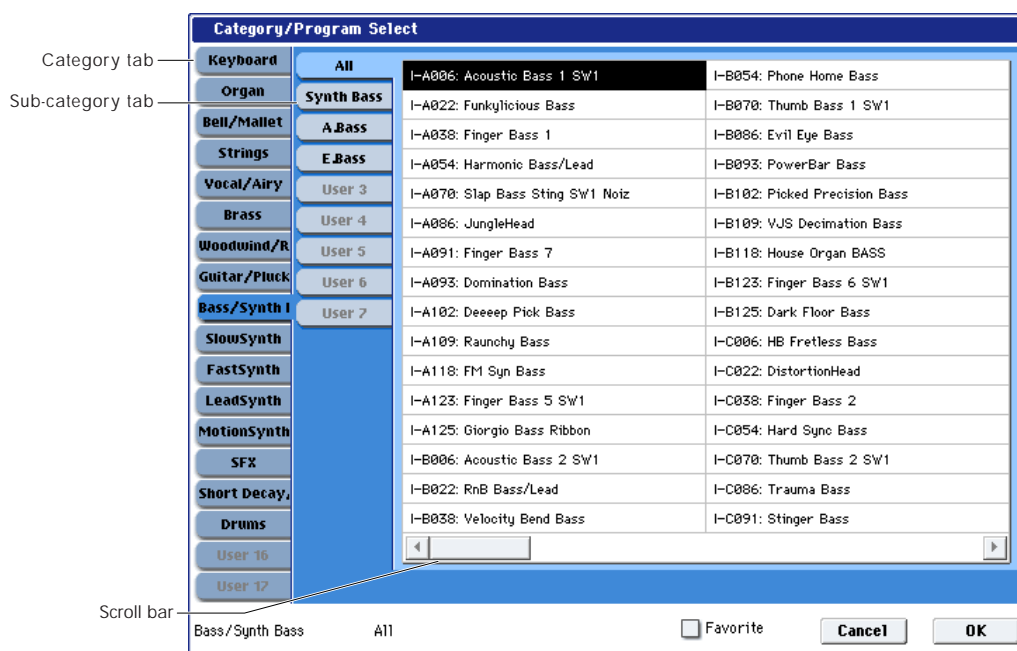
Filter 1

Filter Routing & Type

This shows the filter 1 routing and filter type.

Touch this area to jump to the corresponding Program P3- Filter1 page.

Category/Program Select menu



Filter Page Graphic

This shows the cutoff frequency.

Touch this area to jump to the Program P3– Filter1 page.

Filter EG Graphic

This shows the shape of the filter 1 EG.

Touch this area to jump to the corresponding Program P3– Filter1 EG page.

Amp 1

Drive, Low Boost, Pan, Amp Level

This area shows the Amp 1 **Driver**, **Low Boost**, **Pan**, and **Amp Level** values.

If **Bypass** is on, **Drive** and **Low Boost** are not shown.

Touch this area to jump to the corresponding Program P4– Amp1/Drive1 page.

Amp EG Graphic

This shows the shape of the amp 1 EG.

Touch this area to jump to the corresponding Program P4– Amp1 EG page.

Common

Voice Assign Mode

This shows the voice assign mode of the program—either POLY or MONO.

Touch this area to jump to the corresponding Program P1– Program Basic page.

Pitch EG Graphic

This shows the shape of the Pitch EG.

Touch this area to jump to the Program P2– Pitch EG page.

Common LFO Graphic

This shows the waveform of the Common LFO. Also, if **MIDI/Tempo Sync** is enabled, the word MIDI will appear.

Touch this area to jump to the Program P5– Common LFO page.

3Band EQ Graphic

This shows the MID-sweepable three-band EQ.

Touch this area to jump to the Program P4– EQ page.

IFX

Touch this area to jump to the Program P8– Routing page.

MFY/TFX

Touch this area to jump to the Program P9– Routing page.

KARMA

This shows the name of the selected KARMA GE.

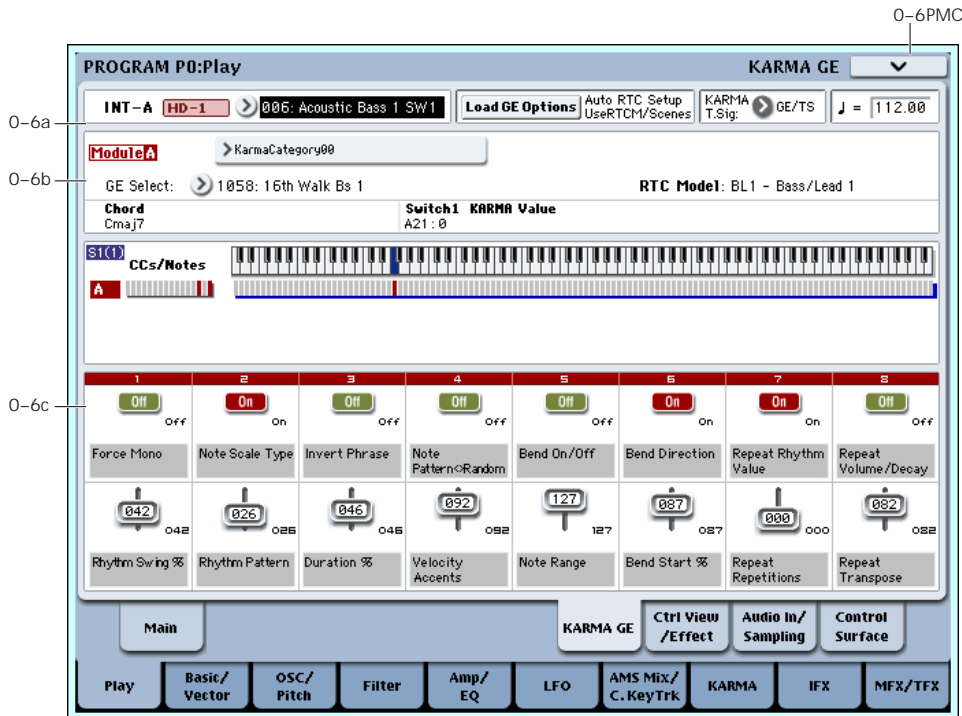
Touch this area to jump to the Program P7– GE Setup/Key Zones page.

▼ 0–1: Page Menu Commands

The number before each command shows its ENTER + number-key shortcut. For more information on these shortcuts, see “ENTER + 0-9: shortcuts for menu commands” on page 142.

- **0: Write Program.** For more information, see “Write Program” on page 142.
- **1: Exclusive Solo.** For more information, see “Exclusive Solo” on page 142.

0-6: KARMA GE



This page lets you make basic adjustments to KARMA. For more detailed editing of KARMA parameters, see “Program P7: KARMA” on page 100.

To enable or disable KARMA for the selected Program, use the KARMA ON/OFF switch.

The states of the KARMA ON/OFF and LATCH buttons, the selected KARMA SCENE, and KARMA SWITCHES 1-8 and SLIDERS 1-8 are saved independently for each Program.

0-6a: Program Select, Load GE Options, KARMA T.Sig, Tempo

Bank [INT-A...F, GM, g(1...9), g(d), USER-A...G]

Bank Type [(HD-1, EXi)]

Program [(0... 127 (INT and USER Banks), 1... 128 (GM Banks)]

J (Tempo) [040.00...240.00, EXT]

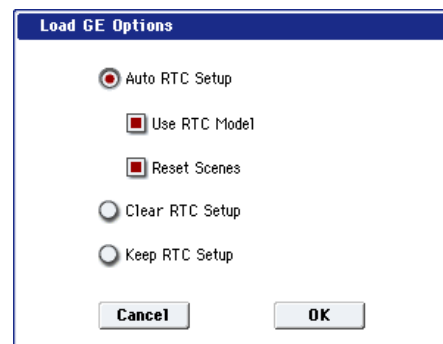
These are the current bank, Program, and Tempo. For more information, see “0-1a: Program Select” on page 2.

Load GE Options [Dialogue]

These options let you specify whether the values and assignments for the KARMA SLIDERS and SWITCHES will be set automatically, be initialized, or be preserved when you select a GE.

These options relate to the concept of RTC Models; for more information, see “RTC Model” on page 198 of the Operation Guide.

1. Press the Load GE Options button to open the Load GE Options dialog box.



2. Specify how you want the KARMA controllers and scene settings to change (or be preserved) when you select a different GE.

Auto RTC Setup: When you select a GE, the settings for the KARMA SLIDERS and SWITCHES will be made automatically. This means that when you select a GE, you will be able to use the sliders and switches to control the phrases or effect variations without having to reassign the settings yourself.

Clear RTC Setup: When you select a GE, all KARMA controller and scene settings will be cleared (initialized). The Control Surface Sliders and Switches will have no effect on the GE.

Keep RTC Setup: Even if you select a GE, the current KARMA controller and scene settings will be preserved. Use this setting if you want to preserve the current KARMA controller and scene settings because you are selecting a GE whose assigned GE parameters are exactly the same (using the same RTC Model), or if you want to keep the current KARMA controller settings and edit them yourself as necessary.

3. If you choose the **Auto RTC Setup On** setting, check or uncheck the “Use RTC Model” option box to specify how the automatic settings will be made.

On (checked): The current KARMA controller assignments and values will be cleared, and new settings will be made according to the RTC Model specified for each GE. However if you select a GE whose RTC Model is **Custom**, all KARMA controller and scene settings will be initialized (the same as if you’ve selected “Clear RTC Setup On”). Normally you will leave this on.

Off (unchecked): The current KARMA controller assignments and values will be preserved as much as possible. For example, you might select a drum pattern GE with this setting turned On (checked), edit some of the KARMA Scene settings appropriately for that GE, and then turn this Off (unchecked) when trying out a different drum pattern GE, thereby applying the settings you made to the new GE.

Note: If you turn on **Auto RTC Setup** and turn off **Use RTC Model**, the current KARMA controller settings will be preserved as much as possible, relative to the state of the GE Real-Time Parameters. However if (for example) the newly selected GE does not have the same realtime parameters, some of the KARMA controller settings will be cleared.

4. If you turned “Use RTC Model” On (checked), use “Reset Scenes” to specify whether scene settings will be reset or preserved when you select a GE.

On (checked): When you select a GE, the current settings of scenes 1–8 will be reset to the stored GE settings.

Off (unchecked): The current settings of Scenes 1–8 will be preserved. Choose this if you intend to select a different GE that has the same RTC Model and want to continue using the same scene settings.

🔊 Even if this is Off (unchecked), the settings will be reset if you select a GE for which a different RTC Model is specified.

🔊 If “Use RTC Model” is Off (unchecked), the “Reset Scene” option is unavailable.

5. Click the **OK** button to apply the settings of the dialog box, or click the **Cancel** button to return to the settings before you opened the dialog box.

Note: The RTC Model associated with a GE can be viewed on the Control Surface page when it is set to R.Time Knobs/KARMA, and in the VNL.

KARMA T.Sig (Time Signature)

[GE/TS, 1/4...16/4, 1/8...16/8, 1/16...16/16]

This specifies the time signature of the phrases or patterns generated by the KARMA Modules. The internal time signature of the phrase or pattern is determined by the GE, but you can set this parameter to change the time signature.

GE/TS: The initial time signature specified by each KARMA Module will be used.

1/4...16/16: Specify the desired time signature. In Combination and Sequencer modes, this will change the time signature for all four KARMA Modules.

Tempo (J) [040.00...240.00, EXT]

This is the tempo for the current Program, which applies to tempo-synced LFOs and Wave Sequences, KARMA, and tempo-synced effects.

EXT means that the tempo will sync to external MIDI clocks. You’ll see this if the Global MIDI page **MIDI Clock** parameter is set to **External MIDI**, or if it’s set to **Auto** and the OASYS is currently receiving MIDI clocks. For more information, please see “MIDI Clock (MIDI Clock Source)” on page 710.

040.00...240.00 allow you to set a specific tempo in BPM, with 1/100 BPM accuracy. In addition to using the standard data entry controls, you can also just turn the TEMPO knob, or by playing a few quarter-notes on the TAP TEMPO button.

0–6b: GE Select

The phrases and patterns produced by a KARMA Module are generated by a **GE (Generated Effect)**. Based on input note data from the keyboard, the GE creates phrases and patterns using numerous internal parameter settings to control the development of the note data, the rhythm, the chord structure, the velocity etc. MIDI control changes and pitch bend etc. can also be generated in synchronization with the phrase or pattern. In this way you can produce phrases and patterns in which the GE freely varies the tone or pitch. The GE can be selected independently for each KARMA Module.

In Program mode you can use one KARMA Module (Module A). In Combination and Sequencer modes, you can use four KARMA Modules: A, B, C, and D.

Module A

GE Select [Preset 0000...2047, USER-A...L 000...127]

This selects the GE for the KARMA module. There are a total of 3,584 to choose from: 2,048 preset GEs, and 1,536 rewritable User GEs (12 banks of 128 each).

Preset GEs are part of the system software.

User GEs may be included with new banks of sounds, and can also be created using KARMA OASYS software (dedicated software for the OASYS*). For more information on loading User GEs, see “Load .KGE” on page 773.

* Made by Karma Lab (<http://www.karma-lab.com>). Macintosh and Windows are supported. English version only.

GE Bank Select [Preset...USER-L]

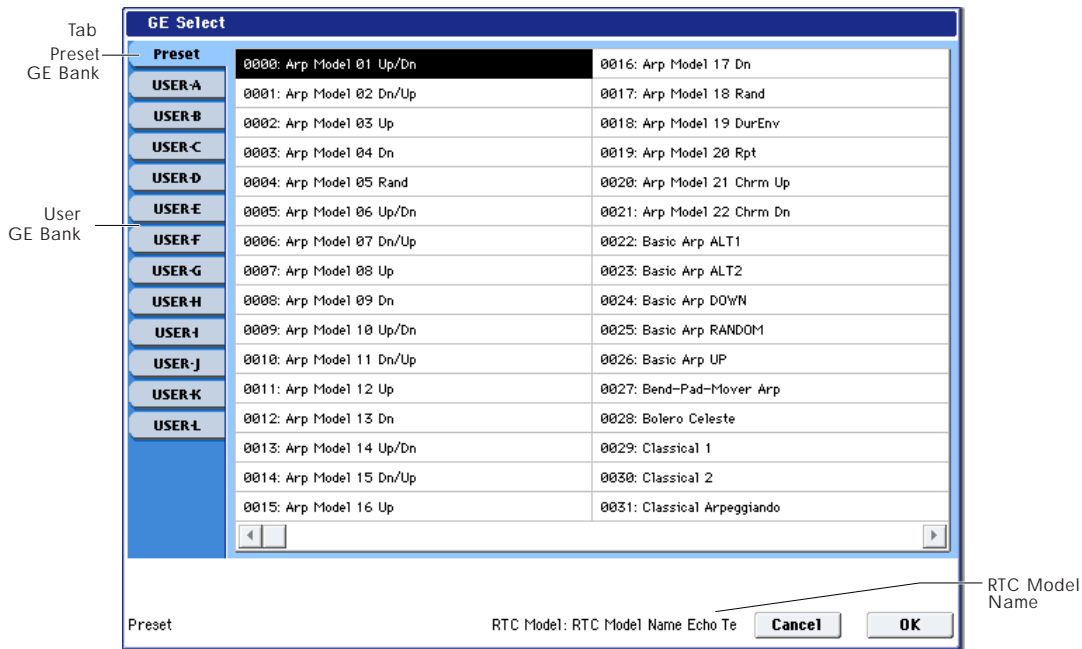
This selects the GE bank. The Preset bank is part of the system software; User banks can be loaded from disk. For more information, see “GE Select,” above.

GE Category Select [Arpeggio...Real-Time]

This lets you select a GE by category, from **Arpeggio** through **Real-Time**.

RTC Model [List of RTC Models]

This shows the GE’s RTC Model, as specified internally for each preset GE.



RTC stands for “Real Time Control.” RTC models provide a level of standardization for controlling the over 200 internal parameters of a GE. For more information, see “RTC Model” on page 198 of the Operation Guide.

KARMA Module Info

Chord [Chord name]

This shows the name of the chord detected by the KARMA Module.

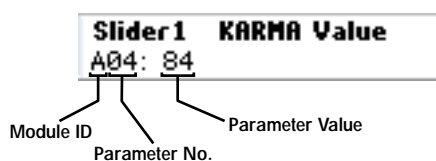
Note: Chord detection is affected by the following parameters:

- The KARMA module’s **Key Zone**. See “Key Zone” on page 101.
- The KARMA module’s **Transpose**. See “Transpose” on page 106.
- The **Destination** (Dynamic MIDI Destination). See “Destination” on page 121.
- The **Chord Scan** and **Smart Scan** settings.

KARMA Value

When you move or press a KARMA SLIDER or SWITCH, this area shows the number and value of the GE Real-Time Parameters or Perf Real-Time Parameters assigned to the control. This lets you see which parameters are being controlled by the slider or switch, and how.

Display example



(Module ID) [A, P]

This shows the type of parameter assigned to the slider or switch.

A: KARMA Module A is being controlled. In this case, you are controlling a GE Real-Time Parameter.

P: The slider or switch is controlling a Perf Real-Time Parameter.

(Parameter Number) [01...32]

When **Module ID** is **A**, this shows the number of the assigned GE Real-Time Parameter (01...32). These parameters are assigned to controls on the 7-5: GE Real-Time Parameters page.

If **Module ID** is **P**, this shows the number of the assigned Perf Real-Time Parameter (01...08). These parameters are assigned to controls on the 7-6: Perf Real-Time Parameters page.

Parameter Value

This area shows the current value of the GE Real-Time Parameter or Perf Real-Time Parameter. This will change as you move the slider or operate the switch.

- ⚠ A slider or switch can have many parameters assigned to it. A maximum of four assigned parameters can be displayed here in the available space. If there are more, they will not be displayed, but a “>” will be added to the end of the line. They will still function when the control is activated, even though you can’t view their values directly.

Note/CC Activity

A (Module A)

S (Scene) [1...8]

The blue square in the upper left of the section shows the current scene of the selected KARMA module.

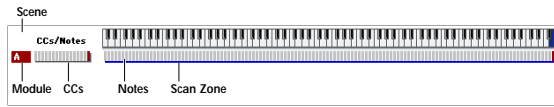
The number in parentheses is the default Scene, as stored in the Program.

CCs/Notes

This is a realtime display of the note-on/off or MIDI control change messages generated by the KARMA module (Module A).

Scan Zone

The Key Zone of the KARMA Module is displayed as a solid blue line under the notes display. For more information, see “Key Zone” on page 101.



0–6c: RealTime Controls

This displays the values, names, and stored settings of KARMA SLIDERS 1–8 and KARMA SWITCHES 1–8. Note that each Scene can have separate values and stored settings for each of the sliders and switches.

KARMA SWITCHES 1...8

Current Value 1...8

This shows the current setting of the KARMA SWITCH. You can control this either by using the physical front-panel switch, or by touching the on-screen switch.

Stored Value 1...8

This shows stored value of the KARMA SWITCH for the current Scene, as written into the Combination.

Name 1...8

This shows the name of the KARMA SWITCH. You can assign this name in Program 7–9: Name/Map.

KARMA SLIDERS 1...8

Current Value 1...8

This shows the current setting of the KARMA SLIDER.

You can change this either by using the physical front-panel slider, or by touching the on-screen slider and then using any of the data-entry controls.

Stored Value 1...8

This shows stored value of the KARMA SLIDER for the current Scene, as written into the Combination.

Name 1...8

This shows the name of the KARMA SLIDER. You can assign this name in Program 7–9: Name/Map.

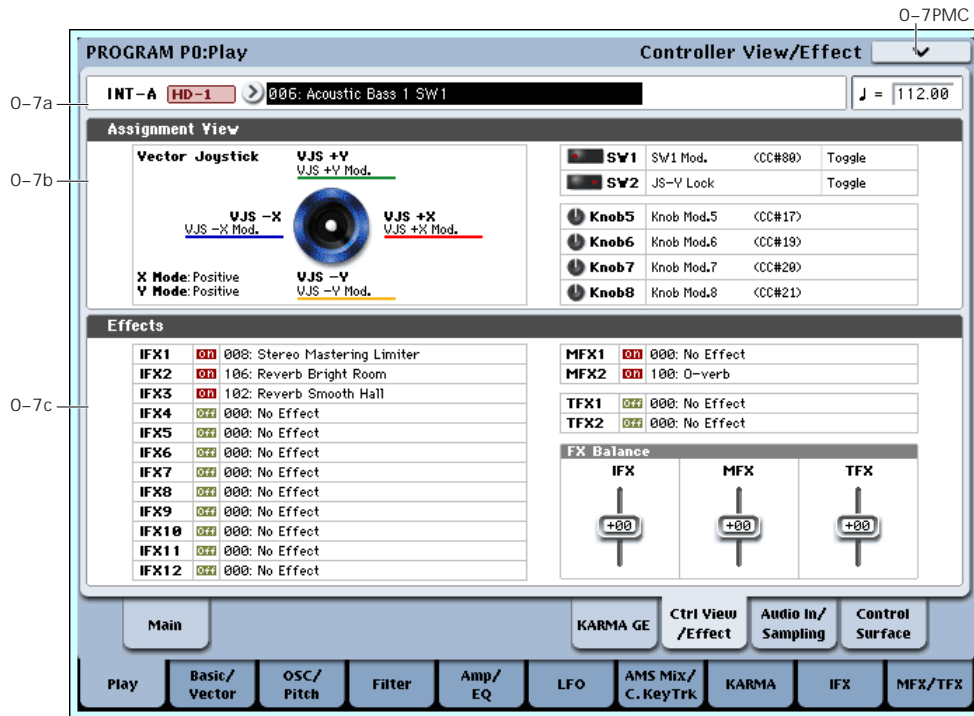
- 3: **Initialize KARMA Module.** For more information, see “Initialize KARMA Module” on page 151.
- 4: **Copy Scene.** For more information, see “Copy Scene” on page 151.
- 5: **Swap Scenes.** For more information, see “Swap Scene” on page 151.
- 6: **Capture Random Seed.** For more information, see “Capture Random Seed” on page 151.
- 7: **Auto Assign KARMA RTC Name.** For more information, see “Auto Assign KARMA RTC Name” on page 143.

▼ 0–6: Page Menu Commands

The number before each command shows its ENTER + number-key shortcut. For more information on these shortcuts, see “ENTER + 0-9: shortcuts for menu commands” on page 142.

- 0: **Write Program.** For more information, see “Write Program” on page 142.
- 1: **Exclusive Solo.** For more information, see “Exclusive Solo” on page 142.
- 2: **Copy KARMA Module.** For more information, see “Copy KARMA Module” on page 150.

0-7: Controller View/Effect



This page shows the functions assigned to the physical controllers, including the vector joystick, SW1 and 2, and knobs 5-8. It also includes an overview of all of the effects, and lets you adjust the Wet/Dry Balances separately for the IFX, MFX, and TFX.

0-7a: Program Select

Bank [INT-A...F, GM, g(1...9), g(d), USER-A...G]

Bank Type [HD-1, EXi]

Program [(0...127 (INT and USER Banks), 1...128 (GM Banks))]

Tempo [040.00...240.00, EXT]

These are the current bank, Program, and Tempo. For more information, see "0-1a: Program Select" on page 2.

0-7b: Controller View

VJS

This area shows information about the vector joystick.

X Mode, Y Mode: These indicate the behavior of the vector CC for the X-axis and Y-axis. For more information, see "VJS X Mode" on page 41.

VJS +X, VJS -X, VJS +Y, VJS -Y: These indicate the controller transmitted by the +X, -X, +Y, and -Y vectors. For more information, see "+X" on page 41.

SW1, SW2, Knob5...8

SW1&2 [Assignment]

These indicate the functions assigned to SW1 and 2.

Knobs 5...8

[Assignment]

These indicate the functions assigned to knobs 5-8. (See "1-8: Set Up Controllers" on page 46)

0-7c: Effects

IFX1...12, MFX1&2, TFX1&2

[Effect]

This area shows the effect assigned to each insert effect, master effect, and total effect, and its on/off status.

FX Balance

IFX

[-10...0...+10]

This controls the "Wet/Dry" balance of all insert effects. A setting of +10 is Wet or -Wet, a setting of +0 leaves the settings of the program unmodified, and a setting of -10 is Dry.

MFX

[-10...0...+10]

This controls the MFX1 and 2 "Return." A setting of +10 is 127, a setting of +0 leaves the settings of the program unmodified, and a setting of -10 is 000.

TFX

[-10...0...+10]

This controls the "Wet/Dry" balance of TFX1 and 2. A setting of +10 is Wet or -Wet, a setting of +0 leaves the settings of the program unmodified, and a setting of -10 is Dry.



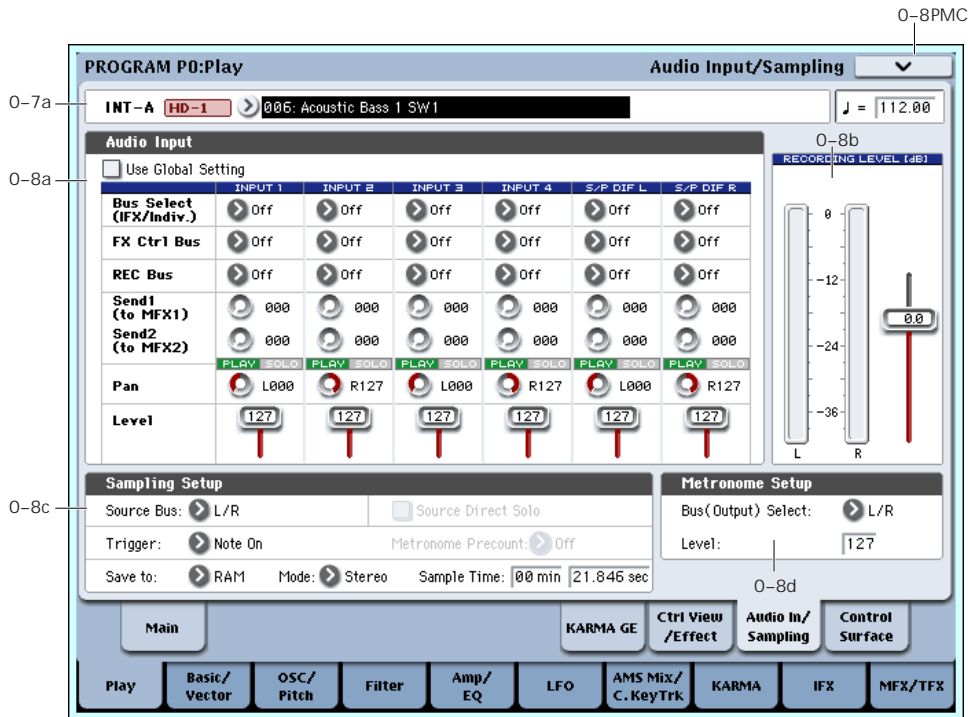
When you edit these settings, the change will occur immediately in the sound, but the values of the original program parameters will not change until you save the program. When you save the program, the values will be updated and these sliders will be reset to 0.

▼ 0-7: Page Menu Commands

The number before each command shows its ENTER + number-key shortcut. For more information on these shortcuts, see “ENTER + 0-9: shortcuts for menu commands” on page 142.

- **0: Write Program.** For more information, see “Write Program” on page 142.
- **1: Exclusive Solo.** For more information, see “Exclusive Solo” on page 142.

0-8: Audio Input/Sampling



This page lets you adjust the volume, pan, effects sends, and bussing for the audio inputs, including analog inputs 1-4 and S/P DIF L/R. It also controls the sampling-related settings for Program mode.

The OASYS can sample external audio from the analog or S/P DIF inputs, at 48 kHz 16-bit resolution, in mono or stereo. You can record samples into RAM, or sample directly to disk.

You can also digitally resample the complete sound of a Program, played polyphonically, live or sequenced, including any effects and KARMA-generated events.

Finally, you can also use the OASYS as a 6-in, 10-out effects processor.

You can combine any and all of these features at once. For instance, you can sample a live guitar riff from the audio inputs, processed through OASYS effects, while listening to and either recording or not recording a KARMA-generated phrase.

Using the control surface to adjust Audio Input

You can use the control surface to adjust most of the Audio Input mixer parameters, including **Play/Mute**, **Solo**, **Pan**, **Level**, and **Sends 1 and 2**.

For more information, see “0-9c: Audio Inputs” on page 22, and “Adjusting volume, Pan, EQ, and FX sends” on page 56 of the Operation Guide.

0-8a: Audio Input

Use Global setting

[Off, On]

Each Program can either use the single, Global audio input mixer setup, or have its own custom settings. The Global settings are described under “0-2: Audio Input,” on page 705.

When **Use Global Settings** is **On**, the Program uses the Global settings. This is the default, and lets you change freely between different Programs, Combis, and Songs without affecting the audio inputs.

Also, any edits made on this page will affect the Global setting, along with any other Programs, Combis, or Songs which use the Global setting.

On the other hand, it may sometimes be convenient to save a particular mixer setup with an individual Program, Combi, or Song, to set up special sub-mixer settings or effects processing for particular inputs. For example, you can set up a Program to use a mic input with a vocoder, as described under “Vocoder (Program mode)” on page 791.

In this case, set **Use/Edit Global Setup** to **Off**, and the audio inputs will use the Program’s custom settings.

Input1...4

These are settings for analog inputs 1 through 4. Inputs 1 and 2 are mic/line; inputs 3 and 4 are line-level only.

S/P DIF L, S/P DIF R

These are settings for the S/P DIF digital audio input, for connecting external A/D converters, computer audio systems, DAT machines, or other digital audio gear.

OASYS supports S/P DIF input at either 48 kHz or 96 kHz. You'll need to select the correct rate using the Global page **S/P DIF Sample Rate** parameter. 96 kHz data is converted to 48 kHz for sampling.

- 🔍 When sampling from S/P DIF, make sure that the Global mode's **System Clock** parameter is set appropriately. For more information, see "System Clock" on page 702.

Bus Select (IFX/Indiv.) [L/R, IFX1...12, 1...8, 1/2...7/8, Off]

This specifies the bus for the external audio input signal.

L/R: The external audio input signal will be sent to the L/R bus.

IFX1...12: The external audio input signal will be sent to the IFX1–12 bus. Choose one of these settings if you want to apply an insert effect while sampling.

1...8: The external audio input signal will be sent, in mono, to INDIVIDUAL outputs 1-8. Pan does not apply in this case.

1/2...7/8: The external audio input signal will be sent to the individual outputs in stereo pairs.

Off: The external audio signal will not be input.

FX Ctrl Bus (FX Control Bus) [Off, 1, 2]

This lets you send the audio input to one of the two stereo FX Control busses. See "FX Control Buses" on page 790.

REC Bus [Off, 1...4, 1/2, 3/4]

This sends the external audio input signal to the REC busses (four mono channels; 1, 2, 3, 4).

Using the REC busses, you can isolate one or more sounds for recording or sampling—even if the sounds are also being mixed into the main outputs. For example, you can play a guitar through OASYS IFX while listening to a KARMA drum phrase, and record the processed guitar without recording the drums.

Individual Programs, Combi Timbres, Sequencer Tracks (both MIDI and Audio), audio inputs, and Insert Effects can all be routed to the REC busses, in addition to their main output/IFX bus settings.

You can sample these signals by setting the sampling **Source Bus** (0–8c) to REC bus.

For more information, see the diagram "Source Bus = REC Bus 1/2" on page 16.

Off: The external audio signal will not be sent to the REC busses. Normally you will use the Off setting.

1, 2, 3, 4: The external audio input signal will be sent to the specified REC bus. The **Pan** setting is ignored, and the signal is sent in monaural.

1/2, 3/4: The external audio input signal will be sent in stereo to the specified pair of REC busses. The **Pan** setting sends the signal in stereo to busses 1 and 2 or busses 3 and 4.

Send1 (to MFX1) [000...127]

Send2 (to MFX2) [000...127]

These adjust the levels at which the external audio input signal is sent to the master effects.

Send1 (to MFX1): Send the signal to master effect 1.

Send2 (to MFX2): Send the signal to master effect 2.

If **Bus Select (IFX/Indiv. Out Assign)** is set to IFX1–12, the send levels to the master effects are set by the post-IFX1–12 **Send1** and **Send2** (8–2a). (See "Audio Input, S/P DIF IN" on page 801)

Tip: You can use the control surface to control this parameter. (See "Using the control surface to adjust Audio Input" on page 12)

PLAY/MUTE [Play, Mute]

This shows whether the external audio signal being input is in PLAY or MUTE status.

You can use the MIX PLAY/MUTE 1–6 switches to change this.

Mute: The input sound will be muted (silent).

Play: The input sound will be heard.

Tip: You can use the control surface to control this parameter. For more information, see "Using the control surface to adjust Audio Input" on page 12.

SOLO On/Off

This indicates the SOLO status of each external audio signal input. You can use the MIX SELECT 1–6 switches to change this.

Sound will be output only from channels for which SOLO is On. Other channels will be muted.

The Solo function includes the oscillators in Program mode, the timbres in Combination mode, and MIDI tracks and audio tracks in Sequencer mode.

The way in which the Solo function operates will depend on the setting of the **Exclusive Solo** page menu command in each mode.

Exclusive Solo Off: Selected is off, you can solo multiple audio inputs. The solo status will change each time you press Solo On/Off.

Exclusive Solo On: Selected is on, pressing a Solo button will solo only that audio input.

- 🔍 The SOLO setting is not memorized when you Write a Program.

Tip: You can hold down the ENTER switch and press numeric key 1 to switch Exclusive Solo on/off.

Tip: You can use the control surface to control this parameter. For more information, see "Using the control surface to adjust Audio Input" on page 12.

Pan [L000...C064...R127]

This specifies the panning of the external audio input signal. When using two inputs for a stereo audio source, you'll normally set the inputs to L000 and R127 respectively.

Tip: You can use the control surface to control this parameter. For more information, see “Using the control surface to adjust Audio Input” on page 12.

Level [000...127]

This controls the level of the external audio signal. The default is 127.

The analog audio signals from AUDIO INPUTS 1–4 are converted into digital form by an A/D converter. This parameter sets the level of the signal immediately after this conversion.

If the sound is distorted even though this level setting is very low, see “Tips for eliminating distortion when using the analog inputs,” below.

Tip: You can use the control surface to control this parameter. (See “Using the control surface to adjust Audio Input” on page 12.)

Avoiding extraneous noise

⚠ If audio cables are connected to AUDIO INPUTS 1–4, any noise carried by the cables will enter into the OASYS mixer structure. Similarly, the S/P DIF input may carry noise from external devices. This may include hiss, hum, and other audio noise.

To avoid noise from unused audio inputs, either:

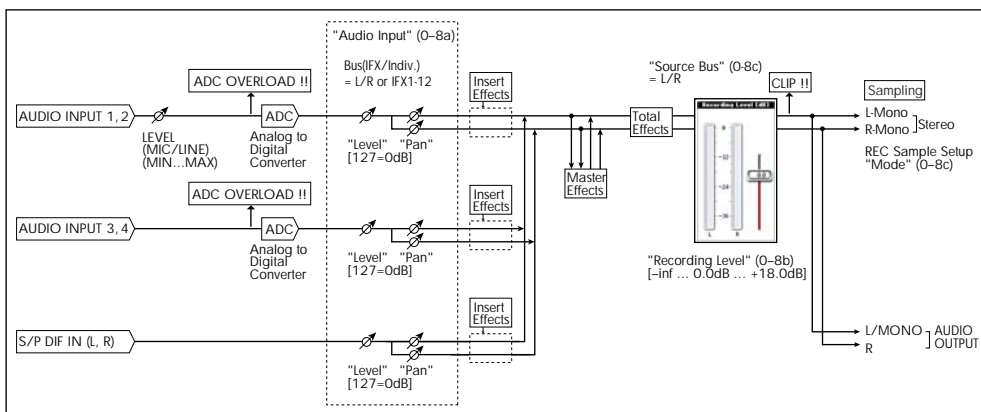
- Set the input’s Level to 0
- or
- Set all of the bus assignments to Off, including Bus Select (IFX/Indiv. Out Assign), REC Bus, and FX Control Bus

If no audio cables are connected to AUDIO INPUTS 1–4, the input signals are forced to zero, preventing any additional noise.

ADC OVERLOAD!

If the signal level from AUDIO INPUT 1–4 jacks is too high, the “ADC OVERLOAD!” indication will appear. You’ll need to adjust the MIC/LINE gain select switches and/or LEVEL knobs (for AUDIO INPUTS 1 and 2 only), or the output level of your external audio source.

Audio input/output



0–8b: Recording Level [dB]

Recording Level [-Inf, -72.0...+0.0...+18.0]

This adjusts the signal level at the final stage of sampling.

The Recording Level setting is made for Program mode as a whole, and is not saved independently with each Program.

Level Meter

This shows the signal level at the final stage of sampling, after any adjustments on the Audio Inputs page, any effects, etc. The meter is active only during standby mode and recording.

CLIP!

If 0 dB is exceeded, the display will indicate “CLIP!” This means that the level of the sampling signal is too high; in this case, adjust the Recording Level, and if necessary follow the instructions under “Tips for eliminating distortion when using the analog inputs,” below.

Setting levels

For the best results, set the levels as described below:

1. Press the SAMPLING REC switch. OASYS will enter sampling standby mode, and the Level Meter becomes active.
2. Initially, set the Recording Level to 0.0dB.
3. Adjust the level of the input signal so that it is as high as possible without activating the CLIP! or ADC OVERLOAD! messages.

If you’re using AUDIO INPUTS 1 and/or 2, adjust the volume using rear-panel MIC/LINE switches and LEVEL knobs.

If you’re using AUDIO INPUT 3 and/or 4, or the S/P DIF input, adjust the output level of your external audio source.

If you’re sampling external audio through the internal effects, you may also need to adjust the individual effects input and/or output level parameters.

If you’re using internal sounds, adjust the levels using the control surface, effects input/output trim, etc.

4. If the level is still not high enough, increase the Recording Level using the on-screen slider.

Again, the goal is to get the level as high as possible without activating the CLIP! or ADC OVERLOAD! messages.

Tips for eliminating distortion when using the analog inputs

If sound from the analog inputs is distorted, but the CLIP! message doesn't appear, it's possible that distortion is occurring at the analog input stage, or that distortion is being caused by the settings of the internal effects.

If the "ADC OVERLOAD!" message appears above the **Recording Level** meters, the distortion is due to excessive levels at the input. In this case, either lower the output level of the external audio source, or (for inputs 1 and 2 only) adjust the MIC/LINE gain select switch and LEVEL knob so that this message does not appear.

If there is distortion, but the "ADC OVERLOAD!" message does not appear, it's possible that the distortion is being caused by the settings of the internal effects. To solve this problem, either lower the input **Level** (see "Level," above), or adjust the effects settings (such as changing the individual effect Input Trim parameters).

0-8c: Sampling Setup

Source Bus [L/R, REC1/2 & 3/4, Audio Input 1/2 & 3/4, S/P DIF L/R, Indiv. 1/2...7/8]

You can sample in stereo from any pair of audio inputs, from the two stereo REC busses, or from the signal at any of the 10 outputs (L/R and Individual 1/2-7/8).

When you sample from an output pair or REC bus, you'll record all audio sent to the output or bus, including internal Programs or Combis, effects, audio inputs, and HDR audio.

When sampling in stereo, the odd-numbered channel (such as 1, 3, 5, or 7) corresponds to the left channel, and the even-numbered channel (such as 2, 4, 6, or 8) corresponds to the right.

L/R: This lets you sample the signal heard at the main L/R outputs, including any processing by TFX 1/2. This is the default setting. For more information, see the diagram "Source Bus = L/R" on page 15.

REC1/2, REC3/4: These let you sample the signals sent to the REC 1/2 or REC 3/4 busses.

Using the REC busses, you can isolate one or more sounds for recording or sampling—even if the sounds are also being mixed into the main outputs. For example, you can play a guitar through OASYS IFX while listening to a KARMA drum phrase, and record the processed guitar without recording the drums.

Individual Programs, Combi Timbres, Sequencer Tracks (both MIDI and Audio), audio inputs, and Insert Effects can all be routed to the REC busses, in addition to their main output/IFX bus settings.

For more information, see the diagram "Source Bus = REC Bus 1/2" on page 16.

Audio Input 1/2, Audio Input 3/4: Choose these settings to sample directly from the analog audio inputs, without any other processing by OASYS. The settings on the Audio Inputs mixer, including volume, pan, busses, sends, mute, and solo, will have no effect on the recorded audio.

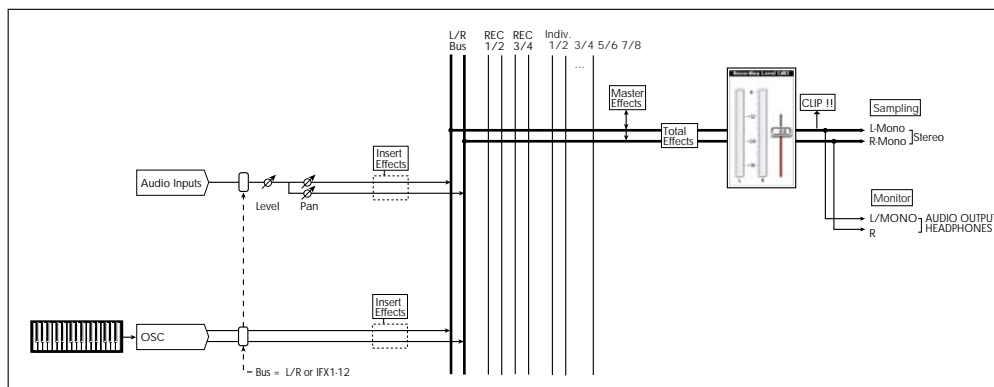
For more information, see the diagram "Source Bus = Audio Input 1/2" on page 16.

S/P DIF L/R: Choose this setting to sample the S/P DIF input directly, without any other processing by OASYS. The settings on the Audio Inputs mixer, including volume, pan, busses, sends, mute, and solo, will have no effect on the recorded audio.

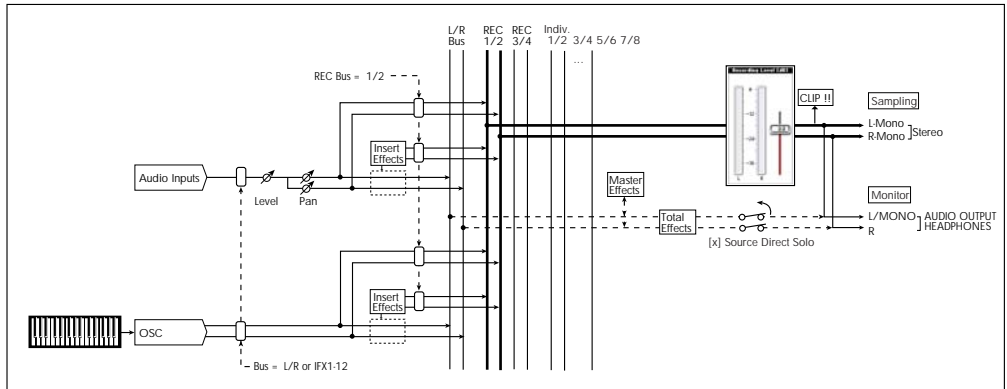
For more information, see the diagram "Source Bus = S/P DIF L/R" on page 16.

Indiv. 1/2...7/8: This lets you sample the individual output busses. For more information, see the diagram "Source Bus = Indiv. 1/2" on page 16.

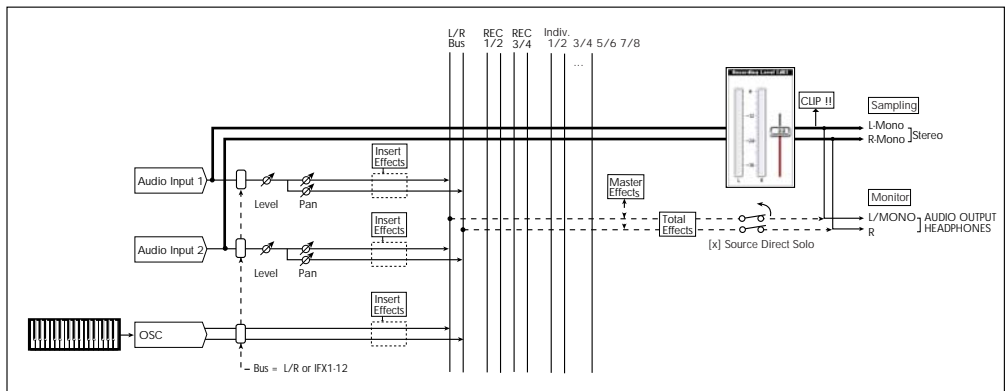
Source Bus = L/R



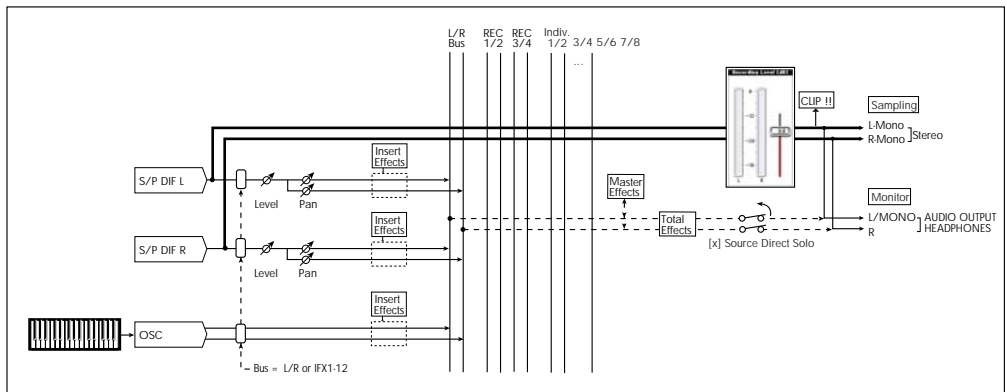
Source Bus = REC Bus 1/2



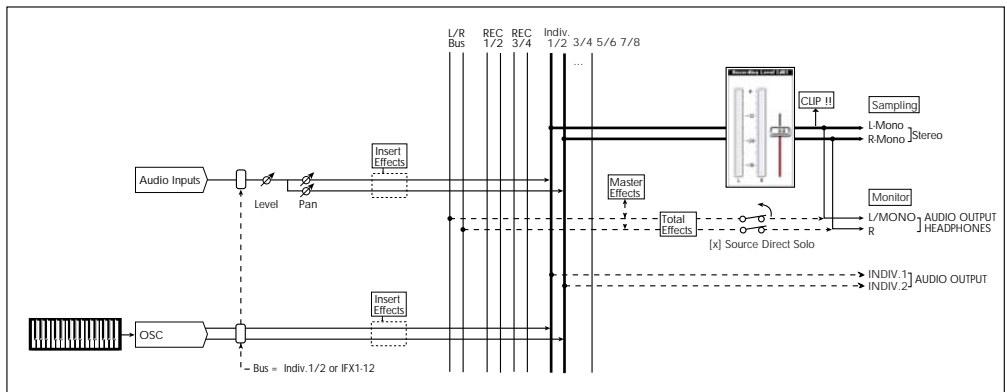
Source Bus = Audio Input 1/2



Source Bus = S/P DIF L/R



Source Bus = Indiv. 1/2



Source Direct Solo [Off, On]

This selects what is heard through the L/R outputs and headphones when Sampling REC is enabled.

On (checked): Only the signal of the selected **Source Bus** will be heard. This lets you hear only the sound that will be sampled.

Off (unchecked): The signal of the selected **Source Bus** will be merged with the main L/R signal. This is the default.


Note: If **Source Bus** is set to **L/R**, this setting is ignored—since that signal is normally heard at the L/R outputs already!

Trigger [Sampling START SW, Note On]

Specifies how sampling will be initiated.

Sampling START SW: Pressing the SAMPLING REC switch will cause the OASYS to enter sampling-standby mode, and sampling will begin when you press the SAMPLING START/STOP switch.

Note On: Press the SAMPLING REC switch and then press the SAMPLING START/STOP switch to enter sampling-standby mode. Sampling will begin when you play the keyboard.

 Sampling will also begin if a MIDI note-on is received (instead of playing the keyboard).

Regardless of the settings you’re using, press the SAMPLING START/STOP switch once again when you’ve finished sampling. Alternatively, sampling will end automatically if the specified “Sampling Time” elapses.

Metronome Precount [Off, 4, 8, 3, 6]

This specifies whether the metronome will sound a count-down before sampling begins. This can be set only if “Trigger” is set to Sampling START SW.

Off: Sampling will begin immediately when you press the SAMPLING START/STOP switch from recording-standby mode.

4, 8, 3, 6: When you press the SAMPLING START/STOP switch from recording-standby mode, the metronome will count the specified number of beats at the system tempo, and then sampling will begin. If you set this to 4, sampling will begin on the count of 0 after a pre-count of 4–3–2–1–0.

The output destination and level of the metronome sound are specified by Metronome Setup (0–8d). If “Bus (Output) Select” is set to L/R, the metronome will stop sounding the instant sampling actually begins.

Save to [RAM, DISK]


Specifies the destination to which the data will be written during sampling.

RAM: The sound will be sampled into RAM memory.

A sample written into RAM memory can be heard immediately in Program mode or Sampling mode. Use the page menu command “g: Select Sample No.” to specify the Sample No. and to make settings for automatic conversion to a program.

Note: The amount of RAM available for user sampling is shown by Free Sample Memory/Locations (Sampling 0–1f). The amount of RAM available for

user sampling will vary depending upon both the amount of physical RAM installed, and the size of the currently loaded EXs banks. For more information, see “Sampling and RAM” on page 621.

 Data written into RAM memory will be lost when the power is turned off, so you must save it if you want to keep it.

Note: If “Save To” is set to RAM, the +12 dB (Sampling 2-1d) setting will be applied to the sample sampled to RAM. If +12 dB is on, a one-voice sample will have a playback level approximately +12 dB higher, so that the level will be the same during playback as it was while sampling.

If you’ve selected the **Auto +12 dB On** check box in the **Select Sample No.** page menu command, the +12 dB setting will automatically be turned on for sampling.

DISK: Samples will be recorded to the internal hard disk or a USB-connected external hard disk.

When you sample, a WAVE file is created on the disk. Use the “Select Directory” page menu command to specify the writing-destination disk and directory. To open the resulting sample, you can either use Disk mode to load the sample into RAM, or use “h: Select Directory” etc. to select the file and then press the Play button or the SAMPLING START/STOP switch.

Mode (Sampling Mode) [L-Mono, R-Mono, Stereo]

Specifies the channel(s) that you want to sample, and specify whether a mono or stereo sample will be created.

The L and R channels of the bus specified by **Source Bus** (0–8c) will be sampled.

L-Mono: The left channel of the **Source Bus** will be sampled in mono.

R-Mono: The right channel of the **Source Bus** will be sampled in mono.

Stereo: The L and R channels of the bus specified by **Source Bus** will be sampled in stereo. This will create a stereo multisample and samples. For more information, see “About stereo multisamples and stereo samples” on page 627.

Sample Time [min sec]

This sets the amount of time that you wish to sample. This can be set in 0.001 second increments.

Immediately after the power is turned on, this parameter shows the maximum available sampling time, equivalent to the entire amount of free RAM. Each time you press STOP after sampling to RAM, the change in remaining sample time will be displayed automatically.

If **Save to** is set to **DISK**, the maximum value is determined by the free space on the current disk, as specified by the **Select Directory** menu command.

Tips: If you have sufficient RAM memory, it’s a good idea to set a generous amount of **Sample Time**. After you sample, you can then use the **Truncate** menu command to delete unwanted portions of the sample, and reduce it to the minimum size necessary. For more information, see “Truncate (for Sample Edit)” on page 680 and “Truncate (for Loop Edit)” on page 686.

You can also press the SAMPLING START/STOP switch to manually stop sampling after you have recorded the desired material. For more details on sampling, see “Preparations for sampling” on page 125 of the Operation Guide.

▲ If **Save to** is set to **RAM**, and you continue sampling with the **Auto Optimize RAM** (Global 0–1d) option unchecked, wasted space will develop in memory, decreasing the amount of available RAM. In this case, use the **Optimize RAM** menu command to recover the wasted space.

Note: “Free Sample Memory/Locations” (Sampling 0–1f) in Sampling mode lets you check the remaining amount of RAM.

Note: The various Recording Setup settings are not made independently for each program; they apply to the entire Program mode.

0–8d: Metronome Setup

Here you can specify the output destination and volume of the metronome, as set up in by “Metronome Precount” (0–2c). The metronome is available only if “Trigger” is set to Sampling START SW.

Bus (Output) Select [L/R, L, R, 1...8]

This sets the audio output for the metronome sound.

L/R: The metronome will be heard in the main stereo outputs (L/Mono and R), the S/P DIF output, and the headphones.

1...8: The metronome will be heard only in the selected individual output.

Level [000...127]

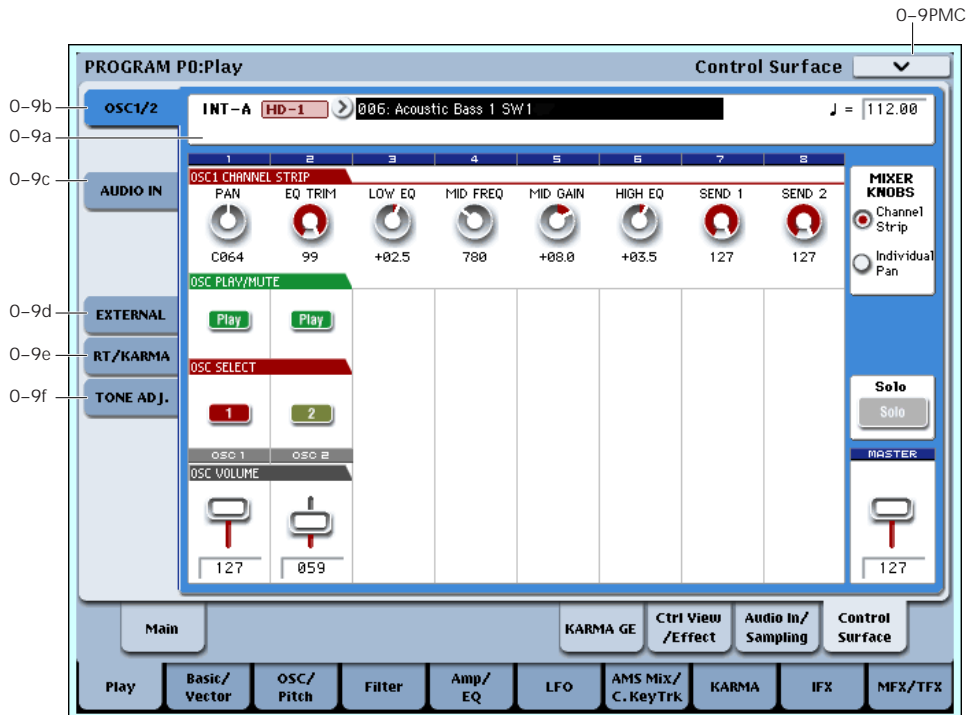
This controls the volume of the metronome sound.

▼ 0–8: Page Menu Commands

The number before each command shows its ENTER + number-key shortcut. For more information on these shortcuts, see “ENTER + 0-9: shortcuts for menu commands” on page 142.

- **0: Write Program.** For more information, see “Write Program” on page 142.
- **1: Exclusive Solo.** For more information, see “Exclusive Solo” on page 142.
- **2: Optimize RAM.** For more information, see “Optimize RAM” on page 143.
- **3: Select Sample No.** This applies only when **Save to** is set to **RAM**. For more information, see “Select Sample No.” on page 143.
- **3: Select Directory.** This applies only when **Save to** is set to **Disk**. For more information, see “Select Directory” on page 144.
- **4: Auto Sampling Setup.** For more information, see “Auto Sampling Setup” on page 144.

0–9: Control Surface



The Control Surface is the set of 9 sliders, 8 knobs, and 16 switches to the left of the LCD display. It looks like a mixer, but it can do other things as well, including editing sounds, controlling KARMA, and sending

MIDI messages to external devices.

This page shows you the current values for each of the sliders, knobs, and buttons, along with information about what they are controlling. For instance, you can:

- Adjust the volume and pan for Oscillators 1 and 2
- Control the Program’s EQ settings and Master Effects Send levels
- Modulate sounds and effects using the Real Time Knobs
- Control KARMA, and select KARMA scenes, using the sliders and switches
- Edit sounds using Tone Adjust
- Assign sliders, knobs, and switches to different Tone Adjust parameters

Local Control On/Off and the Control Surface

The Control Surface generates and receives MIDI CCs and System Exclusive messages, so that you can record knob, switch, and slider movements into a sequencer. This means that the Global mode **Local Control** setting is important:

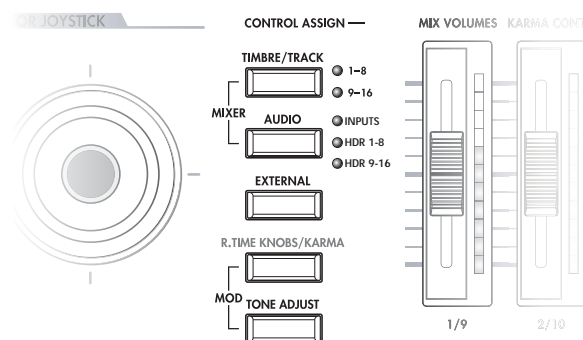
- If **Local Control** is On, the physical Control Surface will work properly as long as MIDI is **not** being looped back into the OASYS.
- If **Local Control** is Off, you **must** loop back MIDI into the OASYS in order for the physical Control Surface to work properly.
- Regardless of the **Local Control** setting, you can always edit Control Surface parameters via the touch-screen.

For more information, see “Local Control and the Control Surface” on page 709.

Control Assign Switches and Tabs

You can switch the Control Surface between its different functions using either the tabs on the left side of the LCD display, or the front-panel Control Assign switches. The tabs and the front-panel switches mirror one another; when you change one of them, the other changes as well.

Control Assign switches



In Program mode, you can select one of five different functions:

TIMBRE/TRACK lets you adjust the volume, pan, and send levels for Oscillators 1 and 2, along with the Program EQ. In Combi and Sequencer modes, you can also use this to select two different banks of Timbres or Tracks, as shown by the LEDs to the right of the switch.

AUDIO INPUTS lets you adjust the volume, pan, and send levels for the analog and S/P DIF audio inputs. In Sequencer mode, you can also use this to select two banks of hard-disk recording tracks, as shown by the LEDs to the right of the switch.

EXTERNAL lets you send MIDI messages to external MIDI devices. Use the Global P1– External1 page to specify the MIDI message that will be transmitted.

R.TIME KNOBS/KARMA lets you modulate sounds and effects with the knobs, and control KARMA with the sliders and switches.

TONE ADJUST gives you hands-on access to sound editing, using the sliders, knobs, and switches.

You can freely change back and forth between the different functions, without losing any of your edits.

Front-panel LEDs for sliders and knobs

There’s a vertical column of LEDs next to each slider, and a ring of LEDs around each knob. Similarly, each of the switches has an LED to show whether it’s on or off.

As you switch between the different Control Assign settings, you’ll notice that the LEDs change to show the current values for all of the controllers.

You can edit these values using either the physical sliders, knobs, and switches, or by selecting the on-screen parameters and using the standard data entry controls. When you edit a value using the LCD and data entry, you’ll notice that the LEDs on the sliders, knobs, and switches reflect the change as well.

Jump/Catch

When you change the Control Assign setting, the physical position of the knobs or sliders may be different than the parameter value, as shown by the LEDs.

The **Knob/Slider Mode** parameter, under System Preferences on the Global mode Basic page, determines how and when moving the physical slider or knob will start to edit the parameter value.

When it is set to **Jump**, the parameter will snap to the physical position as soon as you start to move the knob or slider. Use this if you’d like the parameters to respond instantly to controller movements.

When it is set to **Catch**, you need to move the slider or knob so that it “catches” the parameter, by passing through its current value. Until the value is caught, moving the slider or knob has no effect on the parameter. Use this when you’d like parameter edits to be smooth, and always move from the current value.

RESET CONTROLS

The front-panel RESET CONTROLS button lets you recall the stored settings for any slider, knob, or switch on the control surface. You can also use it to reset the Vector Joystick to the center position, or to reset all of the parameters in the current KARMA Module, or to un-solo all channels at once.

Resetting a single control

To reset a single knob, slider, or switch:

1. Hold down the RESET CONTROLS button.

2. While holding down RESET CONTROLS, move a slider or knob, or press one of the control surface switches.
3. When you're done, release the RESET CONTROLS button.

The slider, knob, or switch will be reset to the value stored in the Program or Combi. If the value is not stored (such as with the REALTIME KNOBS), the control is reset to its default value.

In Sequencer mode, controls will be reset to the state in which they were immediately after you entered Sequencer mode, selected the Song, executed Copy From Combi, etc.

Resetting a group of controls

To reset a group of controls at once:

1. Make sure that the Control Surface is showing the parameters you want to reset.

As a safety precaution, you can only reset the parameters currently displayed on the Control Surface. This takes into account both the current Control Assign setting, and the MIXER KNOBS button.

For instance, if you want to reset the volume and pan for both Oscillators, make sure that Control Assign is set to TIMBRE/TRACK, and that MIXER KNOBS is set to INDIVIDUAL PAN.

2. Hold down the RESET CONTROLS button.
3. While holding down RESET CONTROLS, press the current Control Assign button again.

All of the sliders, knobs, and switches shown on the Control Surface will be reset to the values stored in the Program.

Resetting the Vector Joystick

To reset the Vector Joystick to the center position, hold down RESET CONTROLS and then move the Vector Joystick.

Resetting KARMA Module parameters

To reset all of the sliders and switches in the KARMA Module:

1. Hold down the RESET CONTROLS button.
2. While holding down RESET CONTROLS, press the KARMA MODULE CONTROL button.

Similarly, to reset a single KARMA Scene to its stored values, hold RESET CONTROLS and press the desired SCENE button.

Clearing all solos

To turn off Solo for all MIDI Tracks, Audio Tracks, and Audio Inputs at once:

1. Press and hold the RESET CONTROLS button.
2. While holding RESET CONTROLS, press the SOLO button.

Resetting Tone Adjust

The way that TONE ADJUST is reset depends on both the current mode, and whether the parameter is Relative or Absolute. (For more information, see "Absolute, Relative, and Meta parameters" on page 27.)

In Program mode, Absolute parameters will be reset to the stored value, and Relative parameters will be reset to the center (which means no deviation from the stored value).

In Combination mode, they will be reset to the values stored in the Combination.

In Sequencer mode, they will be reset to the state in which they were immediately after you entered Sequencer mode, selected the Song, executed Copy From Combi, etc.

0-9a: Program Select & Tempo

Bank (Bank Select)[INT-A...F, GM, g(1)...g(9), g(d), USER-A...G]

Bank Type [(HD-1, EX)]

Program Select [(INT-A...F, USER-A...G) 0...127, (G, g(1)...g(9), g(d)) 1...128]

♪ (Tempo) [040.00...240.00, EXT]

This area displays information about the program selected for editing – the program bank/number/name, and the tempo used to control the KARMA function etc. (See "0-1a: Program Select" on page 2)

0-9b: OSC 1/2

This Control Assign setting lets you adjust the volume, pan, and FX send settings for Oscillators 1 and 2, along with the Program EQ settings.

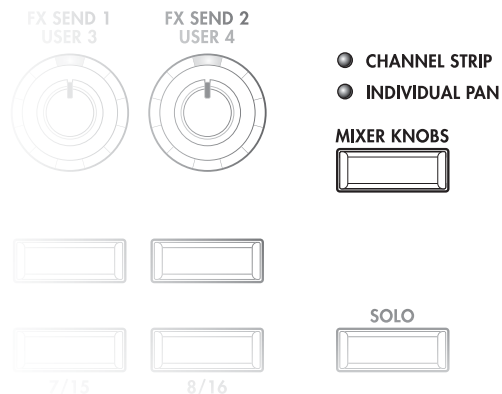
MIXER KNOBS [Channel Strip, Individual Pan]

The Mixer Knobs switch is on the front panel, immediately to the right of the knobs, and is also duplicated in the on-screen display. The eight knobs can control two different sets of parameters, depending on the setting of this switch.

Channel Strip: With this setting, the eight knobs will control the Pan, EQ, and FX Send settings for the selected Oscillator. Use the SELECT buttons to choose between Oscillators 1 and 2.

Individual Pan: With this setting, the first knob will control the Pan for Oscillator 1, and the second knob will control the Pan for Oscillator 2. The remaining knobs are unused.

Mixer Knobs switch



Knobs 1–8, Channel Strip

When the Mixer Knobs switch is set to Channel Strip, the knobs provide quick access to the Pan, EQ, and FX Send parameters. The Pan and EQ parameters duplicate the similarly-named parameters found on the Program editing pages; changing them here will change them in the editing pages, and vice-versa. “FX Send” will be reflected by the corresponding MFX Send 1 and 2.

PAN [Random, L001...C064...R127]


This controls the stereo pan of the selected Oscillator, and mirrors the Amp page Pan parameter. A setting of **L001** places the sound at the far left, **C064** in the center, and **R127** to the far right.

Random is available only via the LCD. (Otherwise, it would be difficult to use the knob to sweep smoothly from left to right.) With the **Random** setting, the pan position will be different for each note-on.

EQ TRIM [00...99]

This controls the volume level going into the EQ.

High settings of the Low, Mid, and High Gain controls can cause substantial increases in the overall level. You can compensate for this by turning down the input trim.

 Note: if the EQ page EQ Bypass parameter is turned On, then none of the EQ parameters here will have any effect.

LOW EQ [-18.00...+18.00dB]

This controls the gain of the 80Hz Low Shelf EQ, in increments of 0.5dB.

MID FREQ [100Hz... 10.00kHz]

This sets the center frequency for the Mid sweep EQ.

MID GAIN [-18.00...+18.00dB]

This controls the gain of the Mid Sweep EQ, in increments of 0.5dB.

HIGH EQ [-18.00...+18.00dB]

This controls the gain of the 10kHz High Shelf EQ, in increments of 0.5dB.

SEND 1 [000...127]

This controls the send level into FX Send 1. If the Program’s **Output Bus** parameter is set to L/R or OFF, it scales the Oscillator send levels. If the **Output Bus** is set to IFX 1–12, it directly controls the post-IFX send levels.

SEND 2 [000...127]

This controls the send level into FX Send 2. For more details, see “SEND 1,” above.

Knobs 1–2, Individual Pan

When the Mixer Knobs switch is set to Individual Pan, knobs 1 and 2 control the pan settings for Oscillators 1 and 2, respectively. The other 6 knobs have no effect.

These duplicate the Pan parameters of the Oscillators 1 and 2 Amp pages; changing them here will change them in the editing pages, and vice-versa.

Pan (1) [Random, L001...C064...R127]

This controls the stereo pan of Oscillator 1. A setting of **L001** places the sound at the far left, **C064** in the center, and **R127** to the far right.

Random is available only via the LCD. (Otherwise, it would be difficult to use the knob to sweep smoothly from left to right.) With the **Random** setting, the pan position will be different for each note-on.

Pan (2) [Random, L001...C064...R127]

This controls the stereo pan of Oscillator 2. For more details, see “Pan (1),” above.

Play/Mute switches 1–2

The top row of switches allow you to turn Oscillators 1 and 2 on and off, which can be convenient when editing sounds.

Play/Mute (1) [Play, Mute]

When this switch is on (LED = on), Oscillator 1 will play. When the switch is off (LED = off), Oscillator 1 will be muted.

Play/Mute (2) [Play, Mute]

When this switch is on, Oscillator 2 will play. When the switch is off, Oscillator 2 will be muted.

SOLO switch and SELECT switches 1–2

Solo [Off, On]

Solo lets you isolate one or more Oscillators or Audio Inputs, so that you hear them by themselves. It does this by temporarily muting all non-soloed Oscillators and Audio Inputs.

Solo uses the SELECT switches. These switches can show and control either which Oscillator is currently selected, or which Oscillators are soloed. The main **Solo** button lets you switch back and forth between the two views.

When **Solo** is **Off** (LED = Off), the SELECT switches select the current Oscillator; when **Solo** is **On** (LED = On or blinking), the Select switches let you solo one or both Oscillators.

When **Solo** is **On**, and one or more Oscillators or Audio Inputs are soloed, the SOLO LED will blink on and off to remind you that solo is in use.

Note: The main SOLO button merely changes the functions of the SELECT/SOLO switches. It does not enable or clear the individual solo states.

Clearing all solos

To turn off **Solo** for all Oscillators and Audio Inputs at once:

1. Press and hold the **RESET CONTROLS** button.
2. While holding **RESET CONTROLS**, press the **SOLO** button.

Exclusive Solo menu parameter

The menu’s **Exclusive Solo** parameter also affects the way that Solo works. When **Exclusive Solo** is **Off** (unchecked), you can solo multiple oscillators and inputs at once.

When **Exclusive Solo** is **On** (checked), only one oscillator or input can be soloed at a time. In this mode, pressing a Solo switch automatically disables any previous solos.

You can also toggle **Exclusive Solo** by holding **ENTER** and pressing **1** on the numeric keypad.

OSC1 Select/Solo [Off, On]

This switch either selects or solos Oscillator 1, depending on the Solo switch. For more details, see "Solo," above.

OSC2 Select/Solo [Off, On]

This switch either selects or solos Oscillator 2, depending on the Solo switch. For more details, see "Solo," above.

MIX VOLUMES Sliders 1-2

These sliders adjust the overall output level of Oscillators 1 and 2. These are separate volume controls, which scale the main Amp level parameter.

OSC 1 Volume [000...127]

This slider adjusts the volume level of Oscillator 1.

OSC 2 Volume [000...127]

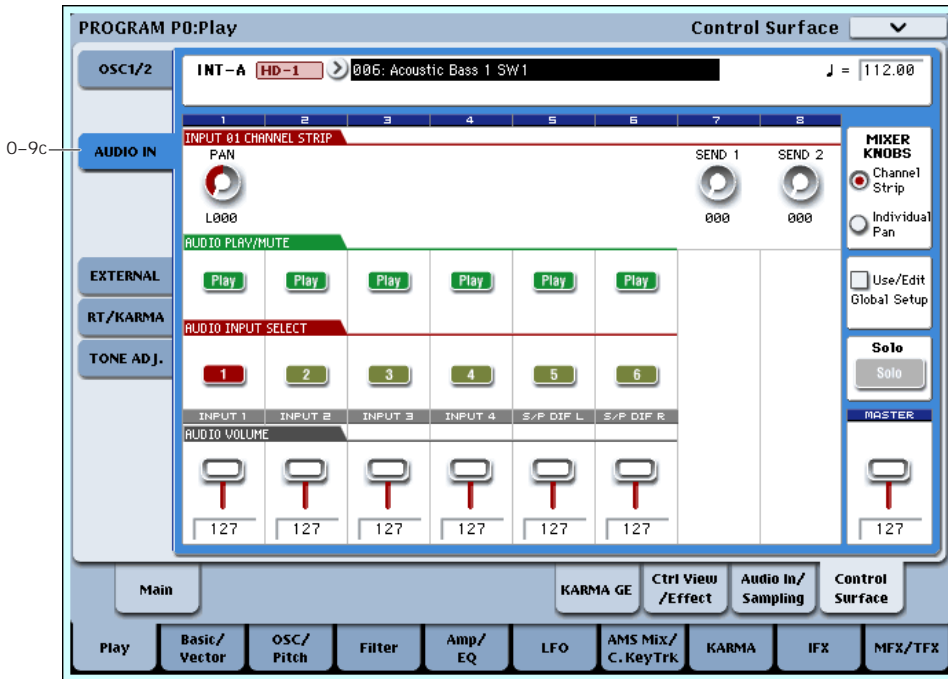
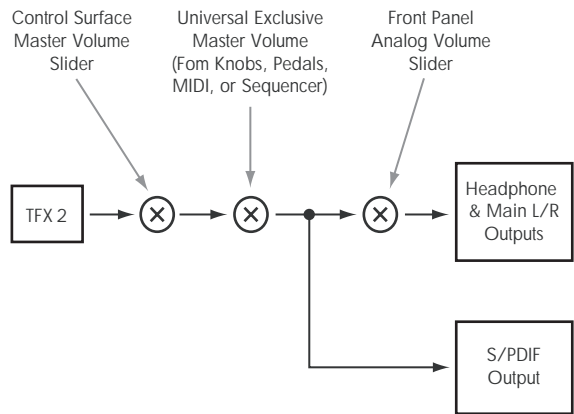
This slider adjusts the volume level of Oscillator 2.

Master Volume Slider

Master Volume [000...127]

This controls the volume of the main stereo outputs, after the Total Effects. It does not affect Individual Outputs 1-8.

Master Volume



0-9c: Audio Inputs

This Control Assign setting lets you adjust the volume, pan, and FX send settings for each of the six audio inputs: Analog 1-4, and S/P DIF left and right.

You can use this page to mix sounds from other sources into the OASYS outputs - as an on-stage submixer, for instance.

Other Audio Input settings

Each audio input can be assigned to up to three busses:

- An Output/IFX Bus
- An FX Control Bus
- A REC Bus

You can set up these bus assignments on the Audio In/Sampling page. For more information, see “0–8: Audio Input/Sampling” on page 12.

Use/Edit Global Setup [Off, On]

Programs can use the single, Global audio input mixer setup, or can instead have their own custom settings.

When **Use/Edit Global Setup** is **On**, the Program uses the Global settings. This is the default, and lets you change freely between different Programs and Combinations without affecting the audio inputs.

Also, any edits made on this page will affect the Global setting, along with any other Programs, Combis, or Songs which use the Global setting.

On the other hand, it may sometimes be convenient to save a particular mixer setup with an individual Program, to set up special sub-mixer settings or effects processing for particular inputs. In this case, set **Use/Edit Global Setup** to **Off**, and the audio inputs will use the Program’s custom settings.

Mixer Knobs [Channel Strip, Individual Pan]

This switch controls whether the knobs show the pan settings for all 6 inputs at once (Individual Pan), or the pan and FX Send levels for the selected input (Channel Strip). For more information, please see “Mixer Knobs” on page 23.

Knobs 1–8, Channel Strip

When the Mixer Knobs switch is set to Channel Strip, the knobs provide quick access to the selected input’s Pan and FX Send parameters.

Pan [L000...C064...R127]

This controls the stereo pan of the selected input. A setting of **L000** places the sound at the far left, **C064** in the center, and **R127** to the far right.

Send 1 [000...127]

This controls the send level into FX Send 1. If the input’s **Output Bus** parameter is set to L/R or OFF, it scales the programmed send level. If the **Output Bus** is set to IFX 1–12, it directly controls the post-IFX send levels, overwriting any previous setting.

Send 2 [000...127]

This controls the send level into FX Send 2. For more details, see “Send 1,” above.

Knobs 1–6, Individual Pan

When the Mixer Knobs switch is set to Individual Pan, knobs 1–4 control the pan settings for analog inputs 1–4, respectively, and knobs 5–6 control the pan settings for the left and right S/P DIF inputs. Knobs 7 and 8 have no effect.

Audio Input Pan (1–6) [L000...C064...R127]

These control the pan for Analog Inputs 1–4 and S/P DIF Left and Right, respectively. A setting of **L000** places the sound at the far left, **C064** in the center, and **R127** to the far right.

Play/Mute switches 1–6

The top row of switches allow you to mute any or all of the audio inputs.

Play/Mute (1–6) [Off, On]

When this switch is on (LED = on), the input will be enabled. When the switch is off (LED = off), the input will be muted.

SOLO switch and SELECT switches 1–6

Solo [Off, On]

Solo lets you isolate one or more Oscillators or Audio Inputs, so that you hear them by themselves. It does this by temporarily muting all non-soloed Oscillators and Audio Inputs.

The Select switches can show and control either which audio input is currently selected, or which inputs are soloed. The main Solo button lets you can switch back and forth between the two views.

When Solo is **Off** (LED = Off), the Select switches select the current input; when Solo is **On** (LED = On or blinking), the Select switches let you solo one or more inputs.

When Solo is **On**, and one or more Oscillators or Audio Inputs are soloed, the Solo LED will blink on and off to remind you that solo is in use.

Note: The main Solo button merely changes the functions of the Select/Solo switches. It does not enable or clear the individual solo states.

For more information, see “Clearing all solos” on page 21, and “Exclusive Solo menu parameter” on page 21.

Select/Solo (1–6) [Off, On]

This switch either selects or solos the input, depending on the Solo switch setting. For more details, see “Solo,” above.

Sliders 1–6

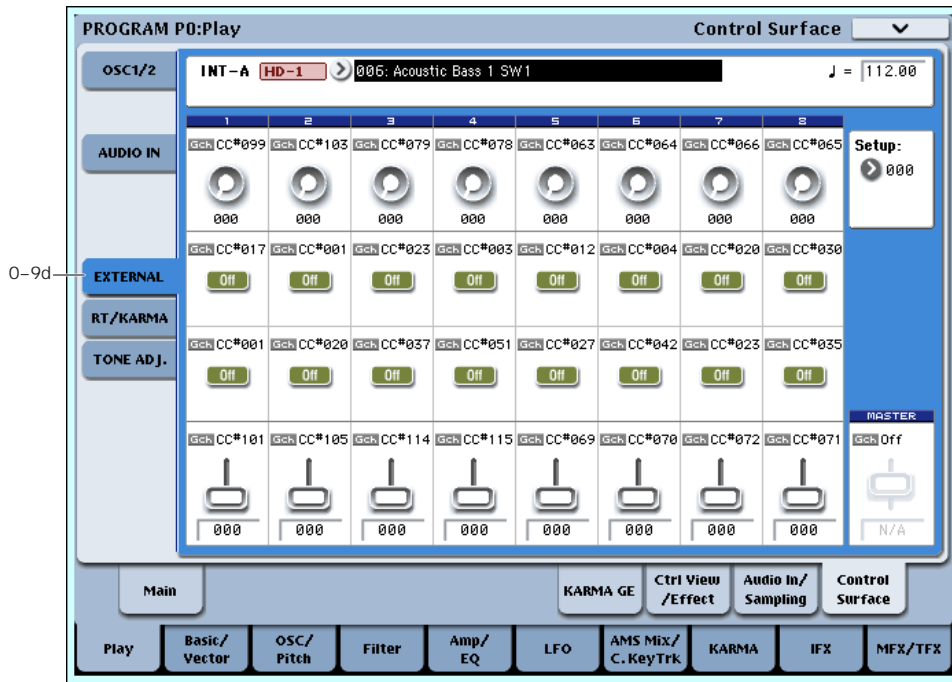
Audio Input Volume (1–6) [000...127]

These sliders adjust the volume levels of the audio inputs.

Master Volume Slider

Master Volume [000...127]

This controls the volume of the main stereo outputs, after the Total Effects. It does not affect Individual Outputs 1–8. For more information, see the diagram “Master Volume” on page 22.



0-9d: External

This Control Assign setting lets you send MIDI messages to external devices. Each slider, knob, and switch can be assigned to a separate MIDI controller and MIDI channel. The eight drum pads also have separate settings which apply only when Control Assign is set to External.

In Global mode, you can create up to 128 different External Setups. For instance, you might make one setup for controlling several different pieces of MIDI gear on stage, another for controlling a software synthesizer (such as one of Korg's Legacy Collection synths), and so on. For more information, see "1-2: External 1" on page 714.

These External Setups are completely separate from the Program. You can think of External mode as being a separate control surface which just happens to share OASYS's sliders, knobs, switches, and drum pads.

When you select an External Setup, it stays selected even when you change Programs, or switch to Combi or Sequencer modes. This makes it easy to select different OASYS sounds without disrupting any external MIDI control, and vice-versa.

Setup [000...127]

This selects the Global setup for the knobs, sliders, switches, and drum pads.

Note: this selection is not stored with the Program.

Knobs 1-8

MIDI Channel (1-8) [01...16, Gch]

This read-only parameter shows the MIDI Channel assigned to the knob. Each can send on a different channel, if desired.

Gch means that the knob will transmit on the Global MIDI Channel, as set in Global mode. This allows you to re-direct any number of sliders, knobs, switches, and pads to a different channel at once, without editing the individual controls.

CC# Assign (1-8) [Off, 000...119]

This read-only parameter shows the MIDI CC sent by the knob.

Value (1-8) [000...127]

This is the current value of the knob's MIDI CC.

Switches 1-16

MIDI Channel (1-16) [01...16, Gch]

This read-only parameter shows the MIDI Channel for the switch. Each can send on a different channel, if desired.

Gch means that the slider will transmit on the Global MIDI Channel, as set in Global mode.

CC# Assign (1-16) [Off, 000...119]

This read-only parameter shows the MIDI CC sent by the switch.

Switch Off/On (1-16) [Off, On]

When the switch is turned on, it sends a value of 127; when it is turned off, it sends a value of 0.

Sliders 1-8 & Master Slider

MIDI Channel (1-8) [01...16, Gch]

This read-only parameter shows the MIDI Channel for the slider. Each can send on a different channel, if desired.

Gch means that the slider will transmit on the Global MIDI Channel, as set in Global mode.

CC# Assign (1-8)

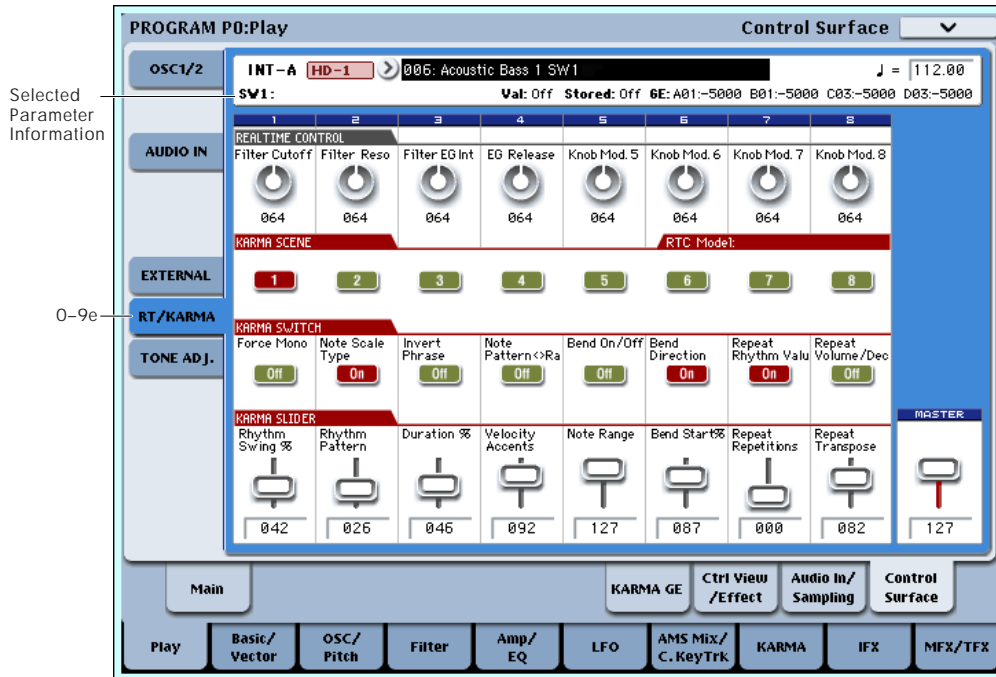
[Off, 000...119]

Value (1-8)

[000...127]

This read-only parameter shows the MIDI CC sent by the slider.

This is the current value of the slider's MIDI CC.



0-9e: RT/KARMA (Real Time Knobs/KARMA) AMSource

This Control Assign (labeled **R. Time Knobs/KARMA** on the front panel) setting lets you modulate Program and Effects parameters with the eight knobs, and control KARMA with the switches and sliders.

Selected parameter information

When you select a KARMA Slider or Switch, this area shows detailed information about its KARMA parameter assignments.

Control [SW1...8, SL1...8]

This shows which Switch or Slider is currently selected.

Assignment [Name]

Each KARMA Slider or Switch can control multiple internal parameters simultaneously. The group of parameters can be given a single name, which is shown here.

You can select different names, if desired. For more information, see "7-9: Name/Note Map" on page 125

Module and Parameter [A 01...32, P 01...08]

This read-only display shows the KARMA parameter(s) assigned to the Slider or Switch.

A means that the slider or switch controls a GE Real-Time Parameter from KARMA Module A. (Note that in Program mode, only Module A is available.) The following number identifies the specific parameter within the module. For instance, **A22a** is parameter 22 of Module A.

P means that the switch is controlling a Performance Real-Time Parameter.

You can assign many parameters to a single slider or switch, if desired. Due to space limitations, however, only first four parameters will be shown here. If there are more assignments than can be displayed, you'll see a ">" symbol after the fourth parameter.

To change the parameter assignments, use the KARMA GE RTP and Perf RTP pages. For more information, please see "7-5: GE Real-Time Parameters" on page 113, and "7-6: Perf Real-Time Parameters" on page 116.

Parameter Value [Depends on parameter]

This shows the value of the GE or Performance Real-Time Parameters assigned to the selected Slider or Switch. The range can vary, depending on the individual parameters.

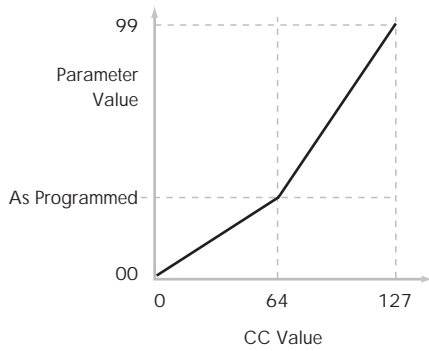
Knobs 1-8

Knobs 1-4 all have dedicated functions which correspond to MIDI CCs. Knobs 5-8 can be assigned to a wide variety of functions, many of which also have corresponding MIDI CCs.

When you move a knob, it sends out the corresponding MIDI CC. Also, when the CC is received via MIDI or generated by KARMA, the knob value changes to match the CC value.

Unless otherwise noted, "scaling" means that the parameters are at their programmed values when the controller is at 64, at their minimum when the controller is at 0, and at their maximum when the controller is at 127. For another look at this, see the diagram below.

CC parameter scaling



Knob 1: CUTOFF (CC#74) [000...127]

This knob scales the cutoff frequencies of Filters A and B, and transmits and receives MIDI CC #74.

Knob 2: RESONANCE (CC#71) [000...127]

This knob scales the resonance of Filters A and B, and transmits and receives MIDI CC #71.

Knob 3: Filter EG Intensity (CC#79) [000...127]

This knob scales the effect of the Filter EG on the cutoff frequencies of Filters A and B. It also transmits and receives MIDI CC#79.

Knob 4: EG Release (CC#72) [000...127]

This knob scales the release time of the Filter and Amp EGs, and transmits and receives MIDI CC#72.

Knob 5–8 [000...127]

This is the current value of the knob and its MIDI CC.

You can set knobs 5–8 to a wide variety of modulation functions, using the Controller Setup page (P1–8).

Many of the functions scale a particular set of Program parameters. All of the settings also correspond to MIDI messages—usually CCs.

KARMA SCENES 1–8

A KARMA Scene includes the settings for all of the KARMA Sliders and Switches. Each Combi can contain up to eight Scenes.

To select a Scene, just press its switch - you'll see all of the KARMA Sliders and Switches update instantly to their new values.

KARMA SWITCHES 1–8

These switches control KARMA Performance or GE (Generated Effect) parameters, as assigned on the KARMA Perf RTP and GE RTP pages.

KARMA SLIDERS 1–8

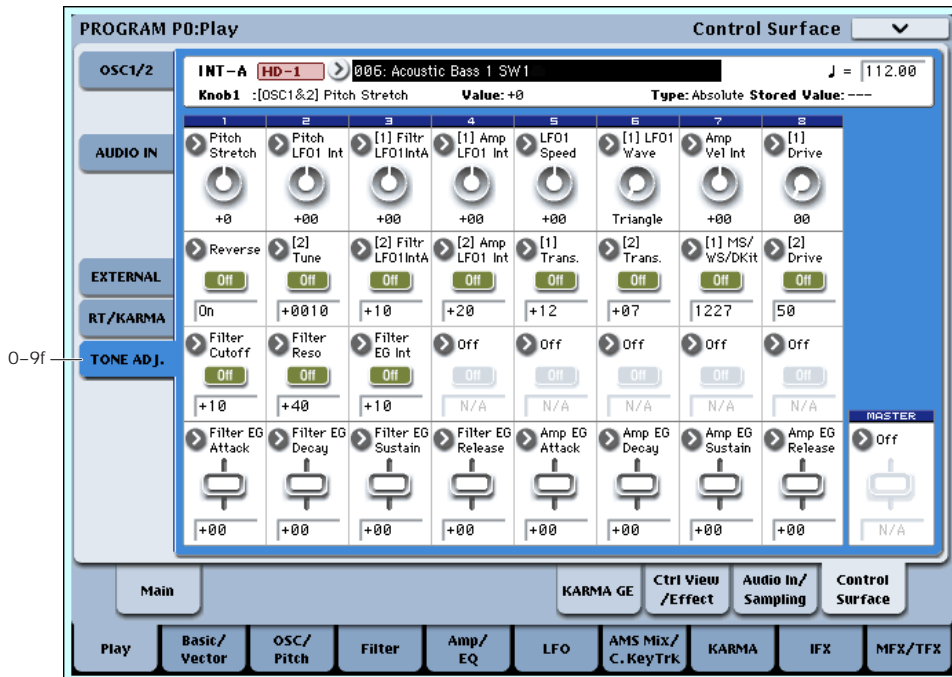
These sliders control KARMA Performance or GE (Generated Effect) parameters, as assigned on the KARMA Perf RTP and GE RTP pages.

For more information, see “KARMA SWITCHES 1–8,” above.

Master Volume Slider

Master Volume [000...127]

This controls the volume of the main stereo outputs, after the Total Effects. It does not affect Individual Outputs 1–8. For more information, see the diagram “Master Volume” on page 22.



0–9f: Tone Adjust

Tone Adjust lets you use all of the sliders, knobs, and switches on the Control Surface to edit Program parameters, like the knobs on an analog synth. Each

physical control can be assigned to any one of a number of Program parameters.

Tip: In Combi and Sequencer modes, Tone Adjust also lets you edit Program parameters without needing to save a different version of the original Program. For more information on Tone Adjust in these modes, see “0–9f: Tone Adjust” on page 397.

Saving Tone Adjust Edits

Tone Adjust edits are saved in two different ways, depending on whether the parameter is **Relative** or **Absolute**. (For more information, see “Absolute, Relative, and Meta parameters,” below.)

Edits to **Relative** parameters affect the sound immediately, but don’t change the underlying Program parameter settings until the Program is saved. When the Program is saved, the OASYS calculates the combined effects of Tone Adjust and dedicated CC modulation (from the Real Time Knobs, for instance), and saves the results into the Program parameters directly. At that point, all of the Relative parameters are reset to 0.

Edits to **Absolute** parameters are immediately reflected in the corresponding on-screen parameters, and vice-versa.

Tone Adjust and MIDI SysEx

The Tone Adjust sliders, knobs, and switches all send and receive MIDI System Exclusive messages. You can use this to record and play back Tone Adjust edits with a sequencer, including the built-in sequencer.

NOTE: The SysEx messages are tied to the physical controls, and not to the functions to which they are assigned. For instance, let’s say that slider 1 is assigned to control Filter Resonance, and move slider 1 while recording into a sequencer. The sequencer will record that slider 1 has moved, and not that Filter Resonance has changed. If you later change slider 1 to control LFO1 Speed, playing back the sequence will affect the LFO, and not Filter Resonance.

Interaction between Tone Adjust and MIDI CCs

A number of the Common Tone Adjust parameters affect parameters which are also modulated by dedicated MIDI CCs. The specific CC numbers are noted in the descriptions for the individual Tone Adjust parameters, below.

Tone Adjust and the CCs work separately. It’s possible, for instance, for Tone Adjust to reduce the value of a parameter, and then for a CC to increase it again.

Tone Adjust scales the parameter first, and then the CC scales the result of the Tone Adjust.

Absolute, Relative, and Meta parameters

There are three kinds of Tone Adjust parameters: Absolute, Relative, and Meta.

Absolute parameters usually control a single Program parameter, such as **Oscillator 1 Transpose**. The Program and Tone Adjust parameters mirror one another; when you change one, the other will change to match.

Relative parameters typically adjust two or more Program parameters simultaneously. For instance, **Filter/Amp EG Attack Time** affects a total of six

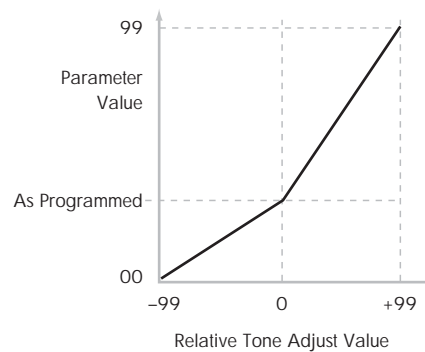
Program parameters. The value of the Relative parameter shows the amount of change to these underlying Program parameters.

When the Relative parameter is at 0 (in the center of the knob or slider), the underlying Program parameters are unchanged.

The meanings of higher and lower settings can vary, depending on the specific parameter. Unless noted otherwise, they work as follows:

When the Relative parameter is at +99 (the maximum), the Program parameters are all at their maximum as well. Similarly, when the Relative parameter is at –99 (the minimum), the Program parameters are at zero.

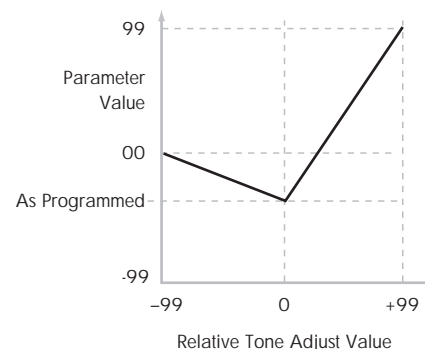
Relative Tone Adjust parameter scaling



A few of the Program parameters controlled by Relative Tone Adjust are bipolar, meaning that they can be either positive or negative (instead of just positive). When these Program parameters are set to negative values, Tone Adjust may behave differently from the description above.

For instance, if EG Intensity is set to a negative value, Relative Tone Adjust will take it from 0 to –99, like the inverse of the diagram above. EG Sustain works differently; if it’s set to a negative value, Tone Adjust takes it from 0 down to the programmed value, and then up to +99, as shown below.

Relative Tone Adjust parameter scaling: EG Sustain



Meta parameters don’t affect Program parameters directly. Instead, they affect the way that other Tone Adjust parameters work. For instance, **Multisample Min #** and **Max #** set the minimum and maximum values of the Tone Adjust **Multisample** parameter.

Selected parameter information

This status line shows detailed, read-only information about the currently selected Tone Adjust parameter.

(Control) [Knob1...8, SW1...16, Slider1...8, Slider M]

This is the physical controller assigned to the Tone Adjust parameter. **Slider M** is the Master Slider.

(Assignment) [Full Parameter Name]

This shows the full name of the parameter assigned to the controller. You can change this using the "Assign" parameter, below.

Value [Current Parameter Value]

This shows the current value of the parameter. The range of values will vary depending on the parameter assigned to the control.

Type [Relative, Absolute, Meta]

This shows the type of the parameter, which relates to how edits to the parameter are saved. For more information, see "Absolute, Relative, and Meta parameters" on page 27.

Stored Value [Original Parameter Value]

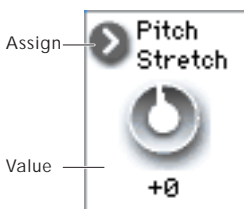
This shows the original value of the parameter, before the effects of Tone Adjust. It applies only to Tone Adjust parameters which control a single Program parameter.

If you un-assign a **Relative** parameter from a control, it will revert to this value.

Knobs 1–8

Assign [List of Tone Adjust assignments]

This lets you assign a Tone Adjust parameter to the knob. For a full list of the available choices, please see "Common Tone Adjust Parameters" and "HD-1 Tone Adjust Parameters," below.



Per-Oscillator parameters apply to OSC1 and 2 individually, and are marked as such: [OSC1] and [OSC2].

Each controller can be assigned to only one parameter, and each parameter can be assigned to only one controller.

To swap a parameter from one control to another, you'll need to first un-assign it from the old control, and then assign it to the new control.

Value [Depends on parameter]

This shows the current value of the parameter. The range of values will vary depending on the parameter assigned to the control.

Switches 1–16

Tone Adjust switches act a little differently than knobs and sliders.

When a switch is assigned to a **Relative** parameter, or an **Absolute** parameter with more than two states:

Switch On = **On Value** (see below)

Switch Off = the Program's stored value

When a switch is assigned to a two-state **Absolute** parameter, such as **Hold**, the switch status directly reflects the parameter value:

Switch On = **On**

Switch Off = **Off**

Assign [List of Tone Adjust assignments]

This lets you assign a Tone Adjust parameter to the switch. For a full list of the available choices, please see "Common Tone Adjust Parameters" and "HD-1 Tone Adjust Parameters," below.

On Value [Depends on parameter]

The parameter is set to this value when the switch is On.

When the switch is assigned to a two-state **Absolute** parameter, such as **Hold**, this will always be the same as the **Switch Status** (see below).

Switch Status [Off, On]

This simply shows whether the switch is On or Off. The status is also shown by the LEDs in the physical buttons.

Sliders 1–8 and Master Slider

These work identically to Knobs 1–8, as described above.

Common Tone Adjust Parameters

These parameters affect both Oscillators 1 and 2.

Unless otherwise noted, all of the Common Tone Adjust parameters are **Relative**.

Off. This means that the Tone Adjust control has no effect.

Filter Cutoff. (–99...+99, CC#74)

This scales the cutoff frequency of all of the filters at once. For instance, in the HD-1, it affects both Filters A and B.

Filter Resonance. (–99...+99, CC#71)

This scales the resonance of all of the filters at once. For instance, in the HD-1, it affects both Filters A and B.

Filter EG Intensity. (–99...+99, CC#79)

This scales the effect of the Filter EG on the cutoff frequency. It affects all of the filters at once; for instance, in the HD-1, it affects both Filters A and B.

–99 means no modulation. +99 means maximum modulation in the same direction, positive or negative, as the original Program. For instance, if the original Program's EG Intensity was set to –25, then setting the Tone Adjust to +99 moves the EG Intensity to –99.

Amp Velocity Intensity. (–99...+99)

This scales the effect of velocity on the Amp level.

–99 removes the velocity modulation entirely. +99 means maximum modulation in the same direction, positive or negative, as the original Program.

Filter/Amp EG Attack Time.

(–99...+99, CC#73)

This scales the attack times of the Filter and Amp EGs, along with other related parameters.

When the value is +1 or more, this also affects the Amp EG's Start and Attack Levels, Start Level AMS, and Attack Time AMS, as described below:

Between values of +1 and +25, the Start Level, Start Level AMS, and Attack Time AMS will change from their programmed values to 0. Over the same range, the Attack Level will change from its programmed value to 99.

Filter/Amp EG Decay Time.

(–99...+99, CC#75)

This scales the decay and slope times of the Filter and Amp EGs. It interacts with CC# 75.

Filter/Amp EG Sustain Level.

(–99...+99, CC#70)

This scales the sustain levels of the Filter and Amp EGs.

Filter/Amp EG Release Time.

(–99...+99, CC#72)

This scales the release times of the Filter and Amp EGs.

Filter EG Attack Time. (–99...+99)

This scales the attack times of the Filter EGs.

Filter EG Decay Time. (–99...+99)

This scales the decay and slope times of the Filter EGs.

Filter EG Sustain Level. (–99...+99)

This scales the sustain levels of the Filter EGs.

Filter EG Release Time. (–99...+99)

This scales the release times of the Filter EGs.

Amp EG Attack Time. (–99...+99)

This scales the attack times of the Amp EGs.

Amp EG Decay Time. (–99...+99)

This scales the decay and slope times of the Amp EGs.

Amp EG Sustain Level. (–99...+99)

This scales the sustain levels of the Amp EGs.

Amp EG Release Time. (–99...+99)

This scales the release times of the Amp EGs.

Pitch EG Attack Time. (–99...+99)

This scales the attack times of the Pitch EG (or EGs, in the case of some EXi instruments).

Pitch EG Decay Time. (–99...+99)

This scales the decay and slope times of the Pitch EG (or EGs, in the case of some EXi instruments).

Pitch EG Sustain Level. (–99...+99)

This scales the sustain levels of the Pitch EG (or EGs, in the case of some EXi instruments). **Note:** this does not apply to the HD-1.

Pitch EG Release Time. (–99...+99)

This scales the release times of the Pitch EG (or EGs, in the case of some EXi instruments).

Pitch LFO1 Intensity. (–99...+99, CC#77)

This scales the effect of LFO1 on the Pitch.

–99 removes the LFO modulation entirely. +99 means maximum modulation in the same direction, positive or negative, as the original Program.

LFO1 Speed. (–99...+99, CC#76)

This scales LFO1's frequency. When the LFO is in MIDI/Tempo mode, this adjusts the Base Note. For more information, please see "Frequency" on page 85.

LFO1 Fade. (–99...+99)

This scales LFO1's fade-in time. For more information, please see "Fade" on page 86.

LFO1 Delay. (–99...+99, CC#78)

This scales LFO1's delay time - the time between note-on and the onset of the LFO. For more information, please see "Delay" on page 86.

This parameter interacts with CC# 78.

LFO1 Stop. (PROG/Off/On, Absolute)

This **Absolute** parameter controls whether LFO1 is stopped or running. For more information, please see "Stop" on page 85.

The **PROG** setting restores the Program's original values—convenient if Oscillator 1's LFO was stopped, but Oscillator 2's was not.

LFO2 Speed. (–99...+99)

This scales LFO2's frequency. When the LFO is in MIDI/Tempo mode, this adjusts the Base Note. For more information, please see "Frequency" on page 85.

LFO2 Fade. (–99...+99)

This scales LFO2's fade-in time. For more information, please see "Fade" on page 86.

LFO2 Delay. (–99...+99)

This scales LFO2's delay time - the time between note-on and the onset of the LFO. For more information, please see "Delay" on page 86.

LFO2 Stop. (PROG/Off/On, Absolute)

This **Absolute** parameter controls whether LFO2 is stopped or running. For more information, please see "Stop" on page 85.

Common LFO Speed. (–99...+99)

This scales the Common LFO's frequency. When the LFO is in MIDI/Tempo mode, this adjusts the Base Note.

Unison. (Off/On, Absolute)

This **Absolute** parameter turns **Unison** on and off. For more information, please see "Unison" on page 35.

Of Voices. (2...16, Absolute)

This **Absolute** parameter sets the number of Unison voices. If **Unison** is not **On**, this parameter has no effect. For more information, please see "Number of voices" on page 35.

Detune. (0.0...200.0, Absolute)

This **Absolute** parameter sets amount of detuning between the Unison voices. If **Unison** is not **On**, this parameter has no effect. For more information, please see "Detune" on page 35.

Thickness. (Off/01...09, Absolute)

This **Absolute** parameter sets the pattern of detuning between the Unison voices. If **Unison** is not **On**, or if **Detune** is set to 0, this parameter has no effect. For more information, please see "Thickness" on page 36.

Common Step Sequencer Attack Smoothing. (00...99, Absolute)

This **Absolute** parameter sets amount of attack

smoothing for the Common Step Sequencer. Note that this applies only to EXi Programs. For more information, please see “Smoothing” on page 171.

Common Step Sequencer Decay Smoothing. (00...99, Absolute)

This **Absolute** parameter sets amount of decay smoothing for the Common Step Sequencer. Note that this applies only to EXi Programs. For more information, please see “Smoothing” on page 171.

HD-1 Tone Adjust Parameters

Macro parameters

The following three parameters affect both Oscillator 1 and Oscillator 2.

* In the list below, the items in parentheses are (value, edit type) respectively.

Pitch Stretch. (-12...+12, Relative)

This special control increases the Oscillator **Tune** parameter while lowering the **Transpose** parameter. The result is that the pitch stays the same, but the mapping of the samples to the keys changes. You can use this to create interesting shifts in timbre.

Hold. (Off/On, Absolute)

This lets you turn Hold on and off. For more information on this parameter, see “Hold” on page 36.

Reverse. (PROG/Off/On, Absolute)

This provides a quick way to turn Reverse on or off for all Multisamples in both Oscillators. **PROG** restores the Program’s original settings—convenient if some Multisamples had been set to Off, and others set to On.

Per-Oscillator parameters

These parameters affect each Oscillator separately. In the list, the parameters for Oscillator 1 appear first, with each name prefaced by [OSC1]; the parameters for Oscillator 2 appear next, prefaced by [OSC2].

Unless otherwise specified, all of the Per-Oscillator parameters are **Absolute**.

* In the list below, the items in parentheses are (value, edit type) respectively.

Tune. (-1200...+1200, Relative)

This **Relative** parameter adds to or subtracts from the Oscillator’s Tune setting, as described under “Tune” on page 49.

NOTE: as with **Transpose**, below, this is a simple addition or subtraction, as opposed to the more complex “scaling” function.

Transpose. (-60...+60, Relative)

This **Relative** parameter adds to or subtracts from the Oscillator’s Transpose setting, as described under “Transpose” on page 49.

MS/WS/DKit Select. (PROG/0...16383, Absolute)

In Single or Double Programs, this lets you select a new Multisample or Wave Sequence for the Oscillator. In Drum Programs, it lets you select a different Drum Kit. In general, it’s best to use this in conjunction with the **MS/WS Type** and **MS/WS/DKit Bank** parameters, as described below.

The list of Multisamples, Wave Sequences, or Drum Kits can be quite long. The sliders or knobs will let you sweep through the entire range, but it may not be possible to select all of the intermediate values. You can always select any individual item by using select the on-screen parameter and use the standard data entry controls, such as the INC and DEC buttons.

You can also limit the range of the control by using the **Min #** and **Max #** parameters, described below.

PROG restores the Program’s original Multisamples and Wave Sequences (or the Drum Kit, for a Drum Program), including all velocity ranges and **Reverse** and **Start Offset** settings.

For Single and Double Programs:

- **MS/WS/DKit Select** overrides all of the Multisample Velocity zones, so that the newly selected Multisample or Wave Sequence plays over the entire velocity range.
- By default, you can select from the same Bank as the original Program’s MS1.
- Also by default, if the original Program’s MS1 is a Multisample, you can select Multisamples; if MS1 is a Wave Sequence, you can select Wave Sequences.
- You can use the **MS/WS Type** and **MS/WS/DKit Bank** parameters, described below, to change these defaults as desired.

For Multisamples only:

- You can use the Tone Adjust **Reverse** and **Start Offset** parameters to modify the newly selected Multisample. By default, the **Reverse** is set to **Off**, and its **Start Offset** is set to **0**.

For Drum Programs:

- By default, you can select from the same Bank as the original Program’s DrumKit. You can use the **MS Bank** parameter, described below, to select a different Bank.

MS/WS Type. (Off/MS/WavSeq, Meta)

This Meta-parameter modifies the **MS/WS Select** parameter, so that you can specifically choose to select either Multisamples or Wave Sequences.

It applies only to Single and Double Programs, and has no effect with Drum Kits.

MS Bank. (ROM Mono..., Meta)

This Meta-parameter modifies the **MS/WS/Dkit Select** parameter, so that you can select Multisamples from any Bank you like.

MS/WS/DKit Min #. (0...16383, Meta)

This Meta-parameter sets a minimum value for the **MS/WS/Dkit Select** parameter. You can use this in conjunction with the **MS/WS/DKit Max #** parameter, below, so that a knob or slider selects only from a small set of choices. This is particularly convenient with the internal ROM, in which similar Multisamples are grouped together. For instance, this makes it easy to select between a group of bells, or a set of electric basses.

MS/WS/DKit Max #. (0...16383, Meta)

This Meta-parameter sets a maximum value for the **MS/WS/Dkit Select** parameter. Please see **MS/WS/DKit Min #**, above, for more information.

Start Offset. (0...8, Absolute)

This allows you to change the Start Offset of the Multisample specified by the **MS/WS Select** parameter. It applies only when:

- The Program is a Single or Double (not a Drum Kit)
- The **MS/WS Select** parameter is used to select a Multisample (not a Wave Sequence)

For more information on Start Offsets, see “Start Offset” on page 52.

Drive. (0...99, Absolute)

This controls the Oscillator’s **Drive** parameter, as described under “Drive” on page 74.

Low Boost. (0...99, Absolute)

This controls the Oscillator’s **Low Boost** parameter, as described under “Low Boost” on page 75.

Pitch Slope. (-1.0...2.0, Absolute)

This controls the Oscillator’s **Pitch Slope** parameter, as described under “Pitch Slope” on page 54.

LFO 1 Waveform. (Triangle...Rad6, Absolute)

This selects the waveform for the Oscillator’s **LFO 1**, as described under “Waveform” on page 84.

LFO 2 Waveform. (Triangle...Rad6, Absolute)

This selects the waveform for the Oscillator’s **LFO 2**, as described under “Waveform” on page 84.

Amp LFO 1 Intensity. (-99...+99, Absolute)

This controls the depth and direction of Amp modulation from LFO1, as described under “4–2c: LFO 1/2” on page 78.

Amp LFO 2 Intensity. (-99...+99, Absolute)

This controls the depth and direction of Amp modulation from LFO2, as described under “4–2c: LFO 1/2” on page 78.

Filter LFO 1 Intensity to A. (-99...+99, Absolute)

This controls the depth and direction of Filter A cutoff modulation from LFO1, as described under “3–3a: LFO 1/2” on page 68.

Filter LFO 1 Intensity to B. (-99...+99, Absolute)

This controls the depth and direction of Filter B cutoff modulation from LFO1, as described under “3–3a: LFO 1/2” on page 68.

Filter LFO 2 Intensity to A. (-99...+99, Absolute)

This controls the depth and direction of Filter A cutoff modulation from LFO2, as described under “3–3a: LFO 1/2” on page 68.

Filter LFO 2 Intensity to B. (-99...+99, Absolute)

This controls the depth and direction of Filter B cutoff modulation from LFO2, as described under “3–3a: LFO 1/2” on page 68.

Pitch LFO 1 AMS Intensity. (-12.00...+12.00, Absolute)

You can use an AMS source, such as aftertouch, to modulate the depth of pitch modulation (vibrato) from LFO1. This controls the intensity of that AMS modulation. For more information, see “4–2c: LFO 1/2” on page 78.

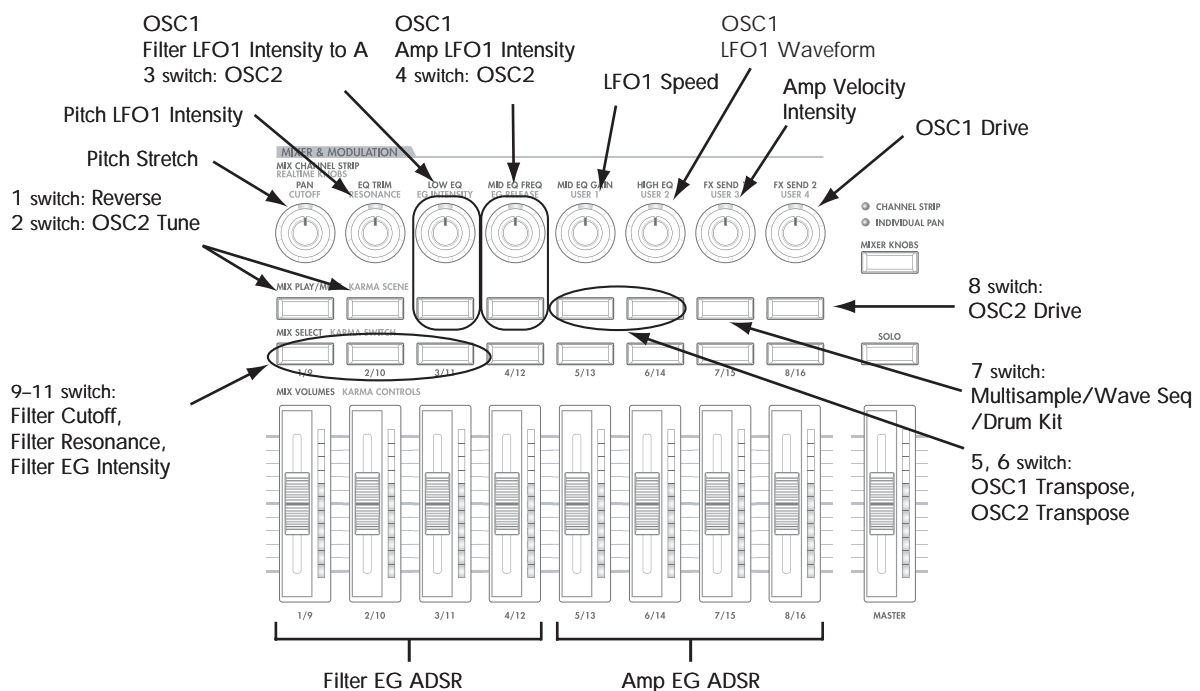
Pitch LFO 2 AMS Intensity. (-12.00...+12.00, Absolute)

This is similar to **Pitch LFO 1 AMS Intensity**, above. For more information, see “4–2c: LFO 1/2” on page 78.

Default Tone Adjust Settings

Tone Adjust provides an elegant physical interface to the HD-1’s parameters. Most of the factory sounds use the default layout, as shown below. You can also customize the layout for individual sounds, if desired.

HD-1 Tone Adjust, Default Settings



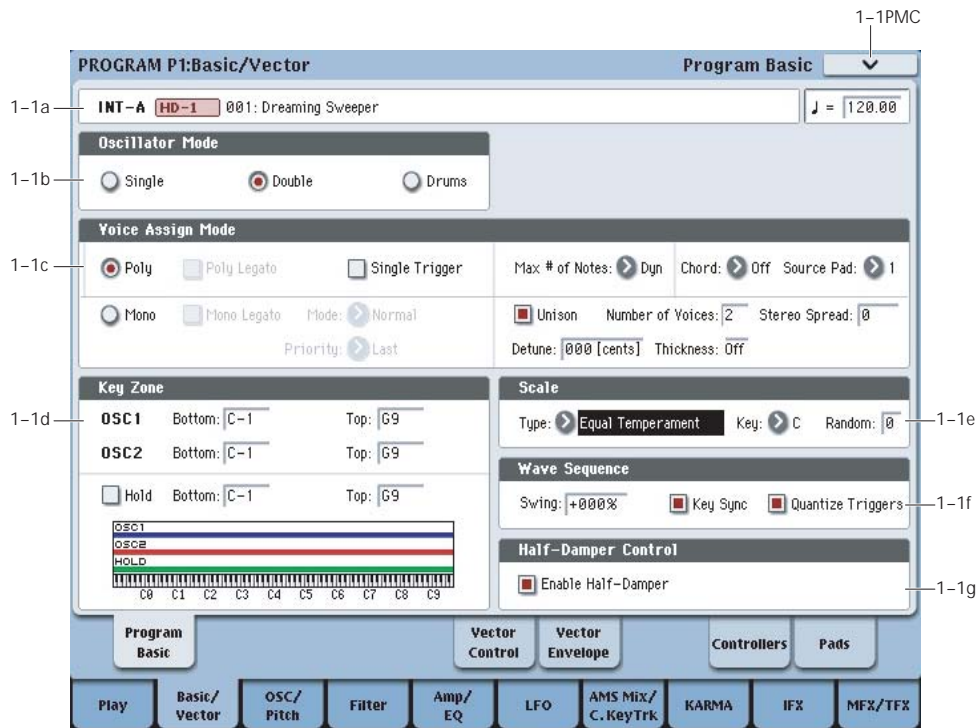
▼ 0–9: Page Menu Commands

The number before each command shows its ENTER + number-key shortcut. For more information on these shortcuts, see “ENTER + 0-9: shortcuts for menu commands” on page 142.

- 0: **Write Program**. For more information, see “Write Program” on page 142.
- 1: **Exclusive Solo**. For more information, see “Exclusive Solo” on page 142.
- 2: **Copy Tone Adjust**. This is available only when **Control Assign** is set to **TONE ADJUST**. For more information, see “Copy Tone Adjust” on page 147.
- 3: **Reset Tone Adjust**. This is available only when **Control Assign** is set to **TONE ADJUST**. For more information, see “Reset Tone Adjust” on page 147.
- 2: **Copy Scene**. This is available only when **Control Assign** is set to **RT KNOBS/KARMA**. For more information, see “Copy Scene” on page 151.
- 3: **Swap Scene**. This is available only when **Control Assign** is set to **RT KNOBS/KARMA**. For more information, see “Swap Scene” on page 151.

Program P1: Basic/Vector

1-1: Program Basic



This page contains all of the basic settings for the Program. Among other things, you can:

- Set up the Program to be a Single, a Double, or a Drum Kit
- Set the Program to play polyphonically or monophonically
- Create a keyboard split between OSC 1 and OSC 2
- Select the Program's scale
- Make basic Wave Sequence Settings

1-1a: Program Name and Tempo

Bank [INT-A...INT-G, USER-A...USER-G]

Program Name [000...127/001...128: Name]

These two read-only parameters show the bank, number, and name of the current Program.

Tempo (♩) [040.00...240.00, EXT]

This is the tempo used for Wave Sequences, LFOs, effects, and KARMA. For more information, please see "Tempo" on page 5.

1-1b: Oscillator Mode

Oscillator Mode [Single, Double, Drums]

HD-1 Single Programs have one oscillator, and Double Programs have two oscillators. Each oscillator includes a complete synthesis voice, with velocity-switched multisamples, dual filters, EGs, LFOs, and so on.

Drums mode is a special variation of Single mode, and uses a Drum Kit (as created in Global mode) instead of multisamples.

Single: The Program will use **one oscillator**, for a **maximum of 172-note polyphony**.

Double: The Program will use **two oscillators**, for a **maximum of 84-note polyphony**.

Drums: The Program will use **one oscillator** to play a Drum Kit. In this case the program will normally have a **maximum of 172-note polyphony**.

Note: when playing drum kits, it's often useful to turn on the **Hold** parameter. For more information, see "Hold," on page 36.

A note about polyphony

Polyphony means the number of notes that you can play at a time. This number will vary depending on the particular sound being played, and how that sound is produced. Generally speaking:

- Double Programs use twice as many voices as Single Programs.
- A wave sequence uses twice as many voices as a multisample. A stereo wave sequence uses twice as many voices as a mono wave sequence.
- Stereo Multisamples use twice as many voices as Mono Multisamples.
- If the Vector EG is enabled, the number of voices used increases slightly.

Polyphony also depends on the effects being used, and on which synthesis types are being used (HD-1, AL-1, CX-3 etc.). For more information, see “8-5a: Effect/EXi Fixed Resource Meter” on page 130.

1-1c: Voice Assign Mode

Voice Assign Mode [Poly, Mono]

These radio buttons select the basic voice allocation mode. Depending on which one you select, various other options will appear, such as **Poly Legato** (Poly mode only) and **Unison** (Mono mode only).

Poly: The program will play polyphonically, allowing you play chords.

Mono: The program will play monophonically, producing only one note at a time.

Poly

Poly Legato [Off, On]


Poly Legato is available when the **Voice Assign Mode** is set to **Poly**.

Legato means to play note so that they are smooth and connected; the next note is played before the last note is released. This is the opposite of playing detached.

On (checked): When you play a legato phrase, only the first note of that phrase (and notes within 30 msec of the first note) will use the normal multisample start point specified by **Start Offset** (2-1c); all subsequent notes will use the legato start point specified for each multisample.

Note: This is a useful way to simulate the percussive attack of a tonewheel-type organ.

Off (unchecked): Notes will always use the setting of the Start Point Offset, regardless of whether you play legato or detached.

 With some Multisamples, Poly Legato may not have any effect.

Single Trigger [Off, On]

Single Trigger is available when the **Voice Assign Mode** is set to **Poly**.

On (checked): When you play the same note repeatedly, the previous note will be silenced before the next note is sounded, so that the two do not overlap.

Off (unchecked): When you play the same note repeatedly, the notes will overlap.

Mono

Mono Legato [Off, On]

This is available when the **Voice Assign Mode** is set to **Mono**.

Legato means to play note so that they are smooth and connected; the next note is played before the last note is released. This is the opposite of playing detached.

When Mono Legato is On, the first note in a legato phrase will sound normally, and then subsequent notes will have a smoother sound, for more gentle transitions between the notes.

The **Mode** parameter, below, switches between two different Mono Legato effects, each of which achieves this smoothness in a different way. See the description of that parameter for more details.


On (checked): When you play with legato phrasing, the notes within a legato phrase will sound smoother, according to the setting of the **Mode** parameter, below.

Off (unchecked): Legato phrasing will produce the same sound as detached playing.

Mode [Normal, Use Legato Offset]

This parameter is available only when **Mono Legato** is **On**.

Normal: When you play legato, the multisample, envelopes, and LFOs will not be reset; only the pitch of the oscillator will change. This setting is particularly effective for wind instruments and analog synth sounds.

 With this option, the pitch may occasionally be incorrect, depending on which multisample you play, and where on the keyboard you play.

Use Legato Offset: When you play legato, the second and subsequent notes will use the legato start point specified for each multisample, rather than the **Start Offset** (2-1c) setting.

This is effective when used with a multisample for which you've assigned a specific legato offset point. For example, you might use it to control the attack of a breathy, slow-attack sax sound. On some multisamples, this will have no effect.

Envelopes and LFOs will still be reset, as they are with detached playing.

Priority [Low, High, Last]

Priority is available when the **Voice Assign Mode** is set to **Mono**.

This parameter determines what happens when more than one note is being held down.

Low: The lowest note will sound. Many vintage, monophonic analog synths work this way

High: The highest note will sound.

Last: The most recently played note will sound.

Max # of Notes

Max # of Notes [Dynamic, 1...16]

Dynamic is the default. With this setting, you can play as many notes as the system allows.

1-16 lets you limit the maximum number of notes played by the Program. Voices will still be allocated dynamically, up to this maximum number. You can use this to:

- Model the voice-leading of vintage synthesizers, such as the Polysix
- Control the resources required by individual Programs in Combination and Sequencer modes

Max # of Notes applies only when the main **Voice Assign Mode** is set to **Poly**. If **Mono** is selected, this is grayed out.

This setting does not limit the **Unison Number of Voices** parameter. For instance, if **Max # of Notes** is set to 6, and **Unison Number of Voices** is set to 3, you can play up to 6 notes, each with 3 Unison voices.

If the Program is set to **Double**, the **Max # of Notes** applies equally to both Oscillators. For instance, if **Max # of Notes** is set to 4, you can play up to 4 notes on each OSC.

Chord

Chord [Off, Bsc, Adv]

Off disables the Chord function.

Bsc (Basic) re-creates the chord mode of the KORG Polysix. Each time you play a new chord, it will cut off the previous chord. This option ignores the Voice Assign settings.

Adv (Advanced) uses the Program's Voice Assign settings, as if each note in the chord was a transposed set of oscillators layered within the Program.

Poly, Poly Legato, Single Trigger, Mono, Mono Legato, Legato Offset, Mono Priority, and Mono and Poly Unison all apply.

You can achieve the same effect as **Bsc**, above, by setting **Chord** to **Advanced**, **Voice Assign** to **Mono**, **Priority** to **Last Note**, and **Legato** to **Off**.

For more information, see "Using Chord mode" on page 54 of the Operation Guide.

Source Pad [1...8]

Chord mode uses the chords assigned to the Pads, and this selects which of the Pads to use. You can also choose chords using the Pads themselves; for more information, see "Selecting chords" on page 55 of the Operation Guide.

Unison

Unison [On, Off]

Unison can be used in both **Mono** and **Poly** modes.

On (checked): When Unison is on, the Program uses two or more stacked, detuned voices to create a thick sound.

Use the **Number of Voices** and **Detune** parameters to set the number of voices and amount of detuning, and the **Thickness** parameter to control the character of the detuning.

Off (unchecked): The Program plays normally. If **Unison** is **Off**, then all of its associated parameters are grayed out.

Number of voices [2...16]

This controls the number of detuned voices that will be played for each note when using **Unison**. It applies only when **Unison** is **On**.

Stereo Spread [0...100]

Stereo Spread lets you create a wider stereo field when using **Unison**. It applies only when **Unison** is **On**.

This feature separates the different Unison voices into two groups. One group is panned to the left, and the other to the right. At 0, both groups will be in the

center; at 100, the two groups will be hard-panned left and right, respectively; at intermediate values, they will be panned to intermediate left and right positions.

If there is an odd number of voices, one voice will be panned to the center.

If the voices are true stereo, **Stereo Spread** "steers" the stereo image of each voice, similar to MIDI Pan (CC#10) and the Control Surface Pan knobs. In this case, intermediate settings of **Stereo Spread** may be the most effective, since they will still preserve some of the original stereo image.

Unison detuning is spread as evenly as possible across the left and right channels. The lowest voice will be on the left, and the highest on the right; the next-lowest on the left, and the next-highest on the right, etc., as below:

-14 cents: L

+14 cents: R

-10 cents: L

+10 cents: R etc.

Depending on the **Thickness** setting, the detuning may lean slightly to one side.

Detune [0...200 cents]

Detune is available when **Unison** is **On**.

This parameter sets the tuning spread for the Unison voices, in cents (1/100 of a semitone). The **Thickness** parameter, below, controls how the voices are distributed across the detune amount. When **Thickness** is **Off**, the voices are distributed evenly, centered around the basic pitch.

For instance, let's say that the **Number of voices** parameter is set to 3, **Detune** is set to 24, and **Thickness** is **Off**:

Voice one will be detuned down by 12 cents, voice two will not be detuned, and voice three will be detuned up by 12 cents.

Voice	Detune
1	-12
2	0
3	+12

As another example, let's say that **Detune** is still set to 24 and **Thickness** is still **Off**, but **Number of voices** is set to 4:

Voice one will still be detuned down by 12 cents, voice two will be detuned down by 4 cents, voice three will be detuned up by 4 cents, and voice 4 will be detuned up by 12 cents.

Voice	Detune
1	-12
2	-4
3	+4
4	+12

Thickness [Off,01...09]

Thickness is available when **Unison** is **On**.

This parameter controls the character of the detuning for the unison voices.

Off: Unison voices will be evenly distributed across the Detune range, as shown above.

01–09: Unison voices will be detuned in an asymmetric way, increasing the complexity of the detune, and changing the way in which the different pitches beat against one another. This creates an effect similar to vintage analog synthesizers, in which oscillators were frequently slightly out of tune. Higher numbers increase the effect.

1–1d: Key Zone

You can create keyboard splits by setting top and bottom keys for Oscillators 1 and 2. Also, you can control the keyboard range over which the **Hold** parameter takes effect.

Setting Key Zones from the keyboard

In addition to using the standard data entry controls, you can also set all keyboard zones parameters directly from the keyboard. Just do the following:

1. **Select the key zone parameter you'd like to edit.**
2. **Press and hold the ENTER button.**
3. **Play a note on the keyboard to set the parameter.**
4. **Release the ENTER button.**

You can use this shortcut for all key and velocity parameters in the OASYS.

Osc 1 Bottom [C-1...G9]

This sets the lowest key on which Oscillator 1 will play.

Osc 1 Top [C-1...G9]

This sets the highest key on which Oscillator 1 will play.

Osc 2 Bottom [C-1...G9]

This sets the lowest key on which Oscillator 2 will play.

Osc 2 Top [C-1...G9]

This sets the highest key on which Oscillator 2 will play.

Hold [On, Off]

Hold is like permanently pressing down on the sustain pedal. In other words, notes continue to sound as if you were holding down the key - even after you lift your fingers from the keyboard.

Unless the **Sustain Level** is set to **0** in Amp EG 1 (and Amp EG 2 in a Double Program), the sound will play for the entire length of the sample(s).

On (checked): The **Hold** function is enabled for the range set by the **Hold Bottom** and **Hold Top** parameters, below.

Off (unchecked): Notes will play normally. This is the default setting.

Using Hold with Drum Kits

Hold can be especially useful for drum programs, since it lets the samples ring out naturally. In general, when you set the **Oscillator Mode** to **Drums**, it's good to set **Hold** to **On**.

Once you've turned on **Hold** for a drum program, the function is controlled on a note-by-note basis according to settings within the selected Drum Kit.

If a key's **Enable Note Off Receive** parameter (on the **Voice Mixer** tab of the **Drum Kit** page) is unchecked, the note will be held.

If the key's **Enable Note Off Receive** parameter is checked, it will not be held.

If you turn off **Hold** in the Program, no keys will be held - regardless of their **Enable Note Off Receive** setting.

Using Hold with Acoustic Pianos

Hold is also useful for simulating the top octaves of an acoustic piano, in which notes always sustain until they fade out naturally, regardless of how long you hold the key.

The **Hold Bottom** and **Hold Top** parameters are designed for exactly this purpose. They let you limit the effect of the Hold parameter to a specific range of the keyboard.

Hold Bottom [C-1...G9]

This sets the lowest key affected by the Hold function.

Hold Top [C-1...G9]

This sets the highest key affected by the Hold function.

1–1e: Wave Sequence

The **Swing**, **Key Sync**, and **Quantize Trigger** settings in this section affect how the Program plays its Wave Sequences. These settings are stored within the Program, and do not change the original Wave Sequence data.

Swing [-300%...+300%]

This parameter applies only when the Program is using one or more Wave Sequences set to Tempo mode.

Use **Swing** to add a sense of swing to the rhythm. For example, **Swing** provides an easy way to turn a "square" rhythm into a shuffle groove.

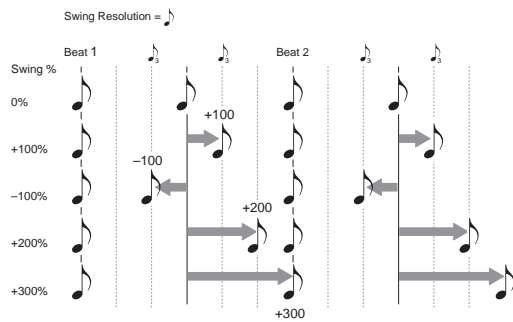
Swing works by adjusting the position of the up-beats, relative to the Wave Sequence's Resolution setting. For instance, if the Resolution is set to 1/8, **Swing** affects every other 8th note.

When **Swing** is set to **+100%**, these notes will be moved one third of the way toward the next down-beat. If the Resolution is 1/8, for example, **+100%** changes straight 8th notes into 8th note triplets.

When **Swing** is set to **+300%**, up-beats will be moved all the way to the next down-beat. At this point, the notes on the up-beats will not be heard at all.

Positive values make the up-beats later, and negative values make them earlier.

Wave Sequence Swing



Swing uses the Wave Sequence's Resolution setting

Since the programmed rhythms of Tempo Wave Sequences can vary widely, each has its own Swing Resolution setting, from 1/32 note triplets to 1/4 note.

If the Program contains two or more Wave Sequences with different Swing Resolution settings, the Program will use the finest value. For example, if one is set to 1/8 and the other is set to 1/16, the Program will use 1/16 notes.

Key Sync [On, Off]

On (checked): When Key Sync is On, each note's Wave Sequence(s) will progress independently, so that each one can be on a different step, or moving at a different rate.

Off (unchecked): When Key Sync is Off, all of the Wave Sequences will be synchronized on the same step. There is one exception to this, however: if Duration is modulated with velocity or note-number, the Wave Sequences can still progress at different rates.

Quantize Trigger [On, Off]

This parameter applies only when the Program is using one or more Wave Sequences set to Tempo mode.

It allows you to force most Tempo-mode Wave Sequence note-ons to be in sync, making it easier to play along with other rhythmic elements.

When Quantize Triggers is On, note-ons are quantized to 8th notes using the current tempo reference. (See below for a few more details.)

The tempo reference can come from different sources, depending on the current mode, and whether or not KARMA is on:

- In Program and Combi modes, if KARMA is off, note-ons are synchronized with the sounding Tempo-mode Wave Sequence, if any.
- In Program and Combi modes, if KARMA is on, note-ons are synchronized with KARMA.
- In Sequencer mode during playback or recording, note-ons are synchronized with the sequence.
- In Sequencer mode, while the sequencer is stopped, note-ons are synchronized with RPPR and KARMA.

On (checked): Note-ons will be quantized.

Off (unchecked): Note-ons will be played instantly, the moment that you play the keyboard.

How Quantize Trigger works

The Quantize Trigger feature tries to make a good guess at where you intended the note to be. If you play the note just a bit late—within a 32nd note of the 8th note—it will assume that you meant the note to sound on the beat that just passed. In this case, the note will play immediately.

On the other hand, if you play the note up to three 32nd notes early, it will assume that you're intending the note to sound on the next beat. In this case, the note-on is delayed until the next 8th note.

1-1f: Half-Damper Control

A half-damper pedal is a special type of continuous foot pedal, such as the Korg DS-1H. In comparison to a standard footswitch, half-damper pedals offer more subtle control of sustain, which can be especially useful for piano sounds.

The OASYS will automatically sense when a half-damper is connected to the rear-panel DAMPER input. For proper operation, you will also need to calibrate the pedal, using the Calibrate Half-Damper command in the Global page menu.

The off and full-on positions of the half-damper work just like a standard footswitch. In conjunction with the **Enable Half-Damper** parameter, below, intermediate positions allow a graduated control of sustain, similar to the damper pedal of an acoustic piano.

Enable Half-Damper [On, Off]

When this is **On** (checked), Half-Damper pedals, normal sustain pedals, and MIDI CC# 64 will all modulate the Amp EG, as described below.

When this is **Off** (un-checked), the pedals and MIDI CC#64 will still hold notes as usual, but will not modulate the Amp EG.

Half-Damper Pedal and Release Time

The amount of modulation depends on whether the Amp EG **Sustain Level** is set to 0 (as is the case with most acoustic piano sounds), or set to 1 or more. The modulation is continuous, from 1x (no change) to 55 times longer; the table below shows a selection of representative points.

Half-Damper modulation of Amp EG Release Time

CC#64 Value	Multiply Amp EG Release Time by...	
	If Sustain = 0	If Sustain = 1 or more
0	1x	1x
32	2.1x	2.1x
64	3.2x	3.2x
80	5.9x	
96	22.3x	
127	55x	

1-1g: Scale

Type [Equal Temperament...User Octave Scale15]

Selects the basic scale for the Program.

Note that for many of the scales, the setting of the **Key** parameter, below, is very important.

Equal Temperament: This is the most widely used scale by far, in which each semitone step is spaced at equal pitch intervals.

Equal Temperament allows easy modulation, so that a chord progression played in the key of C sounds roughly the same as the same progression played in F#. Sacrificed, however, is some of the purity of individual intervals offered by the scales below.

Pure Major: In this temperament, major chords of the selected key will be perfectly in tune.

Pure Minor: In this temperament, minor chords of the selected key will be perfectly in tune.

Arabic: This scale includes the quarter-tone intervals used in Arabic music.

Pythagoras: This scale is based on ancient Greek musical theory, and is especially effective for playing melodies. It produces completely pure fifths, with one exception, at the expense of detuning other intervals—thirds in particular.

As much as Pythagoras might have like to do so, it's not possible to make all the fifths pure while also keeping the octave in tune. For the sake of the octave, one of the fifths—the interval from the sharp fourth degree to the sharp first degree—is made quite flat.

Werkmeister (Werkmeister III): This scale was one of the many temperament systems developed towards the end of the Baroque period. These “Well-Tempered” tunings were aimed at allowing relatively free transposition—although you'll still notice that the different keys maintain their own distinct characteristics, unlike Equal Temperament.

J.S. Bach was referring to these new scales in his title, “The Well-Tempered Clavier.” As such, this group are particularly appropriate for late baroque organ and harpsichord music.

Kirnberger (Kirnberger III): This is a second “Well-Tempered” tuning, dating from the early 18th century.

Slendro: This is an Indonesian gamelan scale, with five notes per octave.

When **Key** is set to C, use the C, D, F, G and A notes. Other keys will play the normal equal-tempered pitches.

Pelog: This is another Indonesian gamelan scale, with seven notes per octave.

When **Key** is set to C, use the white keys. The black keys will play the equal tempered pitches.

Stretch: This tuning is used for acoustic pianos.


User All Notes Scale: This is a user-programmed scale with different settings for all 128 MIDI notes. You can set up this scale in Global mode (Global 3–1b).

User Octave Scale 00–15: These are user-programmed scales with settings for each of the 12 notes in an octave. You can set them up in Global mode (Global 3–1a).

Key (Scale Key) [C...B]

Selects the key of the specified scale.

This setting does not apply to the **Equal Temperament**, **Stretch**, and **User All Notes** scales.

 If you're using a scale other than Equal Temperament, the combination of the selected scale and the **Key** setting may skew the tuning of the note. For example, A above middle C might become 442 Hz, instead of the normal 440 Hz. You can use the Global Mode's **Master Tune** parameter to correct this, if necessary.

Random [0...7]

This parameter creates random variations in pitch for each note. At the default value of 0, pitch will be completely stable; higher values create more randomization.

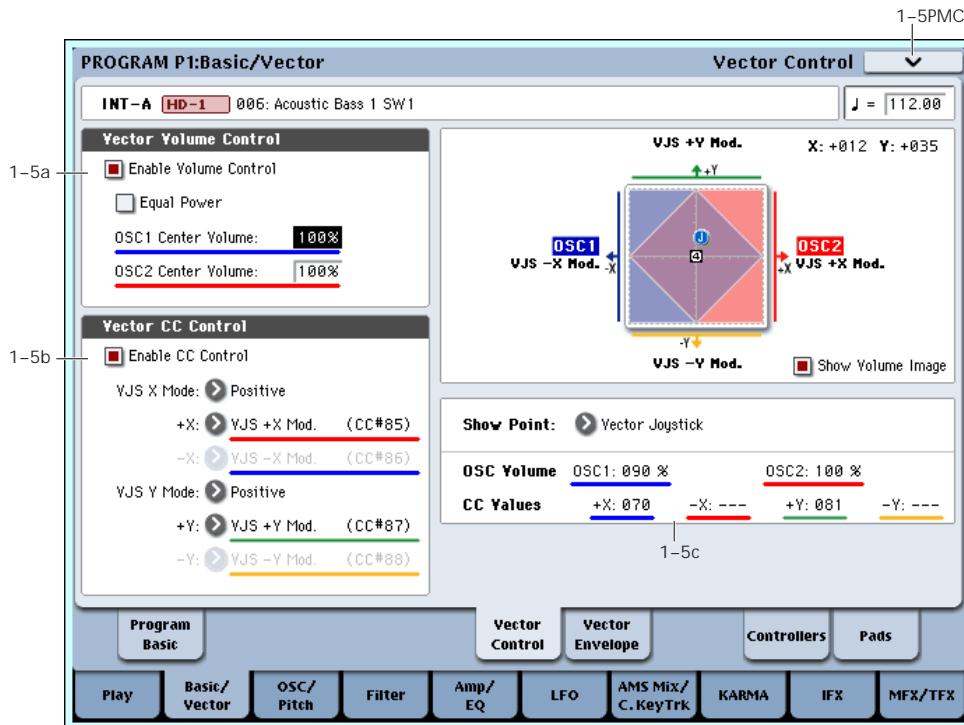
This parameter is handy for simulating instruments that have natural pitch instabilities, such as analog synths, tape-mechanism organs or acoustic instruments.

▼ 1-1: Page Menu Commands

The number before each command shows its ENTER + number-key shortcut. For more information on these shortcuts, see “ENTER + 0-9: shortcuts for menu commands” on page 142.

- 0: **Write Program.** For more information, see “Write Program” on page 142.
- 1: **Exclusive Solo.** For more information, see “Exclusive Solo” on page 142.
- 2: **Copy Oscillator.** For more information, see “Copy Oscillator” on page 148.
- 3: **Swap Oscillators.** For more information, see “Swap Oscillator” on page 148.

1-5: Vector Control



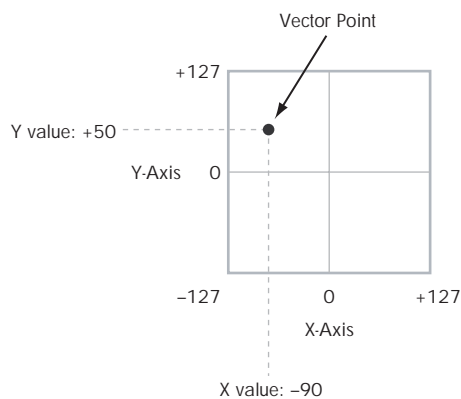
Vector Synthesis lets you control Program and Effects parameters by moving the Vector Joystick, by using the programmable Vector Envelope, or by the combination of the two.

What does Vector mean?

Modulation generally works by moving a single control, like a slider, in a straight line. At one end of the control, the modulation is at its minimum; at the other end, it's at its maximum.

Vector Synthesis is a little different. It works by moving around a point on a two-dimensional plane, both left-right and up-down.

Vector Point and X and Y axis values

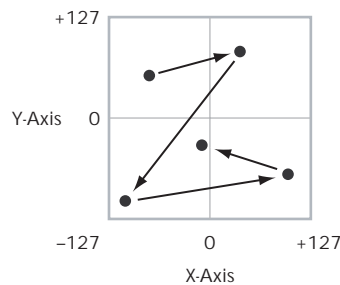


You can think of this point as being positioned on two different lines at once: a left-right line (the X axis), and an up-down line (the Y axis).

In other words, instead of just having one value (like a slider), each Vector point has two values: one for X, and one for Y. See the graphic "Vector Point and X and Y axis values" for an example.

In addition to moving the point directly with the Vector Joystick, you can also use the Vector Envelope to move its position automatically over time, as shown below.

Vector Envelope moving the Vector Point



Vector Joystick and Vector Envelope

You can move the Vector point using the combination of the Vector Joystick and the Vector Envelope. The two work together, although you don't necessarily have to use them both at the same time.

When the Vector Joystick is in its center position, the Vector Envelope has complete control over the point's position. Likewise, when the Vector Envelope is in the center, the Vector Joystick has complete control.

When the Vector Envelope is moving, the Vector Joystick scales its effect. Regardless of the Envelope's position, the Vector Joystick can always move the Vector point all the way to any of the extreme edges.

Tip: to quickly reset the Vector Joystick to its center value, hold down the front-panel Control Reset button and move the joystick.

Vector Volume Control and CC Control

The Vector does two main things: it can control the relative volume of the two Oscillators in Program mode (or of up to 16 Programs at once in Combi mode), and it can generate CCs for controlling Program and Effects parameters.

Vector and MIDI

The Vector features interact with MIDI in two different ways: through the Vector Joystick, and through the Vector CC Control.

The **Vector Joystick** sends and receives two MIDI controllers: one for the X axis, and the other for the Y axis. In Global mode, you can assign these to any MIDI CC numbers you like. The defaults are CC#118 for the X axis, and CC#119 for the Y axis.

The Vector Joystick and its CCs *control* the Vector position, in conjunction with the Vector EG.

The **Vector CC Control**, on the other hand, is *generated by* the Vector position. Normally, this will only affect internal sounds and effects. If you like, however, you can also enable a Global parameter to send these generated CCs to external MIDI devices.

1-5a: Vector Volume Control

Vector Volume Control lets you adjust the relative volumes of Oscillators 1 and 2 by moving the Vector Joystick (or the Vector Envelope) from left to right on the X axis.

The **Equal Power** check-box makes the Vector create a smooth fade between the two Oscillators, while the OSC1/2 Center Volume parameters allow you to create more complex fade shapes.

In Combi mode, you can use this to control the relative volumes of up to 16 Programs at once, using both the X and Y axes. For more details, see the Vector Control section of Combi mode.

Enable Volume Control [Off, On]

When this box is checked, the Vector position will control the volumes of Oscillators 1 and 2.

When this box is not checked, the Vector position will not directly affect volume. However, it's still possible for the Vector to control volume via Vector CCs and AMS.

Equal Power [Off, On]

This applies only when **Enable Volume Control** is turned **On**.

When **Equal Power** is **On**, the Vector will fade between Oscillators 1 and 2 using an equal-power volume curve. This provides a smooth fade between the two sounds, and is the type of volume control used by classic vector synths.

Also, when this is checked, the OSC 1 and OSC 2 **Center Volume** parameters will be grayed out, since Equal Power sets the center volumes automatically.

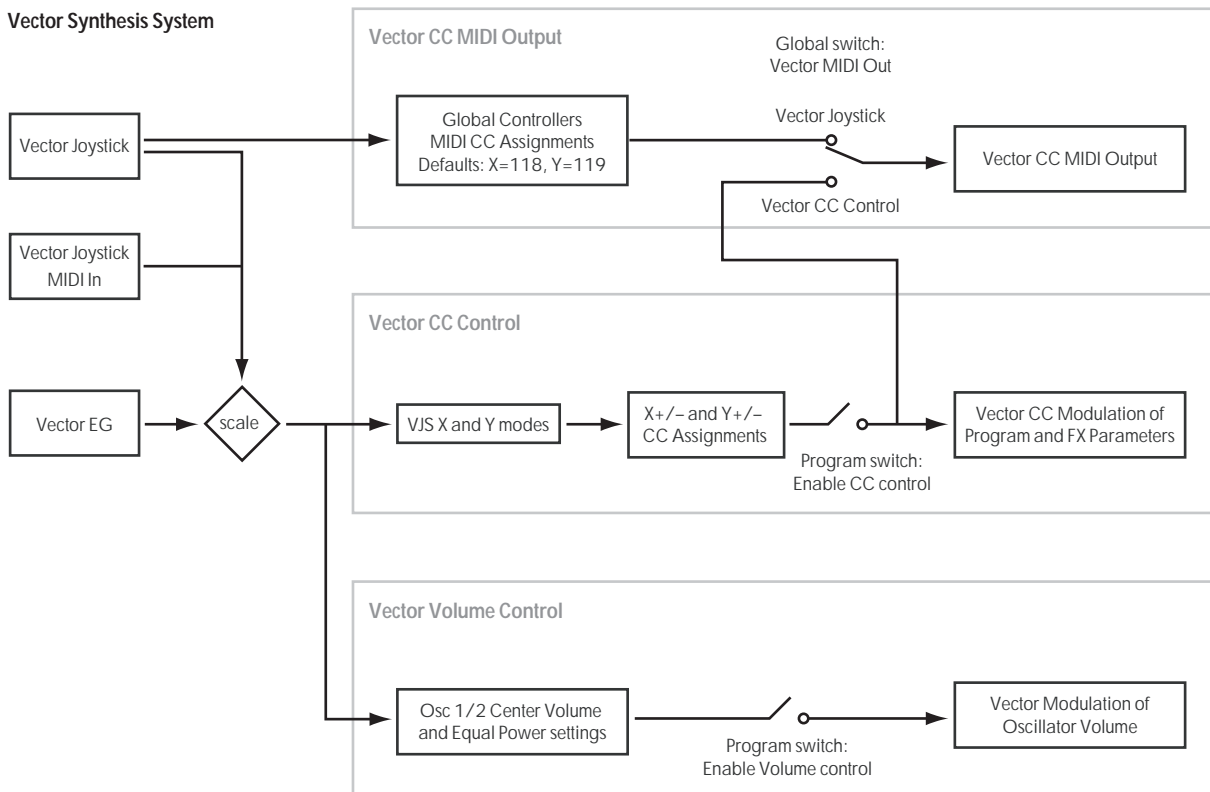
When **Equal Power** is **Off**, the OSC 1 and OSC 2 **Center Volume** parameters determine the way in which Vector position affects volume.

OSC1 Center Volume [0, 25, 50, 75, 100%]

This sets the volume of Oscillator 1 at the center of the X axis. It applies only when **Equal Power**, above, is set to **Off**.

The volumes at the extreme ends of the X axis are fixed. At the left side, Osc 1 is always at 100% volume; at the right side, Osc 1 is always at 0%.

Vector Synthesis System

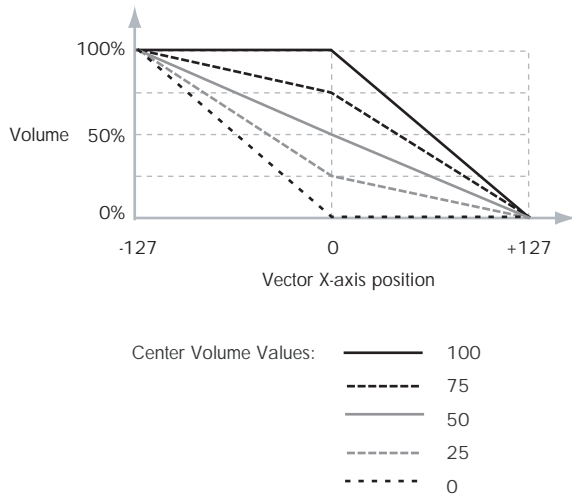


OSC2 Center Volume [0, 25, 50, 75, 100%]

This sets the volume of Oscillator 2 at the center of the X axis.

The volumes at the extreme ends of the X axis are fixed, in the opposite direction of Oscillator 1's. At the left side, Osc 2 is always at 0% volume; at the right side, Osc 2 is always at 100%.

Osc Center Volume and X-Axis Position



1-5b: Vector CC Control

Vector CC Control lets you use the combination of the Vector Joystick and the Vector EG as AMS sources, for modulating Program parameters, and as DMod sources, for modulating Effects.

Each of the four directions of the Vector can send a different CC, including left (-X), right (+X), up (+Y), and down (-Y). You can choose between several different patterns combining these four directions by using the VJS X Mode and VJS Y Mode parameters.

You can either use the Vector CCs to automate existing modulation routings, such as the front-panel knobs, or as distinct modulation sources. The vector CC is transmitted as MIDI control change messages on the global MIDI channel. This means that it controls all voices of the program, not individual voices.

Note: A Global parameter allows you to enable or disable MIDI output for the CC Control. By default, this is disabled. This setting does not affect the internal Programs, which can always receive the Vector CCs.

Enable CC Control [Off, On]

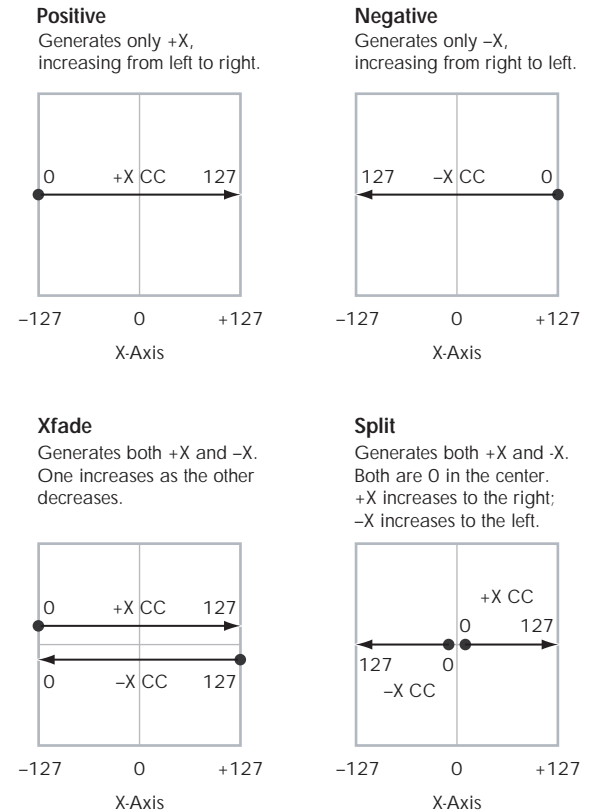
When this box is checked, the Vector position will control the CCs assigned to +X, -X, +Y, and -Y, as set below.

When this box is not checked, the Vector position will not affect these CCs. However, the joystick will still send and receive its dedicated MIDI CCs, just like other physical controllers. See "Vector and MIDI," above, for more information.

VJS X Mode [Positive, Negative, Xfade, Split]

You can set up the Vector to send out CCs in several different patterns, as shown in the graphic below. This controls the pattern for the X axis. Note that this setting affects only CC Control; it has no effect on Volume Control.

Vector CC Modes



Positive sends out only +X, starting at 0 at the far left, and increasing to 127 at the far right. -X is disabled in this mode.

Negative sends out only -X, starting at 0 at the far left, and increasing to 127 at the far right. In this mode, +X is grayed out.

Xfade sends out both +X and -X, overlapping throughout the X axis. As one increases, the other decreases.

Split sends out both +X and -X, with a split in the center. +X is sent when the point moves to the right of the center, and -X is sent when the point moves to the left of center.

+X [Off...MIDI CC#119]

This assigns the controller sent by the +X vector. You can use this as an AMS source to control Program parameters, or as a DMod source to control Effects parameters. It will be grayed out if the VJS X Mode, above, is set to Negative.

In addition to the standard list of MIDI controllers, you can also assign the +X vector to duplicate the function of several front-panel controllers, including JS X, JS+X, JS-X, Knobs 5-8, and SW 1-2.

For instance, if you assign +X to Knob 6, the vector's +X will use the controller assigned to Knob 6 on the Controller Assign page.

Finally, you can also assign +X to control the Master Volume.

-X [Off...MIDI CC#119]

This assigns the controller sent by the -X vector. It will be grayed out if the VJS X Mode, above, is set to Positive.

The selections are the same as for +X, above.

VJS Y Mode [Positive, Negative, Xfade, Split]

This controls the Vector CC pattern for the Y axis. For more information, see the description under VJS X Mode, above.

+Y [Off...MIDI CC#119]

This assigns the controller sent by the +Y vector. It will be grayed out if the VJS Y Mode, above, is set to Negative.

The selections are the same as for +X, above.

-Y [Off...MIDI CC#119]

This assigns the controller sent by the -Y vector. It will be grayed out if the VJS Y Mode, above, is set to Positive.

The selections are the same as for +X, above.

1-5c: Vector Graphic

Vector Graphic

This is a diagram of the vector space, including the five points of the Vector EG (labeled 0-4) and the current position of the Vector Joystick (labeled J).

The transitions between the EG's points are shown by black lines, and the loop transition is shown by a gray line.

Show Volume Image [Off, On]

The vector graphic includes an image representing the current Vector Volume Control settings. You can use the Show Volume Image check-box to toggle this part of the graphic on and off.

Show Point [Vector Joystick, Vector Envelope Point 0...4]

You can view the volume and CC values for the current position of the Vector Joystick, or for any of the EG's five points.

Oscillator Volume & CC Display

This read-only display shows the volume and CC values for the current Vector point, as selected by the Show Point parameter, above.

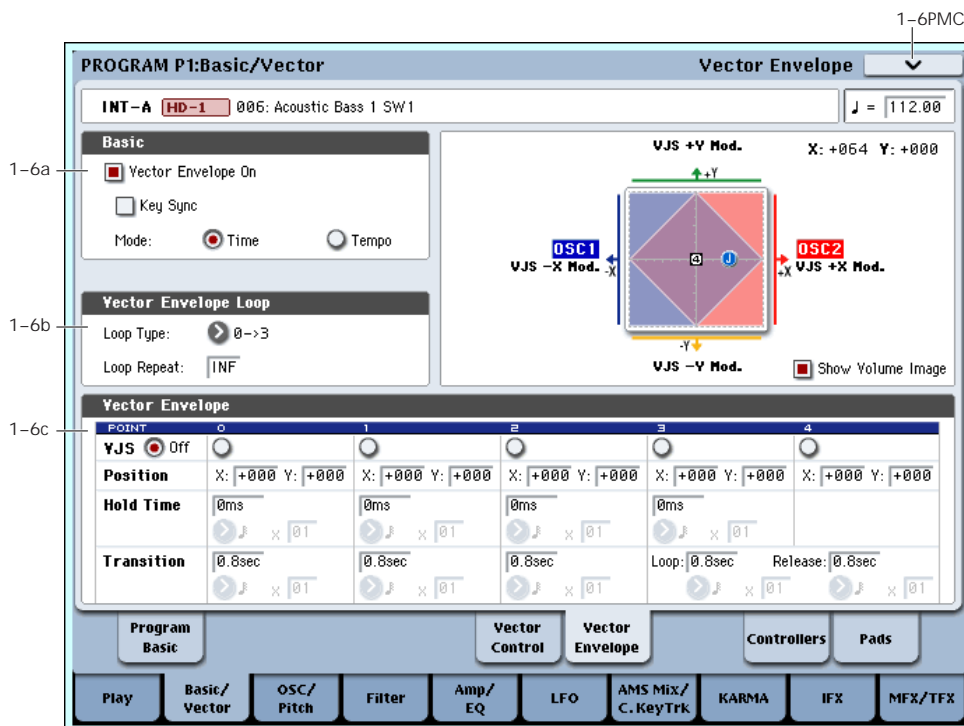
- 2: **Copy Oscillator**. For more information, see "Copy Oscillator" on page 148.
- 3: **Swap Oscillators**. For more information, see "Swap Oscillator" on page 148.

▼ 1-5: Page Menu Commands

The number before each command shows its ENTER + number-key shortcut. For more information on these shortcuts, see "ENTER + 0-9: shortcuts for menu commands" on page 142.

- 0: **Write Program**. For more information, see "Write Program" on page 142.
- 1: **Exclusive Solo**. For more information, see "Exclusive Solo" on page 142.

1-6: Vector Envelope



The Vector Envelope works together with the Vector Joystick to control the Vector position. It's also special because it's the only programmable modulation source which lets you modulate both Program and Effects parameters.

The Vector Envelope is different from the other envelopes in several ways:

- Each point has two “levels” - one for the X axis, and one for the Y axis.
- The envelope times can be based on seconds and milliseconds, or synced to tempo.
- Each point has a hold time, as well as a transition time to the next point.
- The envelope can loop between two points, for either a specified number of repeats, or as long as you hold the note.

Vector Volume and CC control use separate EGs

There are actually two different Vector EGs, which share the same parameters: one for Volume Control, and the other for CC Control.

All of the notes in the Program share a single CC Control EG, since there can only be one set of CCs for each MIDI channel. This EG starts when you first play a note, and continues as long as any notes are held down on the keyboard. When you release all of the notes, the EG goes into its release phase.

Each note then has its own, additional Volume Control EG. The **Key Sync** parameter applies only to this per-note EG.

When the **Key Sync** parameter is **Off**, the CC Control and Volume Control EGs are completely synchronized.

When **Key Sync** is **On**, each note's Volume Control EG will start at note-on, and go into release at note-off. All the notes will still share a single CC Control EG.

1-6a: Basic

Vector Envelope On [Off, On]

On (checked): When this box is checked, the Vector EG will work with the Vector Joystick to control the vector position.

Off (unchecked): When this box is not checked, the Vector EG will not run. The vector position will be controlled solely by the Vector Joystick.

Key Sync [Off, On]

The Key Sync parameter applies only to Vector Volume control. As described under “Vector Volume and CC control use separate EGs,” above, Vector CC control always acts as if Key Sync were Off.

On (checked): When Key Sync is **On**, the Vector Volume EG starts each time you press a key, and an independent EG runs for each note. This is the normal setting.

Off (unchecked): When Key Sync is **Off**, the Vector Volume EG starts from the phase determined by the first note in the phrase, so that the EGs for all notes being held are synchronized together.

Mode [Time, Tempo]

Time: When the Mode is set to **Time**, you can set the EG segment times in seconds or milliseconds.

Tempo: When the Mode is set to **Tempo**, the Vector EG will synchronize to the system tempo, as set by either the Tempo knob or MIDI Clock. Instead of using

seconds and milliseconds, you can specify the EG times as rhythmic values, using the Base Note and Multiplier parameters.

1-6b: Vector Envelope Loop

The Vector EG can loop between two points, and can continue to loop either for as long as you hold the note, or for a specified number of repeats. You can also turn the loop off completely, if you like.

Loop Type [0->3, 1->3, 2->3, 0<->3, 1<->3]

This selects the start and end points of the loop, and whether the loop is forwards only or forwards-backwards.

The first three selections, 0->3, 1->3, and 2->3, loop forwards only. For instance, when Loop Type is set to 1->3, the EG will play as follows: 0, 1, 2, 3, 1, 2, 3, 1, 2, 3 etc.

The last two selections, 0<->3 and 1<->3, are forwards-backwards. For instance, with the 1<->3 setting, the EG will play as follows: 0, 1, 2, 3, 2, 1, 2, 3 etc.

Loop Repeat [Off, 1...126, Inf]

Off: When this is set to Off, the EG will not loop at all.

1-126: The EG will loop the specified number of times, and then hold at point 3 until the note is released.

Inf: The EG will loop as long as the note is held, and then move to point 4 when the note is released.

1-6c: Vector Envelope

Like the Filter, Amp, and Pitch EGs, the Vector EG has a total of five points. Since the Vector EG can loop, however, the points are labeled differently; instead of names like attack and decay, they are simply numbered 0-4.

Sustain and Release

When the EG is in the middle of a loop, there is no "sustain" point per se. However, if the EG has already completed the specified number of **Loop Repeats**, or if **Loop Repeat** is Off, it will sustain at Point 3 until release.

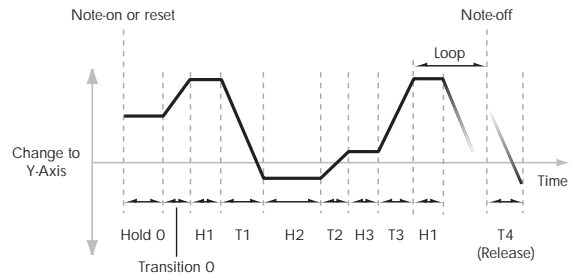
At release, the EG always moves to Point 4.

Hold and Transition times

The Hold Time sets how long the EG lingers at each point, and the Transition time sets how long it takes to go from the selected point to the next.

For instance, the graphic below shows the succession of Hold and Transition times when the Loop Type is set to 1->3. For clarity, only the Y axis positions are shown.

Vector EG times, Loop Type = 1->3

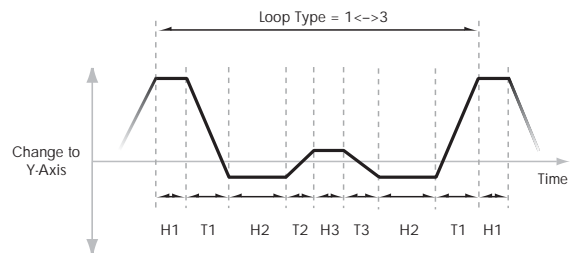


The transition from Point 3 into the loop always uses Point 3's Transition time, regardless of the Loop Type.

Points 0, 1, and 2's Transition times, however, work in reverse when moving backwards during a forwards-backwards loop. It's as if you were re-tracing the EG shape in reverse.

For instance, in the backwards section of a loop, moving from Point 2 to Point 1 uses Point 1's Transition time.

Forwards-Backwards Loop, Loop Type = 1<->3



VJS

[Off, 0...4]

This horizontal row of radio buttons lets you edit the selected point's X-Y position using the Vector Joystick.

Just press the point's radio button, move the Vector Joystick to the desired location. When you're finished, press the Off radio button again.

When you are not editing the EG's X-Y positions, you should leave this set to Off, to avoid inadvertent changes to the EG.

Point 0

Position

In addition to editing the X and Y parameters with the standard data entry controls, you can also simply use the Vector Joystick to set the position, as described under "VJS," above.

X [-127...+127]

This sets the point's position on the X axis.

Y [-127...+127]

This sets the point's position on the Y axis.

Hold Time

This sets the length of time that the EG will stay on Point 0, before moving to Point 1. You can set the Hold Time in either seconds/milliseconds or rhythmic values, depending on the setting of the EG's Mode parameter.

Time [0ms...60sec]

This parameter lets you set the Hold Time in seconds and milliseconds. It applies only when the Mode is set to Time.

(Base Note) [Off, ♪ ... ◡]

This menu sets a basic rhythmic value for the **Hold Time**, relative to the system tempo. The values range from a 32nd note to a whole note, including triplets.

This parameter applies only when the **Mode** is set to **Tempo**.

x (Multiply Base Note by...) [01...32]

This multiplies the length of the **Base Note**. For instance, if the **Base Note** is set to a sixteenth note, and the multiplier is set to 3, the Hold Time will last for a dotted eighth note.

Transition

This sets the length of time that the EG takes to move from Point 0 to Point 1.

When the **Loop Type** is set to 0<->3, this also sets the time that it takes to move from Point 1 to Point 0 during the backwards section of the loop.

Time [0ms...60sec]

This parameter lets you set the Transition time in seconds and milliseconds. It applies only when the Mode is set to Time.

(Base Note) [♪ ... ◡]

This sets a basic rhythmic value for the **Hold Time**, relative to the system tempo. The values range from a 32nd note to a whole note, including triplets.

This parameter applies only when the **Mode** is set to **Tempo**.

x (Multiply Base Note by...) [01...32]

This multiplies the length of the **Base Note**. For instance, if the **Base Note** is set to a sixteenth note, and the multiplier is set to 3, the EG will move from Point 0 to Point 1 over a dotted eighth note.

Points 1 and 2

Points 1 and 2 work exactly like Point 0, as described above.

Point 3

Point 3 also works much like Points 0–2, with two main differences:

Point 3 always uses its own **Time** when moving into the loop, regardless of the direction of the loop.

If **Loop Repeat** is set to Off, or if the number is set between 1–126 and has already played the specified number of times, then the EG will stay at Point 3 until the EG either goes into release, or is reset by KARMA.

Hold Time

This works just like the **Hold Time** for Point 0, as described under “Hold Time” on page 44.

Loop

This sets the length of time that it takes to move from Point 3 to the first Point in the loop. You can set this in either seconds/milliseconds or rhythmic values, depending on whether the Mode is set to Time or Tempo.

The Time, Base Note, and Multiplier parameters work just like those for Point 0, as described under “Transition” on page 45.

Point 4

Point 4 is the Vector EG’s release destination. Its time setting is different from those of the other Points. Instead of setting the time it takes to move from Point 4 to the next Point, it sets how long it takes to go from the previous Point to Point 4.

The EG moves to Point 4 as soon as it releases, regardless of where it was before the release. For instance, let’s say that the EG is in the middle of Point 2’s Hold Time at note-off. The EG will immediately begin to move to Point 4, without waiting for the Hold Time to complete.

Release

This sets the length of time that it takes to move to Point 4 after note-off. You can set this in either seconds/milliseconds or rhythmic values, depending on whether the **Mode** is set to Time or Tempo.

The **Time**, **Base Note**, and **Multiplier** parameters work just like those for Point 0, as described under “Transition” on page 45.

KARMA and Vector EG interaction

KARMA can control the Vector EGs in various ways, as described below.

CC Control EG

When KARMA is **On**, it always starts and re-starts the CC Control EG, according to the KARMA trigger settings. This lets KARMA control sounds or effects in synchronization with the KARMA GE.

Volume Control EGs

When **Key Sync** is **Off**, and KARMA is **On**, KARMA will start and re-start the Volume Control EGs as well as the CC Control EG. This means that the resulting changes in oscillator volumes will be synchronized with the KARMA GE.

When **Key Sync** is **On**, KARMA does not affect Vector Volume Control. Each note will have its own, independent Volume Control EG, just as if KARMA was turned off.

Entering the EG’s release stage

Assuming that KARMA is **On**:

When the **KARMA LATCH** switch is **Off**, the KARMA-controlled Vector EG(s) will start to release when you remove your hand from the keyboard (and when KARMA is no longer receiving any input notes from other sources).

When the **KARMA LATCH** switch is **On**, the KARMA-controlled Vector EG(s) will start to release only when **KARMA Latch** is turned **Off** again.

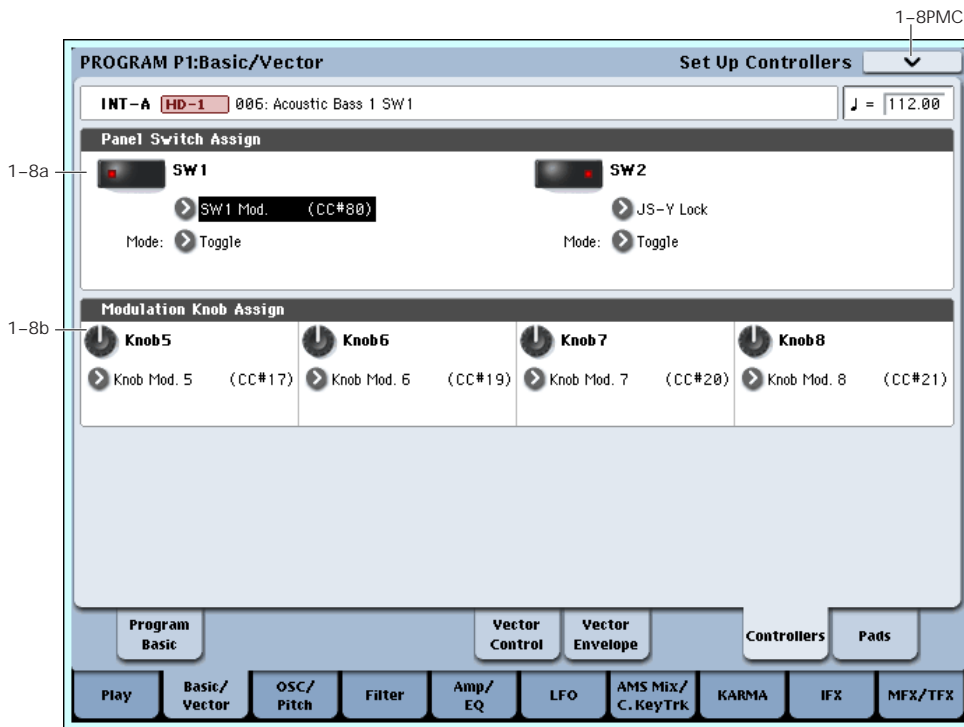
▼ 1-6: Page Menu Commands

The number before each command shows its ENTER + number-key shortcut. For more information on these shortcuts, see “ENTER + 0-9: shortcuts for menu commands” on page 142.

- 0: **Write Program.** For more information, see “Write Program” on page 142.

- 1: **Exclusive Solo.** For more information, see “Exclusive Solo” on page 142.
- 2: **Copy Oscillator.** For more information, see “Copy Oscillator” on page 148.
- 3: **Swap Oscillators.** For more information, see “Swap Oscillator” on page 148.
- 4: **Copy Vector Envelope.** For more information, see “Copy Vector Envelope” on page 148.

1-8: Set Up Controllers



This page lets you set up the functionality of switches 1 and 2 (SW1/2) and Real-Time Knobs 5-8. These settings are made independently for each Program.

1-8a: Panel Switch Assign

These settings control the functionality of SW1 and SW2.

SW1 [Off, ..., After Touch Lock]

This assigns a function to the SW1 switch. The on/off status can also be memorized. When you change the assignment, the switch is set to the Off condition.

For a complete list of the possible assignments, please see “SW1/2 Assignments” on page 1033.

Mode [Toggle, Momentary]

This specifies the mode of on/off when the SW1 switch is pressed.

Toggle: The state will alternate between On and Off each time you press the SW1 switch.

Momentary: The state will remain On only while you continue holding down the SW1 switch.

SW2 [Off, ..., After Touch Lock]

Mode [Toggle, Momentary]

This assigns a function to the SW2 switch. The functions that you can assign to the SW2 switch are the same as for the SW1 switch, with the exception that the SW1 switch’s SW1 Mod.:CC#80 assignment is replaced by SW2 Mod.:CC#81.

1-8b: Modulation Knob Assign

These settings assign functions (mainly MIDI control changes) to realtime modulation knobs 5-8. For a complete list of the possible assignments, please see “Realtime Knobs 5-8 Assignments” on page 1034.

The functions you assign here will apply when you operate realtime modulation knobs 5-8.

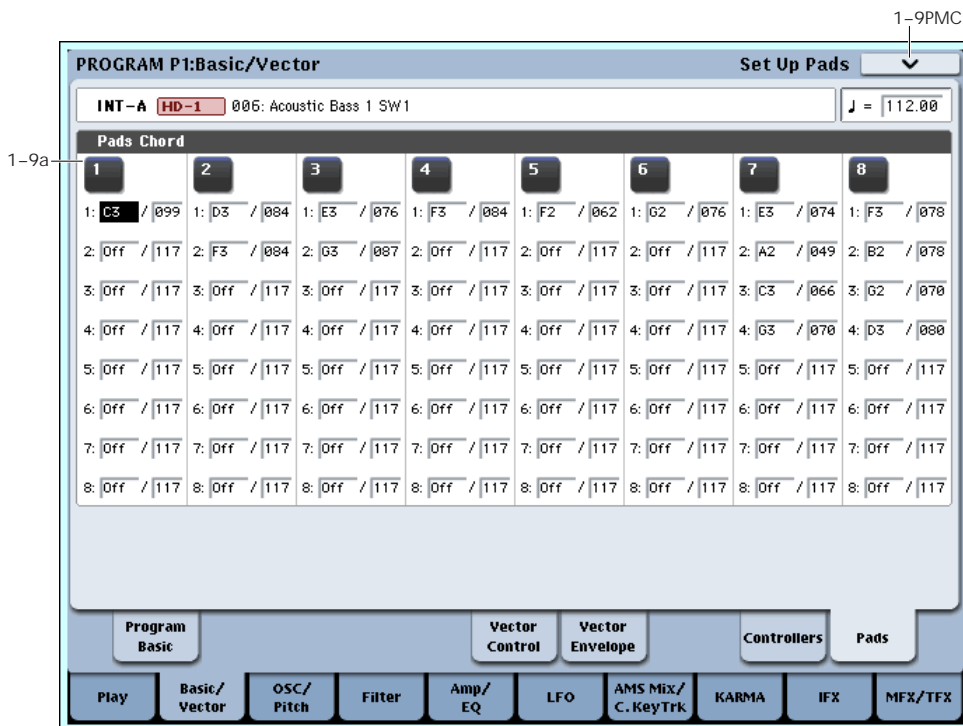
- Knob 5** [Off, ..., MIDI CC#119]
- Knob 6** [Off, ..., MIDI CC#119]
- Knob 7** [Off, ..., MIDI CC#119]
- Knob 8** [Off, ..., MIDI CC#119]

- 0: **Write Program**. For more information, see “Write Program” on page 142.
- 1: **Exclusive Solo**. For more information, see “Exclusive Solo” on page 142.
- 2: **Copy Oscillator**. For more information, see “Copy Oscillator” on page 148.
- 3: **Swap Oscillators**. For more information, see “Swap Oscillator” on page 148.

▼ 1-8: Page Menu Commands

The number before each command shows its ENTER + number-key shortcut. For more information on these shortcuts, see “ENTER + 0-9: shortcuts for menu commands” on page 142.

1-9: Set Up Pads



There are eight velocity-sensitive trigger pads below the LCD screen. These look like drum machine pads, and playing drum sounds is certainly one use for them.

However, they can also play up to eight-note chords on any sound—not just drums. The pads even remember the velocities of the individual notes within the chord, as well as the notes themselves. These settings are stored independently for each Program.

In addition to playing sounds directly, the pads are also used to select chords for Chord mode. For more information, see “Using Chord mode” on page 54 of the Operation Guide.

Assigning notes to the pads

You can assign notes to the pads directly from the keyboard and front-panel controls, without using this page at all. Alternatively, you can enter notes and velocities using the parameters on this page. Regardless of how the notes were first assigned, you can edit their values here.

For more information, including step-by-step instructions and usage tips, see “Drum & Chord Pads” on page 53 of the Operation Guide.

1-9a: Pads

Pad 1

Notes 1...8 [Off, C-1...G9 / 001...127]

These parameters let you edit the 8 notes assigned to each pad, along with a separate velocity for each note. To play fewer than 8 notes, just set the unwanted notes to Off.

Off: Select this to disable the note.

C-1...G9: This sets the note number.

001...127: This sets the note’s velocity value. For more information on pads and velocity, please see “Pad Mode: Fixed Velocity vs. Velocity Sensitive,” below.

Pad Mode: Fixed Velocity vs. Velocity Sensitive

Each pad stores a velocity level for each of its 8 notes. The **PAD MODE** button, to the right of the pads, controls whether or not the pads respond to how hard you play. Its setting is stored with each Program, Combi, and Song.

In **Fixed Velocity** mode, the pads always use their stored velocity settings, regardless of how hard you play.

In **Velocity Sensitive** mode, hitting the pad very strongly produces the preset velocities. When you play more softly, the preset velocities are scaled down accordingly, maintaining the balance between the notes in the chord.

Assigning notes and chords to pads

You can assign single notes and chords to the pads in three different ways.

Play the notes, and then press **CHORD ASSIGN**

1. **Play a single note, or a chord of up to 8 notes.**
2. **Press the **CHORD ASSIGN** button.**
3. **Press the pad to which you'd like to assign the notes.**

That's it! The notes are now assigned to the pad.

Press **CHORD ASSIGN**, and then play notes

This method lets you create a chord out of widely-spaced notes, even if you can't play all of the notes simultaneously.

1. **Press the **CHORD ASSIGN** button.**
2. **Play a single note, or a chord of up to 8 notes.**

You can play a single note, or a simple chord.

If you like, you can also play up to 8 notes as a legato phrase. As long as you take care that the notes overlap each other, the entire phrase will be recorded as a single chord. You can take as long as you like to play the phrase.

3. **Press the pad to which you'd like to assign the notes.**

After pressing the pad, you're done!

Edit notes and velocities using the LCD

You can edit the recorded notes and velocities using the on-screen parameters. If you like, you can also enter new notes this way. For more information, please see "Pad 1," above.

Copying and Merging Pads

Just as you can assign notes to a pad by playing them on the keyboard, you can press a pad to copy its assigned notes to another pad.

The method is similar to steps 1-3 above; press the pad that you want to copy, and then press the **CHORD ASSIGN** switch. Then press the copy-destination pad; the assignments will be copied.

You can also use this to combine the assignments of two or more pads, up to a maximum of eight notes. To do so, just press all of the "copy from" pads simultaneously, and then proceed as above.

For more detailed instructions, please see "Drum & Chord Pads" on page 53 of the Operation Guide.

Pads 2...8

These are the same as for Pad 1, as described above.

▼ 1-9: Page Menu Commands

The number before each command shows its **ENTER** + number-key shortcut. For more information on these shortcuts, see "ENTER + 0-9: shortcuts for menu commands" on page 142.

- **0: Write Program.** For more information, see "Write Program" on page 142.
- **1: Exclusive Solo.** For more information, see "Exclusive Solo" on page 142.
- **2: Copy Oscillator.** For more information, see "Copy Oscillator" on page 148.
- **3: Swap Oscillators.** For more information, see "Swap Oscillator" on page 148.
- **4: Copy Pad Setup.** For more information, see "Copy Pad Setup" on page 148.

Program P2: OSC/Pitch

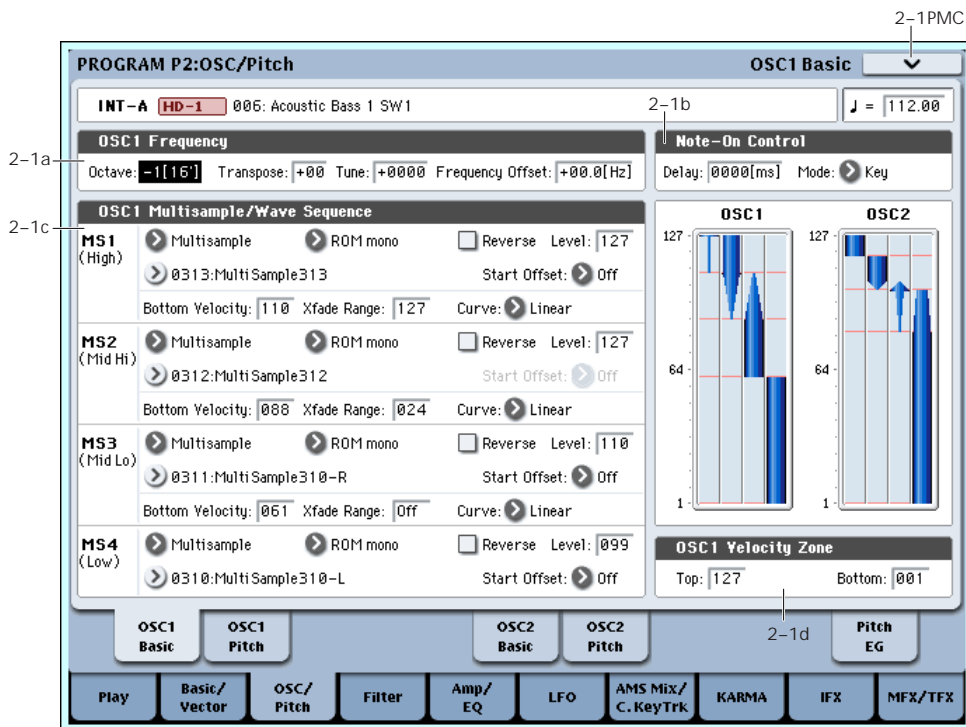
These pages control the first and most basic elements of HD-1's sounds: the Multisamples that the oscillators play, and the pitch at which it plays them. For instance, you can:

- Select Multisamples and Wave Sequences for Single and Double Programs, or Drum Kits for Drum Programs.
- Set up velocity splits, crossfades, and layers for Single and Double Programs.

- Set the basic pitch of the sound, including the octave, fine tuning, and so on.
- Control pitch modulation from a wide variety of sources, such as JSX, the ribbon, LFOs, and the Pitch EG.

Note that when the **Oscillator Mode** is set to **Single** or **Drums**, only Oscillator 1's filters are active; the pages for Oscillator 2's filters will be grayed out.

2-1: OSC1 Basic



HD-1's sounds are based on samples, and this page lets you set up all of the basic sample-related settings. Among other things, you can:

- Select Multisamples and/or Wave Sequences for the Oscillator (in a Single or Double Program), or select the Drum Kit for a Drum Program
- Set the Oscillator's basic pitch
- Create velocity splits and crossfades between Multisamples and/or Wave Sequences

2-1a: OSC1 Frequency

Octave [-2[32'], -1[16'], +0[8'], +1[4']]

This sets the basic pitch of the Oscillator, in octaves. The default is +0[8']. The standard octave of a multisample is +0 [8'].

Transpose [-12...+12]

This adjusts the pitch in semitones, over a range of ±1 octave.

Tune [-1200...+1200]

This adjusts the pitch in cents, over a range of ±1 octave. A cent is 1/100 of a semitone.

Frequency Offset [-10.0Hz ... +10.0Hz]

This adjusts the pitch by increments of 0.1 Hz. **Frequency Offset** is different from **Tune** in that, when used to detune the two oscillators, it can create a constant beat frequency across the range of the keyboard.

2-1b: Note-On Control

Delay [0000ms...5000ms, KeyOff]

Use this to create a delay between the time that you press a key, and the time that the note actually sounds.

This is most useful in Double Programs, for delaying one oscillator in relation to the other.

KeyOff is a special setting. Instead of delaying the sound by a particular amount of time, the sound will play as soon as you release the key. You can use this to create the “click” heard when a harpsichord note is released, for instance.

In general, when you use the **KeyOff** setting, it’s also best to set the oscillator’s **Amp EG Sustain Level** to 0.

Mode [Key, Key + Damper]

Normally, you play notes simply by pressing keys on the keyboard. In special cases, however, you can set this parameter so that you must first be holding down the damper pedal, and then press a key, in order to play a note. For instance, this can be useful when modeling the behavior of a piano soundboard.

Key is the normal mode.

When you select **Key + Damper**, notes will only sound if the damper pedal is being held down. When the damper pedal is released, all notes will be stopped—even if they are still being held down.

2-1c: OSC1 Multisample/Wave Sequence

The parameters in this section will change depending on the setting of the **Oscillator Mode** parameter.

In Single and Double modes, each Oscillator can play up to four Multisamples or Wave Sequences. In Drum mode, there is one Oscillator, and it plays a single Drum Kit.

Multisamples, Wave Sequences, and Drum Kits

Multisamples, Drum Kits, and Wave Sequences allow you to play samples in different ways.

- Multisamples lay out one or more samples across the keyboard. For instance, a very simple guitar Multisample might have six samples—one for each string.
- Wave Sequences play back a series of different Multisamples over time. These Multisamples may crossfade to create smooth, evolving timbres, or change abruptly to create rhythms.
- As the name suggests, Drum Kits are optimized for playing drum samples.

Velocity splits, crossfades, and layers

As mentioned above, unless you’re in Drum mode, each Oscillator has four velocity zones, named MS1 (High) through MS4 (Low). Each of these zones can play either a Multisample or a Wave Sequence, and has separate settings for Level, Start Offset, and so on.

Each of the zones can fade into the next, to create smoother velocity transitions. Zones can even be layered together, two at a time.

MS1 (High)

These are the settings for the first and highest velocity zone.

If you want to create a simple setup with only a single Multisample or Wave Sequence, just set up MS1 as desired, and then set the **Bottom Velocity** to 1 and the **Xfade Range** to 0.

Type [Off, Multisample, Wave Sequence]

This selects whether MS1 will play a Multisample, a Wave Sequence, or nothing at all.

The Type selection affects the choices shown in the Bank and Multisample menus.

Bank (Multisample) [ROM Mono...EXs Stereo]

This menu will appear only if the **Type** is set to Multisample.

There are three main types of Banks: **ROM**, **RAM**, and **EXs**. For each type, you can also choose between looking at mono and stereo Multisamples. Note that stereo Multisamples will require twice as many voices as mono Multisamples.

ROM Multisamples are the built-in “factory” sounds, and are always available.

RAM Multisamples include Akai, AIFF or WAV files loaded from disk, and samples created in Sampling mode.

EXs Multisample banks are PCM expansion sets created especially for the OASYS. Each has its own unique number; for instance, the ROM Expansion is EXs1, and the Concert Grand Piano expansion is EXs2. Only the currently loaded EXs banks will appear on this menu.

Bank (Wave Sequence) [INT, U-A...G]

This menu will appear if the **Type** is set to Wave Sequence.

INT Wave Sequences are the built-in “factory” sounds. You can over-write them if you wish, but doing so may change the sounds of the Programs and Combis in Banks INT A–E.

U–A through **U–G** are user banks, for storing sounds that you create yourself, optional sound banks from Korg, or third-party sound libraries.

Multisample/Wave Sequence Select [List]

This parameter lets you select a Multisample or Wave Sequence, depending on the **Type** setting.

- ▲ Some Multisamples may have an upper limit to their keyboard range, over which they may not produce any sound.

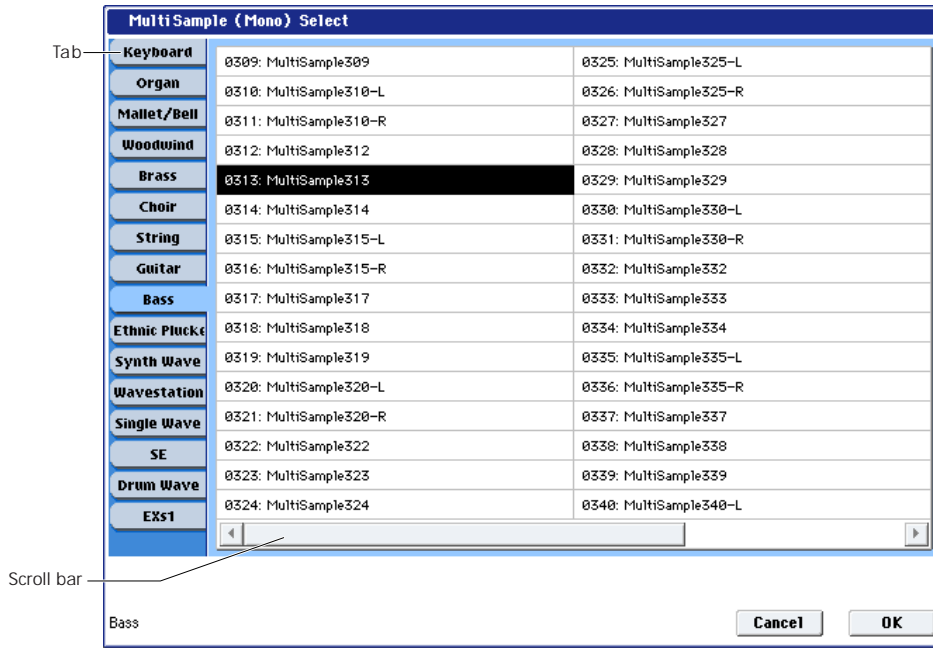
To select a Multisample or Wave Sequence:

1. Press the **Multisample/Wave Sequence Select popup button** to open the menu.

Within the window, ROM Multisamples are organized by categories; Wave Sequences are organized by bank; and EXs and RAM Multisamples appear as a continuous list.

2. For **ROM Multisamples** or **Wave Sequences**, use the tabs to select a category or bank.
3. Select a **Multisample** or **Wave Sequence** from the list.
4. Press the **OK** button to confirm your selection, or press the **Cancel** button to exit without making a change.

Multisample ROM Mono Select menu



Multisample ROM/EXs Mono/Stereo Select menu

If **Bank** is set to ROM or EXs Mono, the list shows all of the mono Multisamples in the Bank. If the Bank contains stereo multisamples, you'll also see the left and right channels as separate, mono multisamples, with -L and -R appended to the end of the name.

If **Bank** is set to ROM or EXs Stereo, only stereo multisamples will be shown.

Multisample RAM Mono, RAM Stereo Select menu

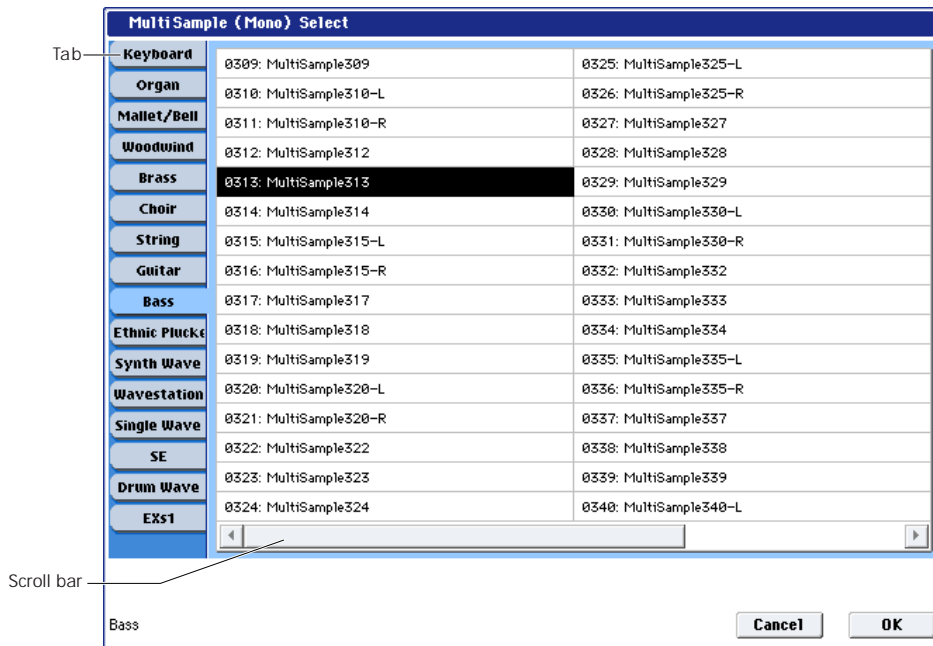
If **Bank** is set to RAM Mono, the list shows all of the mono Multisamples in the Bank. If the Bank contains stereo multisamples, you'll also see the left and right channels as separate, mono multisamples, with -L and -R appended to the end of the name.

If **Bank** is set to RAM Stereo, only the stereo Multisamples will appear. However, they will still be listed as separate left and right Multisamples. Selecting either the left or right channels will select the stereo pair.

Wave Sequence Select menu

Use the tabs to select a bank, and then select a Wave Sequence. Press the OK button to confirm your selection, or press the Cancel button to revert to the previous setting.

Wave Sequence Select menu



Reverse [Off, On]

This lets you play the selected multisample backwards, without looping. **Reverse** applies only to Multisamples; when the **Type** is set Wave Sequence, this is grayed out.

Note: If the individual samples within a Multisample are already set to Reverse, they will still play in reverse, regardless of this setting.

On (checked): The Multisample will play back in reverse.

Off (unchecked): The Multisample will play back normally.

Level [0...127]

This sets the basic volume level of the multisample. The Amp section can modify this basic level extensively with envelopes, LFOs, keyboard tracking, and other modulation; for more information, see "Program P4: Amp/EQ," on page 74.

Depending on the multisample, high **Level** settings may cause distortion when playing many notes at a time. If this occurs, lower the **Level**.

With RAM Multisamples, each Sample also has a "+12dB" option. If this is turned on, the Sample will play back approximately 12dB louder. You can configure this parameter for each Sample in Sampling mode.

Start Offset [Off, 1st...8th]

In addition to simply starting playback from the beginning, ROM and EXs Multisamples can have up to 8 different pre-programmed alternate starting points.

Similarly, RAM Multisamples can play either from the beginning of the waveform, or from the loop start point.

Start Offset applies only to Multisamples; when the **Type** is set Wave Sequence, this is grayed out.

Start Offsets: ROM and EXs Multisamples

With ROM and EXs Multisamples, the Start Offset specifies whether to use the normal start point (**Off**), or to use one of the alternate start points (**1st-8th**).

Some ROM and EXs Multisamples may have fewer than 8 pre-programmed points, in which case only the available points can be selected.

Start Offsets: RAM Multisamples

With RAM Multisamples, only Off and 1st are available. **Off** uses the normal start point, and **1st** uses the loop start instead. **2nd** through **8th** will be grayed out.

Bottom Velocity [1...127]

This sets the lowest velocity at which the Multisample or Wave Sequence will sound. MS1's Bottom Velocity can be equal to, but not lower than, than that of MS2.

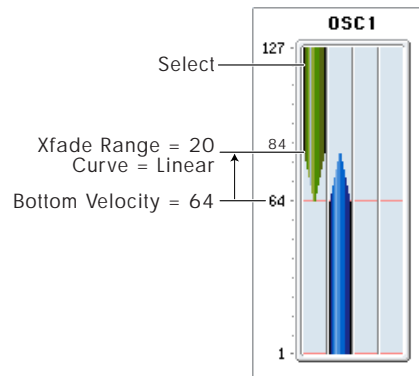
Xfade Range [Off, 1...127]

This sets the range of velocities over which MS1 will fade into MS2, going up from the Bottom Velocity.

For instance, if the Bottom Velocity is set to 64, and the Xfade Range is set to 20, MS2 will start to fade in at velocities of 84 and below.

When velocities are within the Xfade Range, the Oscillator will use twice as much polyphony as it would normally.

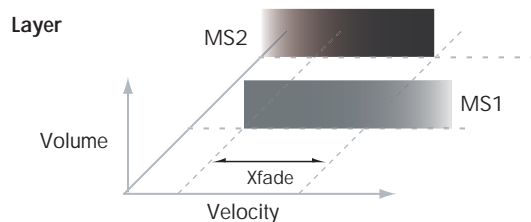
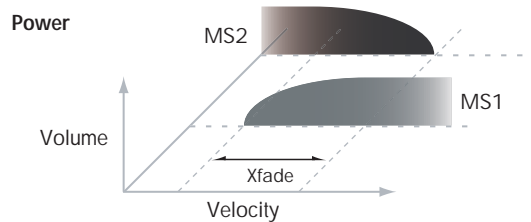
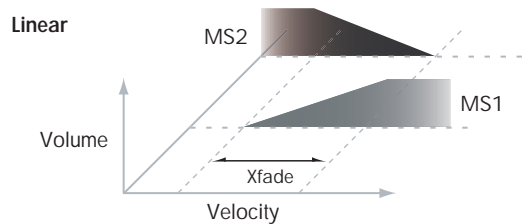
Note: You can only fade between two zones at once.



Curve [Linear, Power, Layer]

This controls the volume curve of the crossfade. **Linear** and **Power** (short for Equal Power) let you fine-tune the way that the two Multisamples mix together; one or the other may be more appropriate for a given pair of Multisamples. **Layer**, true to its name, lets you layer the two Multisamples together without any crossfading.

Crossfade Curves



Linear means that the two samples will each be at 50% of their full volume in the middle of the crossfade. Sometimes, this may create a dip in the volume level; if so, try using **Power** instead.

Power, short for Equal Power, means that the two samples will each be at around 70% of their full volume in the middle of the crossfade. Sometimes, this may create a bump in the volume level, in which case you might try selecting **Linear** instead.

Layer means that the two Multisamples will be layered together, both at full volume, for the entire range of the crossfade.

MS2 (Mid Hi), MS3 (Mid Lo), and MS4 (Low)

These are the settings for the second, third, and fourth velocity zones. The parameters for MS2 and MS3 are exactly the same as those for “MS1 (High),” above.

The parameters for MS4 are also similar to those for MS1, except that MS4 has no settings for Bottom Velocity (which is always fixed at 1), Xfade Range, or Curve.

2-1d: OSC 1 Velocity Zone

In addition to setting the velocity zones for each of the four Multisamples in a single Oscillator, you can also set high and low velocities for each of the two Oscillators as a whole.

These velocity zones take precedence over the velocity settings for the individual MS1-4.

Top [001...127]

This sets the highest velocity at which the Oscillator will sound.

Note: The Top velocity must be greater than the Bottom velocity.

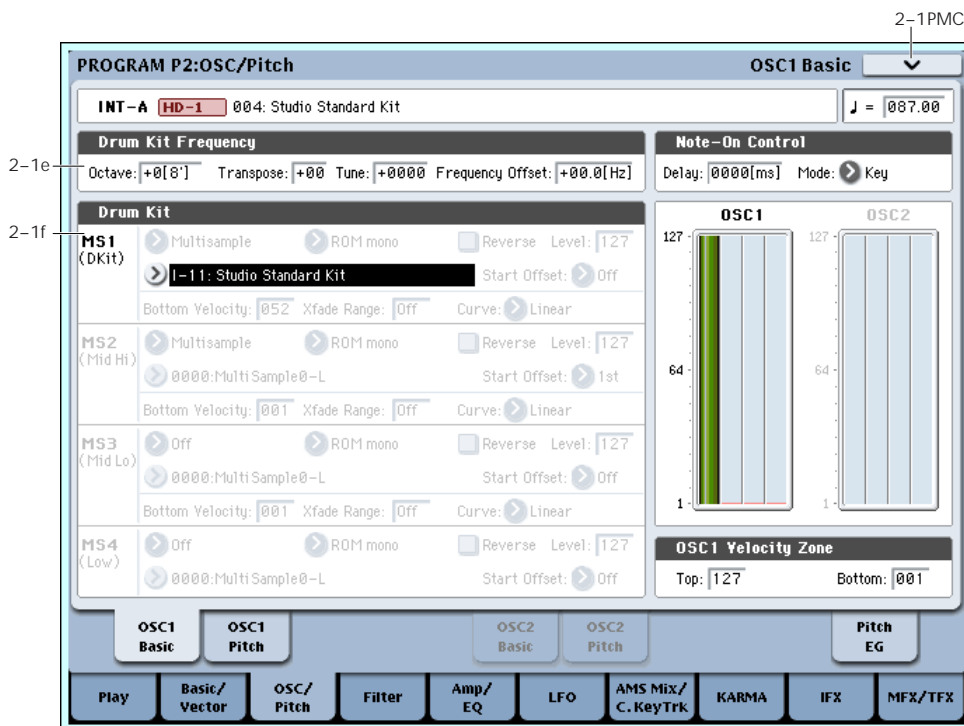
Bottom [001...127]

This sets the lowest velocity at which the Oscillator will sound.

Entering velocity values from the keyboard

You can enter velocity values directly by playing them on the keyboard. To do so:

1. Select one of the Key parameters.
2. Hold down the ENTER key.
3. While holding ENTER, play a note on the keyboard at the desired velocity.



These parameters appear when the Oscillator Mode is set to Drum Kit.

2-1e: Drum Kit Frequency

Octave [-2[32'], -1[16'], +0[8'], +1[4']]

This adjusts the pitch in octave units. When using a drum kit, set the Octave to 8'.

⚠ When editing a drum program, you must set this parameter to 8'. With other settings, the sounds of the drum kit will be assigned to the wrong notes of the keyboard.

Transpose [-12...+12]

This adjusts the location of the instruments in the selected drum kit. Unless you need to change this, leave it at 0.

Tune [-1200...+1200]

This adjusts the pitch in one-cent units.

The pitch of each drum kit can be adjusted in Global P5: Drum kit.

Delay [0ms...5000ms, KeyOff]

Use this to create a delay between the time that you press a key, and the time that the note actually sounds.

KeyOff is a special setting. Instead of delaying the sound by a particular amount of time, the sound will play as soon as you release the key.

In general, when you use the **KeyOff** setting, it's also best to set the oscillator's **Amp EG Sustain Level** to 0.

2-1f: Drum Kit

Drum Kit [I-00...39, U-A00...15, U-B00...15, U-C00...15, U-D00...15, U-E00...15, U-F00...15, U-G00...15, GM0...8]

This selects a drum kit.

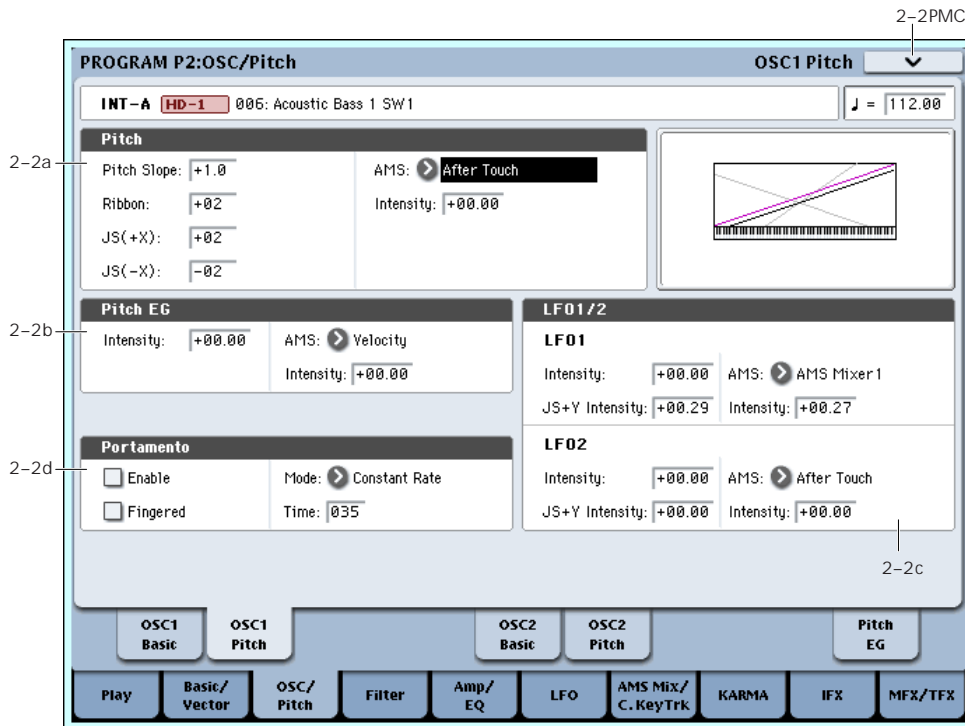
For 000 (A/B)–143 (User), you can use Global P5: Drum Kit to edit the instrument assignments.

▼ 2-1: Page Menu Commands

The number before each command shows its ENTER + number-key shortcut. For more information on these shortcuts, see "ENTER + 0-9: shortcuts for menu commands" on page 142.

- **0: Write Program.** For more information, see "Write Program" on page 142.
- **1: Exclusive Solo.** For more information, see "Exclusive Solo" on page 142.
- **2: Copy Oscillator.** For more information, see "Copy Oscillator" on page 148.
- **3: Swap Oscillators.** For more information, see "Swap Oscillator" on page 148.
- **4: Sample Parameters.** For more information, see "Sample Parameters" on page 149.

2-2: OSC1 Pitch



This page contains all of the settings for Oscillator 1's pitch modulation. For example, you can:

- Set up pitch bend from both Joystick X (with separate settings for bending up and bending down) and the ribbon controller.
- Use Pitch Slope to control how the pitch changes when you play up and down the keyboard.
- Set up Portamento.
- Assign AMS modulation for pitch.
- Set up initial amounts of pitch modulation from the Pitch EG and LFO1/2, as well as AMS modulation of LFO and EG amounts.

2-2a: Pitch

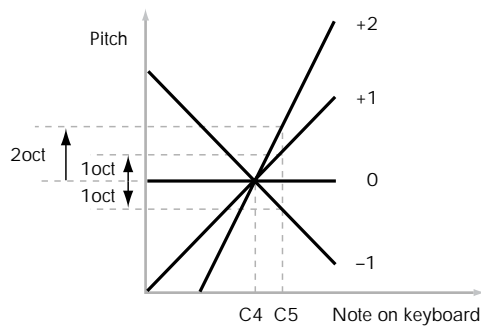
Pitch Slope [-1.0...+2.0]

Normally, this should be set to the default of +1.0.

Positive (+) values cause the pitch to rise as you play higher on the keyboard, and **negative (-)** values cause the pitch to *fall* as you play higher on the keyboard.

When this is set to 0, playing different notes on the keyboard won't change the pitch at all; it will be as if you're always playing C4. This can be useful for special effects sounds, for instance.

Pitch Slope, pitch, and note



Ribbon [-12...+12]

You can use the ribbon controller for pitch-bend. This parameter sets the range of the ribbon’s pitch-bend, in semitones.

Positive (+) values make the pitch rise when you press the ribbon controller to the right of center, and **negative (-)** values will cause the pitch to fall.

For example, with a setting of **+12**, pressing the far right edge of the ribbon controller will raise the pitch one octave, and pressing the far left edge will lower the pitch by one octave.

With a setting of **-12**, the effect is reversed; pressing on the right edge will *lower* the pitch, and pressing on the left will *raise* the pitch.

When you lift off of the ribbon, the pitch will snap back to the center (unless you’re using the SW1/2 “Ribbon Lock” feature). So, by tapping on the right edge of the ribbon and then releasing quickly, you can create guitar “hammer-on” effects.

JS (+X) [-60...+12]

This sets the maximum amount of pitch bend, in semitones, when you move the joystick to the right. For normal pitch bend, set this to a positive value.

For example, if you set this to **+12** and move the joystick all the way to the right, the pitch will rise one octave above the original pitch.

JS (-X) [-60...+12]

This sets the maximum amount of pitch bend, in semitones, when you move the joystick to the left. For normal pitch bend, set this to a negative value.

For example, if you set this to **-60** and move the joystick all the way to the left, the pitch will fall five octaves below the original pitch. You can use this to create guitar-style downward swoops.

AMS (Pitch) [List of AMS Sources]

This selects a modulation source to control the pitch. For a list of AMS sources, see “Alternate Modulation Source (AMS) List” on page 1021.

Intensity [-12.00...+12.00]

This controls the depth and direction of the pitch modulation, in semitones.

For example if you set **AMS** to **After Touch** and then press down on the keyboard, the pitch will rise if this parameter is set to a **positive (+)** value, or fall if this parameter is set to a **negative (-)** value.

2-2b: Pitch EG

Intensity [-12.00...+12.00]

This controls the initial effect of the Pitch EG on Oscillators 1’s frequency, in half-steps, before any AMS modulation.

The Pitch EG’s shape can swing all the way from +99 to -99. When the Intensity is set to a **positive (+)** value, positive values from the EG raise the pitch, and negative values lower the pitch.

When the Intensity is set to a **negative (-)** value, the effect of the EG is reversed; positive EG values mean *lower* pitches, and negative EG values mean *higher* pitches.

AMS (Pitch EG) [List of AMS Sources]

This selects any AMS modulation source to scale the amount of the Pitch EG applied to the pitch.

For a list of AMS sources, see “Alternate Modulation Source (AMS) List” on page 1021.

Intensity [-12.00...+12.00]

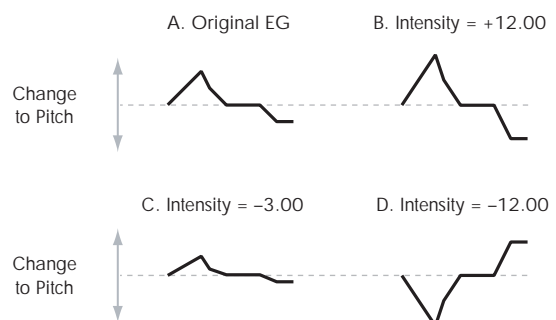
This controls the depth and direction of the pitch EG AMS modulation. The AMS modulation and the initial Intensity are added together to determine the Pitch EG’s final effect.

With **positive (+) values**, greater modulation will increase the effect of the Pitch EG, as shown in example **B** below.

With **negative (-) values**, greater modulation will introduce the *opposite* effect of the Pitch EG-like inverting the polarity of the envelope. You can use this in several different ways:

- You can set an initial positive amount with the Intensity parameter, and then reduce this amount with AMS. In this case, the final effect of the EG is simply diminished, and not actually inverted, as shown in example **C**.
- You can also set the AMS Intensity amount to be greater than the initial Intensity. In this case, the EG will have a positive effect with low modulation amounts, and an inverted effect at higher modulation amounts—as shown in example **D**.

Pitch EG AMS



2-2c: LFO1/2

LFO1 and LFO2 can both modulate the pitch. You can control the strength of each LFO’s modulation in three different ways:

- Set an initial amount of LFO modulation, using the LFO 1/2 Intensity parameters.
- Use JS+Y to scale the amount of the LFO.
- Use any AMS source to scale the amount the LFO.

You can use each of these methods for each of the two LFOs. The results are added together to produce the total LFO effect.

LFO1

LFO1 Intensity [-12.00...+12.00]

This controls the initial effect of the LFO on the pitch, in semitones, before any JS+Y or AMS modulation.

Negative (-) settings will invert the phase of the LFO.

JS+Y Intensity (LFO1 JS+Y Int.) [-12.00...+12.00]

Moving the joystick “up” from the center detent position, away from yourself, produces the JS+Y controller. You can use this to scale the amount of the LFO applied to the pitch. This parameter sets the maximum amount of LFO modulation added by JS+Y, in semitones.

As this value is **increased**, moving the joystick in the +Y direction will cause the OSC1 LFO1 to produce deeper pitch modulation.

Negative (-) settings will invert the phase of the LFO. You can also use this to reduce the initial amount of the LFO, as set by **LFO1 Intensity**, above. For example:

1. Set LFO1 Intensity to +7.00.

The LFO will now have a fairly strong effect on the pitch, bending it by a perfect 5th.

2. Set JS+Y Intensity to -7.00.

Now, if you move the joystick up, the effect of the LFO will fade away. When the joystick is all the way at the top of its range, the LFO will be completely cancelled out.

AMS (LFO1) [List of AMS Sources]

This selects any AMS modulation source to scale the amount of the LFO applied to pitch.

For a list of AMS sources, see “Alternate Modulation Source (AMS) List” on page 1021.

Intensity [-12.00...+12.00]

This controls the depth and direction of the LFO AMS modulation for pitch.

For example, if **AMS** is set to **After Touch**, **positive** settings mean that aftertouch will increase the amount of pitch modulation from LFO1.

LFO2

The parameters for LFO2 are identical to those for LFO1. For more information, see the descriptions under LFO1, above.

2-2d: Portamento

Portamento lets the pitch glide smoothly between notes, instead of changing abruptly.

Enable [Off, On]

On (checked): Turns on Portamento, so that pitch glides smoothly between notes.

Off (unchecked): Turns off Portamento. This is the default state.

Fingered [Off, On]

This parameter allows you to control Portamento through your playing style. When it’s enabled, playing legato will turn on Portamento, and playing detached will turn it off again.

This option is only available when Portamento Enable is turned on.

On (checked): Turns on Fingered Portamento.

Off (unchecked): Turns off Fingered Portamento.

Mode [Constant Rate, Constant Time]

Constant Rate means that Portamento will always take the same amount of time to glide a given distance in pitch - for instance, one second per octave. Put another way, gliding several octaves will take much longer than gliding a half-step.

Constant Time means that Portamento will always take the same amount of time to glide from one note to another, regardless of the difference in pitch. This is especially useful when playing chords, since it ensures that each note in the chord will end its glide at the same time.

Time [000...127]

This controls the portamento time. Higher values mean longer times, for slower changes in pitch.

This option is only available when Portamento Enable is turned on.

Assigning SW1 or SW2 to Portamento On/Off

You can use the two assignable switches, SW1 and SW2, to turn portamento on and off.

To do so:

1. Go to the Program P1-Set Up Controllers page.
2. Under Panel Switch Assign, set either SW1 or SW2 to Portamento SW (CC#65).

Now, the selected switch will enable and disable Portamento. It will also send the MIDI Portamento controller, CC#65.

 Even if you don’t assign SW1/2 to Portamento, you can still use MIDI Controller #65 to turn Portamento on and off.

▼ 2-2: Page Menu Commands

The number before each command shows its ENTER + number-key shortcut. For more information on these shortcuts, see “ENTER + 0-9: shortcuts for menu commands” on page 142.

- 0: **Write Program**. For more information, see “Write Program” on page 142.
- 1: **Exclusive Solo**. For more information, see “Exclusive Solo” on page 142.
- 2: **Copy Oscillator**. For more information, see “Copy Oscillator” on page 148.

- 3: **Swap Oscillators**. For more information, see “Swap Oscillator” on page 148.

2-5: OSC2 Basic

This page controls the basic settings for Oscillator 2. It is available only when the **Oscillator Mode** is set to **Double**; if not, the page will be grayed out.

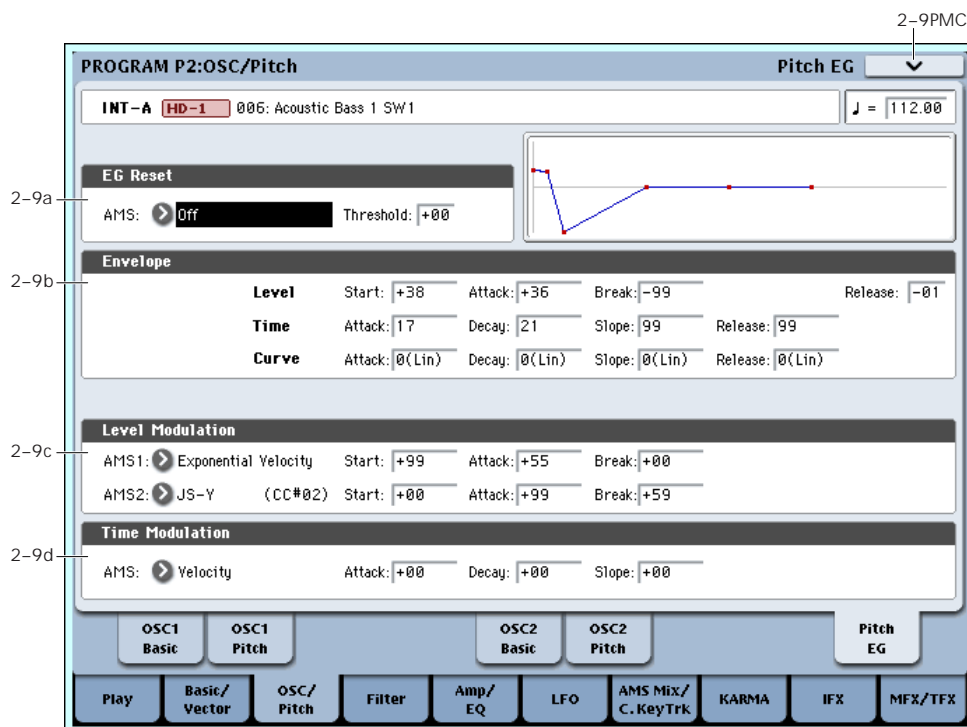
The parameters are identical to those for Oscillator 1, as described under “2-1: OSC1 Basic,” on page 49.

2-6: OSC2 Pitch

This page controls the pitch settings for Oscillator 2. It is available only when the **Oscillator Mode** is set to **Double**; if not, the page will be grayed out.

The parameters are identical to those for Oscillator 1, as described under “2-2: OSC1 Pitch,” on page 54.

2-9: Pitch EG AMSource



The Pitch EG, or Envelope Generator, lets you create complex, time-varying changes to the pitch of Oscillators 1 and 2. The parameters on this page control the shape of the EG. For instance, you can:

- Create the basic EG shape by setting the levels and times of each segment.
- Control the curvature of each EG segment, for subtle control over the sound of the EG.
- Set up complex modulation of EG levels and times.
- Set up an AMS source, such as an LFO, to restart the EG.

To control how much effect the EG has on the pitch, use the Pitch EG parameters on the Pitch Mod page, as described under “2-2b: Pitch EG,” on page 55.

Differences from the other EGs

The Pitch EG is different from the Filter and Amp EGs in several ways:

- The single Pitch EG is shared by both Oscillator 1 and Oscillator 2.
- The Sustain level is always 0.
- The Level modulation has two AMS sources instead of one, and the Time modulation has one AMS source instead of three.

Pitch EG is also an AMS source

You can use the Pitch EG as an AMS source to modulate other parameters, just like the keyboard tracking and LFOs. Simply select the Pitch EG in the AMS list for the desired parameter.

2-9a: EG Reset

AMS (EG Reset AMS) [List of AMS Sources]

This selects an AMS source to reset the EG to the start point. For instance, you can use a tempo-synced LFO to trigger the EG in a repeating rhythm. This reset is in addition to the initial note-on, which always causes the EG to start.

For a list of AMS sources, see “Alternate Modulation Source (AMS) List” on page 1021.

Threshold [-99...+99]

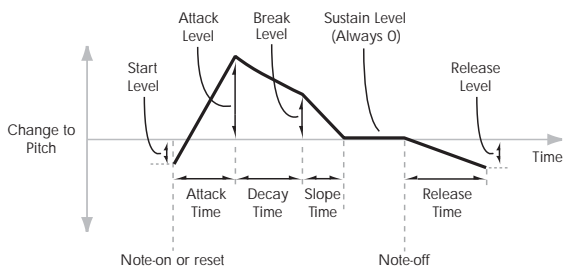
This sets the AMS level which will trigger the EG reset. Among other things, you can use this to adjust the exact point in an LFO’s phase at which the EG will be reset, effectively controlling its “groove” against other rhythmic effects.

When the threshold is **positive**, the EG triggers when passing through the threshold moving upwards. When the threshold is **negative**, the EG triggers when passing through the threshold moving downwards.

Note: with some LFO shapes, and with faster LFO speeds, the LFO may not always reach the extreme values of +99 or -99. In this case, setting the **Threshold** to these values may cause inconsistent behavior, or may mean that the EG doesn’t reset at all. If this happens, reduce the **Threshold** until the EG triggers consistently.

2-9b: Envelope

Pitch EG



An envelope creates a modulation signal by moving from one level to another over a specified time, and then moving to another level over another period of time, and so on.

The parameters below let you set four levels, the amount of time it takes to go from each of the levels to the next, and the shape (from linear to curved) of each transition.

Level

Each of the four levels can be either positive or negative.

Positive levels will make the pitch (or other AMS destination) go up from its programmed value; **negative** levels will make it go down.

Note that, unlike the Filter and Amp EGs, the Pitch EG’s Sustain Level is always 0.

Start [-99...+99]

This sets the initial EG level, at note-on.

Attack [-99...+99]

This sets the level at the end of the Attack time.

Break [99...+99]

Break, short for Break Point, sets the level at the end of the Decay time.

Release [-99...+99]

This sets the level at the end of the Release time.

Time

Higher values mean longer times, as shown below:

EG Value	Actual Time
00	0.667 ms
10	10 ms
20	44 ms
30	104 ms
40	224 ms
50	464 ms
60	944 ms
70	1.8 seconds
80	3.8 seconds
90	10.9 seconds
99	87.3 seconds

Attack [00...99]

This sets how long the EG takes to move from the Start level to the Attack level.

The minimum attack time is 2/3 of a millisecond—as fast as the most punchy of classic analog synths.

For the fastest possible attack time, you can set the Start level to +99; in this case, the EG will start instantaneously at its maximum value.

Decay [00...99]

This sets the time it takes to move from the Attack level to the Break level.

Slope [00...99]

This sets how long the EG takes to move from the Break level to the Sustain level (which for the Pitch EG is always 0). Once it reaches the Sustain, the EG will stay there until note-off, unless it is reset via AMS.

Release [00...99]

This sets how long it takes the EG to move from the Sustain level to the Release level.

Curve

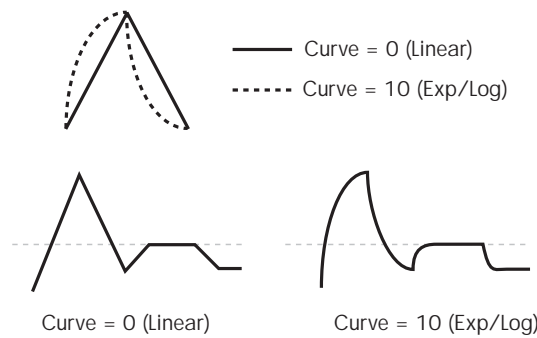
For the sake of simplicity, most of the diagrams in this manual show envelopes as being made out of straight lines. In actuality, though, envelopes are more likely to be made out of curves.

In other words, each segment’s level will change quickly at first, and then slow down as it approaches the next point. This tends to sound better than straight, linear segments.

Classic analog synth envelopes made these curved shapes naturally. The OASYS goes a step further than vintage synths, however, and lets you control the amount of curvature separately for each of the four envelope segments.

When you change the curvature, the EG times remain the same. However, greater curvature will tend to *sound* faster, because the value changes more quickly at the beginning.

Pitch EG Curve



Different curve settings for up and down

You may find that different amounts of curvature are suitable for segments which go up and segments which go down.

For instance, a curve of 3 is a good default setting for upward segments, such as Attack. On the other hand, a curve of 6 or more is good for downward segments, such as Decay and Release.

Attack [0 (Linear), 1...9, 10 (Exp/Log)]

This sets the curvature of the Attack segment - the transition from the Start level to the Attack level.

Decay [0 (Linear), 1...9, 10 (Exp/Log)]

This sets the curvature of the Decay segment - the transition from the Attack level to the Break level.

Slope [0 (Linear), 1...9, 10 (Exp/Log)]

This sets the curvature of the Slope segment - the transition from the Break level to the Sustain level (which for the Pitch EG is always 0).

Release [0 (Linear), 1...9, 10 (Exp/Log)]

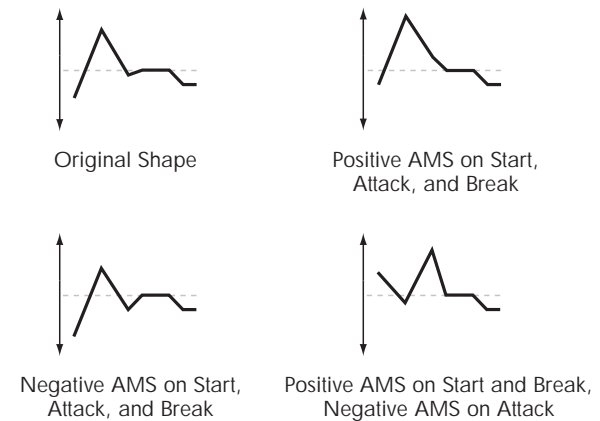
This sets the curvature of the Release segment - the transition from the Sustain level to the Release level.

2-9c: Level Modulation

These settings let you use two different AMS sources to control the Level parameters of the EG. For each of the two AMS sources, the Start, Attack, Decay, and Break levels each have their own modulation intensities.

By using different settings for each of the three levels, you can cause both subtle and dramatic changes to the EG shape, as shown below.

Pitch EG Level Modulation



Note: Once the EG has started a segment between two points, that segment can no longer be modulated. This includes both the time of the segment, and the level reached at the end of the segment.

For instance, if the EG is in the middle of the Decay time, you can no longer modulate either the Decay time or the Break level.

This also means that modulating the Start level, Attack level, or Attack time will not affect notes that are already sounding, unless the EG is then re-started via EG Reset.

AMS1 [List of AMS Sources]

This selects the first AMS source to control the EG's Level parameters.

For a list of AMS sources, see "Alternate Modulation Source (AMS) List" on page 1021.

Start [-99...+99]

This controls the depth and direction of the AMS modulation for the Start level.

For example, if you set the AMS source to Velocity and set Start to +99, the Start level will increase as you play harder. If you instead set Start to -99, the Start level will decrease as you play harder.

Attack [-99...+99]

This controls the depth and direction of the AMS modulation for the Attack level.

Break [-99...+99]

This controls the depth and direction of the AMS modulation for the Break level.

AMS2

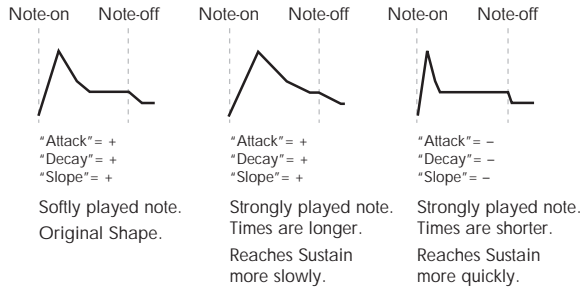
This selects the second AMS source for controlling the EG's Level parameters. The Start, Attack, Decay, and Break levels share this source, but each has its own modulation intensity. The parameters of AMS2 are identical to those of AMS1, above.

2-9d: Time Modulation

These settings let you use an AMS source to control the Time parameters of the EG. The Attack, Decay, Slope, and Release times share this AMS source, but each has its own modulation intensity.

Pitch EG Time Modulation

AMS=Velocity, Intensity = a positive (+) value



AMS [List of AMS Sources]

This selects the AMS source to control the EG's Time parameters. Velocity and Keyboard Track can both be useful here, for instance.

For a list of AMS sources, see "Alternate Modulation Source (AMS) List" on page 1021.

Attack [-99...+99]

This controls the depth and direction of the AMS modulation for the Attack time.

For example, if you set the AMS source to Velocity and set Attack to +99, the Attack time will get much longer at higher velocities. If you instead set Attack to -99, the Attack time will get much shorter at higher velocities.

When the AMS source is at its maximum value—for instance, when Velocity is at 127—a setting of +8 will make the Attack time almost twice as long, and a setting of -8 will cut the Attack time almost in half.

Decay [-99...+99]

This controls the depth and direction of the AMS modulation for the Decay time.

Slope [-99...+99]

This controls the depth and direction of the AMS modulation for the Slope time.

▼ 2-9: Page Menu Commands

The number before each command shows its ENTER + number-key shortcut. For more information on these shortcuts, see "ENTER + 0-9: shortcuts for menu commands" on page 142.

- 0: **Write Program.** For more information, see "Write Program" on page 142.
- 1: **Exclusive Solo.** For more information, see "Exclusive Solo" on page 142.
- 2: **Copy Oscillator.** For more information, see "Copy Oscillator" on page 148.
- 3: **Swap Oscillators.** For more information, see "Swap Oscillator" on page 148.

Program P3: Filter

Filtering can make subtle or dramatic changes to the oscillator’s timbre. Each oscillator has two multimode resonant filters, A and B, as well as a dedicated filter envelope and keyboard tracking generator.

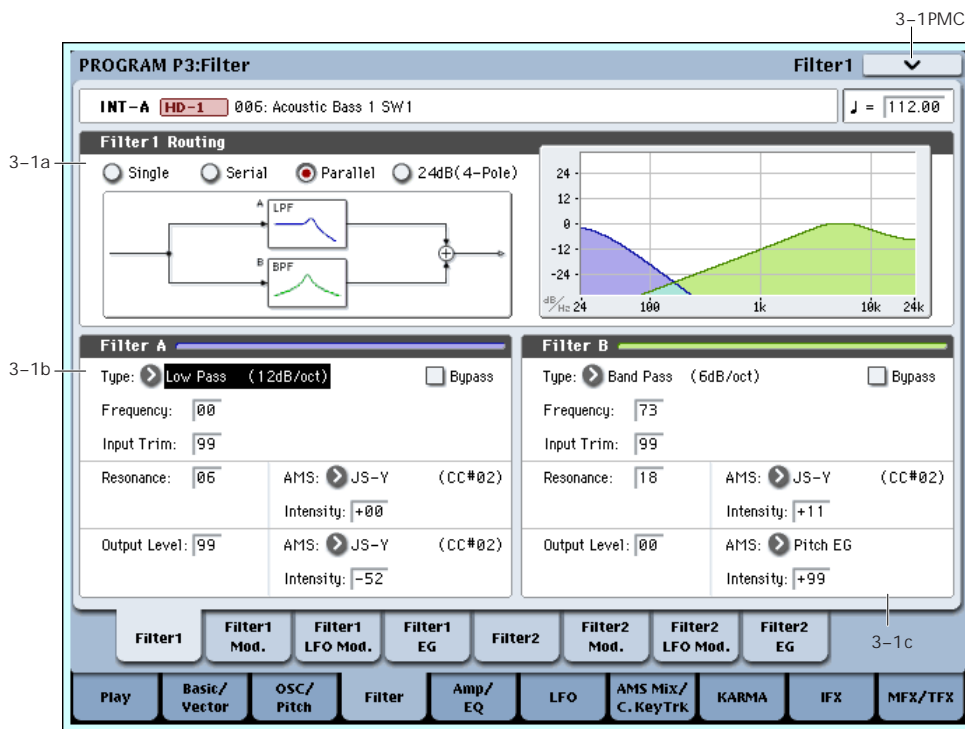
These pages let you control all aspects of the filters. Among other things, you can:

- Make basic settings for each oscillator’s filters, including routing, modes, cutoff, resonance, etc.

- Set up filter modulation, including keyboard tracking, the filter envelope, LFO modulation, and AMS control.

Note that when the **Oscillator Mode** is set to **Single**, only Oscillator 1’s filters are active; the pages for Oscillator 2’s filters will be grayed out.

3-1: Filter 1



This page contains all of the basic settings for Oscillator 1’s Filter A and Filter B. For example, you can:

- Set up the filters to produce a single 12dB/oct filter, dual 12dB/oct filters in either serial or parallel routing, or a single 24dB/oct filter.
- Set each of the two filters to Low Pass, High Pass, Band Pass, or Band Reject modes.
- Set the cutoff, resonance, and input and output levels of each filter, including modulation of resonance and output level.

Serial. This uses both Filter A and Filter B. The oscillator first goes through Filter A, and then the output of Filter A is processed through Filter B.

Parallel. This also uses both Filter A and Filter B. The oscillator feeds both filters directly, and the outputs of the two filters are then summed together.

24dB/oct. This merges both filters to create a single 4-pole, 24dB/octave filter (12dB for Band Pass and Band Reject). In comparison to Single, this option produces a sharper roll-off beyond the cutoff frequency, as well as a slightly more delicate resonance. Many classic analog synths used this general type of filter.

When 24dB/oct is selected, only the controls for Filter A are active; the controls for Filter B will be grayed out.

3-1a: Filter Routing

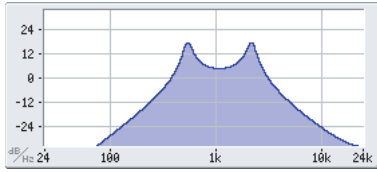
Filter Routing [Single, Serial, Parallel, 24dB/oct]

Each oscillator has two filters, Filter A and Filter B. This parameter controls whether one or both of the filters are used, and if both are used, it controls how they are connected to each other.

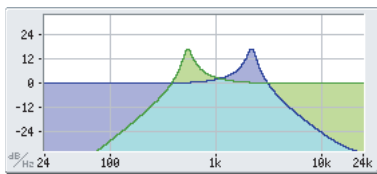
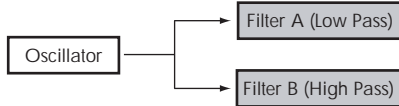
Single. This uses only Filter A as a single 2-pole, 12dB/octave filter (6dB for Band Pass and Band Reject). When this option is selected, the controls for Filter B will be grayed out.

Serial and Parallel Routing

Serial

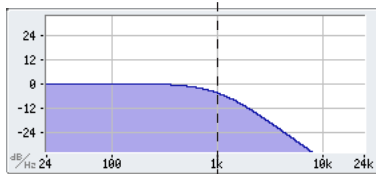


Parallel

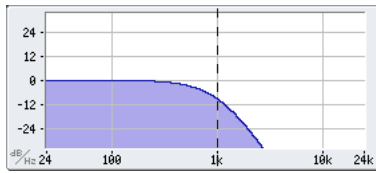


12db/oct / 24db/oct

Low Pass: 12dB/oct



Low Pass: 24dB/oct



3-1b: Filter A

Filter Type

[Low Pass, High Pass, Band Pass, Band Reject]

The filter will produce very different results depending on the selected filter type. The selections will change slightly according to the selected **Filter Routing**, to show the correct cutoff slope in dB per octave.

Low Pass. This cuts out the parts of the sound which are **higher** than the cutoff frequency. Low Pass is the most common type of filter, and is used to make bright timbres sound darker.

High Pass. This cuts out the parts of the sound which are **lower** than the cutoff frequency. You can use this to make timbres sound thinner or more buzzy.

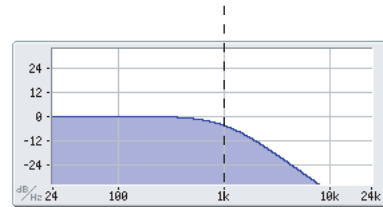
Band Pass. This cuts out all parts of the sound, both highs and lows, except for the region around the cutoff frequency. Since this filter cuts out both high and low frequencies, its effect can change dramatically depending on the cutoff setting and the oscillator's multisample.

With low resonance settings, you can use the Band Pass filter to create telephone or vintage phonograph sounds. With higher resonance settings, it can create buzzy or nasal timbres.

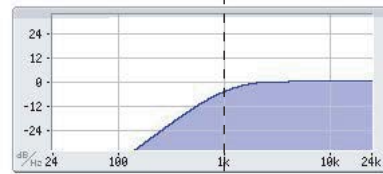
Band Reject. This filter type—also called a notch filter—cuts only the parts of the sound directly around the cutoff frequency. Try modulating the cutoff with an LFO to create phaser-like effects.

Filter Types and Cutoff Frequency

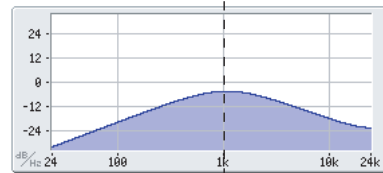
Low Pass



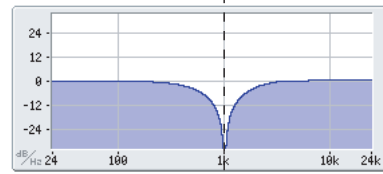
High Pass



Band Pass



Band Reject



Cutoff Frequency

Bypass

[Off, On]

This lets you bypass Filter A completely.

If **Bypass** is **Off**, Filter A functions normally.

When **Bypass** is **On**, Filter A has no effect on the input signal.

Frequency

[00...99]

This controls the cutoff frequency of Filter A, in increments of 1/10 of an octave. The specific effect of the cutoff frequency will change depending on the selected **Filter Type**, as described above.

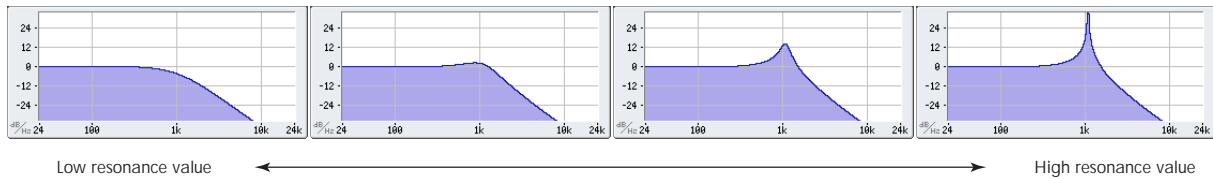
Input Trim

[00...99]

This adjusts the volume level at the input to the filter. If you notice that the sound is distorting, especially with high **Resonance** settings, you can turn the level down here, or at the Output Level.

Note: the filter will not clip internally, so there is no difference between adjusting the **Input Trim** and the **Output Level**. Either of these controls will allow you to minimize clipping later in the signal chain, such as may occur in the Drive section and in some effects.

Resonance



Resonance [00...99]

Resonance emphasizes the frequencies around the cutoff frequency.

When this is set to 0, there is no emphasis, and frequencies beyond the cutoff will simply diminish smoothly.

At medium settings, the resonance will alter the timbre of the filter, making it sound more nasal, or more extreme.

At very high settings, the resonance can be heard as a separate, whistling pitch.

To make the resonance track the keyboard pitch, see "Key Follow," on page 66.

AMS (Resonance) [List of AMS Sources]

This selects a modulation source to control the Resonance amount. For a list of AMS sources, see "Alternate Modulation Source (AMS) List" on page 1021.

Intensity [-99...+99]

This controls the depth and direction of the Resonance modulation.

For example, if Velocity has been selected, changes in keyboard velocity will affect the resonance. With positive (+) values, the resonance will increase as you play more strongly, and as you play more softly the resonance will approach the level specified by the **Resonance** setting. With negative (-) values, the resonance will decrease as you play more strongly, and as you play more softly the resonance will approach the level specified by the **Resonance** setting.

The resonance level is determined by adding the **Resonance** and **Intensity** values.

Output Level [00...99]

This controls the output level of Filter A. You can use this to balance the volumes of Filters A and B when the **Routing** is set to Parallel, or to turn down the volume to avoid clipping later in the signal chain.

AMS (Output Level) [List of AMS Sources]

This selects a modulation source to control the output level of Filter A. For a list of AMS sources, see "Alternate Modulation Source (AMS) List" on page 1021.

Intensity [-99...+99]

This controls the depth and direction of the output level modulation.

3-1c: Filter B

Filter B is available when the **Filter Routing** is set to **Serial** or **Parallel**. Otherwise, the parameters in this section will be grayed out.

The parameters for Filter B are identical to those for Filter A. For more information, see the descriptions under Filter A, above.

▼ 3-1: Page Menu Commands

The number before each command shows its ENTER + number-key shortcut. For more information on these shortcuts, see "ENTER + 0-9: shortcuts for menu commands" on page 142.

- 0: **Write Program**. For more information, see "Write Program" on page 142.
- 1: **Exclusive Solo**. For more information, see "Exclusive Solo" on page 142.
- 2: **Copy Oscillator**. For more information, see "Copy Oscillator" on page 148.
- 3: **Swap Oscillators**. For more information, see "Swap Oscillator" on page 148.

3-2: Filter1 Modulation

PROGRAM P3:Filter Filter1 Modulation

INT-A HD-1 006: Acoustic Bass 1 SW1 J = 112.00

Keyboard Track

Intensity to A: +00
Intensity to B: +00

Key Low Break: A#1 Center: G2 High Break: C#3

Ramp Bottom-Low: -50 Low-Center: -50 Center-High: +50 High-Top: -79

Filter EG

Velocity to A: +40 Intensity to A: +83 AMS: Ribbon (CC#16) Intensity to A: -05
Velocity to B: +00 Intensity to B: +00 Intensity to B: +00

Filter A Modulation

AMS1: JS X Intensity: -05
AMS2: AMS Mixer 1 Intensity: +53

Filter B Modulation

AMS1: JS-Y (CC#02) Intensity: -24
AMS2: After Touch Intensity: +00

Filter1 Filter1 Mod. Filter1 LFO Mod. Filter1 EG Filter2 Filter2 Mod. Filter2 LFO Mod. Filter2 EG

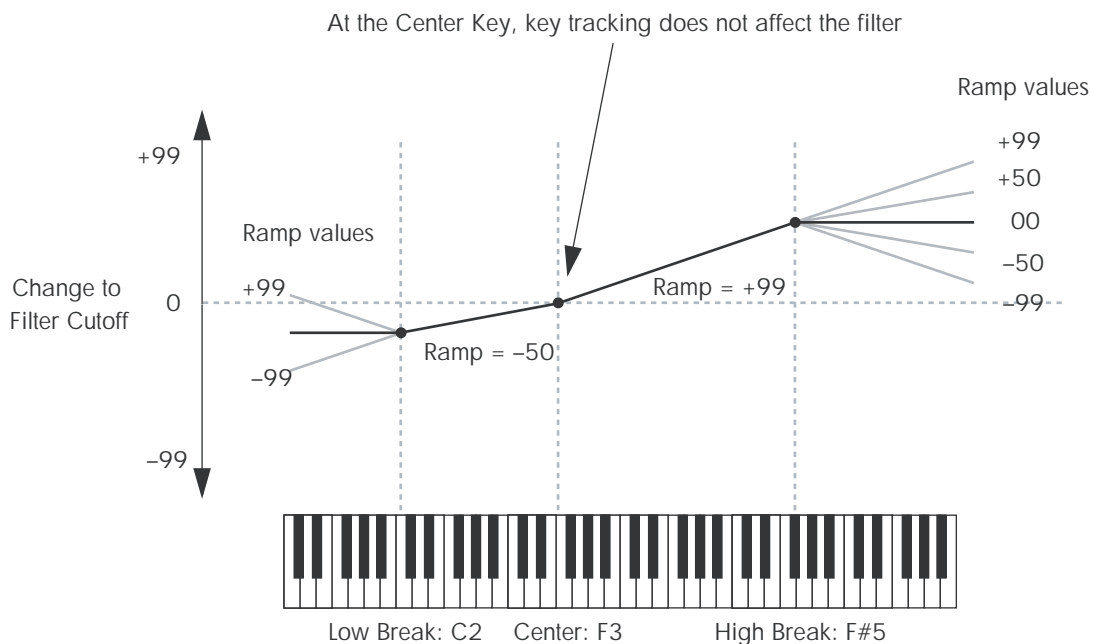
Play Basic/Vector OSC/Pitch Filter Amp/EQ LFO AMS Mix/C. KeyTrk KARMA IFX MFx/TFx

This page contains the settings for Oscillator 1's filter modulation. Among other things, you can:

- Set up complex keyboard tracking shapes, and control how the tracking affects filter cutoff.
- Control the effect of the Filter Envelope on filter cutoff.
- Assign AMS modulation for filter cutoff.

Filter B is available when the **Filter Routing** is set to **Serial** or **Parallel**. Otherwise, the parameters for Filter B will be grayed out.

Filter Keyboard Tracking



3-2a: Keyboard Track AMSource

Most acoustic instruments get brighter as you play higher pitches. At its most basic, keyboard tracking re-creates this effect by increasing the cutoff frequency of a lowpass filter as you play higher on the keyboard. Usually, some amount of key tracking is necessary in order to make the timbre consistent across the entire range.

The OASYS keyboard tracking can also be much more complex, since it allows you to create different rates of change over up to four different parts of the keyboard. For instance, you can:

- Make the filter cutoff increase very quickly over the middle of the keyboard, and then open more slowly—or not at all—in the higher octaves.
- Make the cutoff increase as you play *lower* on the keyboard.
- Create abrupt changes at certain keys, for split-like effects.

How it works: Keys and Ramps

The keyboard tracking works by creating four ramps, or slopes, between five keys on the keyboard. The bottom and top keys are fixed at the bottom and top of the MIDI range, respectively. You can set the other three keys—named **Low Break**, **Center**, and **High Break**—to be anywhere in between.

The four Ramp values control the rate of change between each pair of keys. For instance, if the **Low-Center** Ramp is set to 0, the value will stay the same between the **Low Break** key and the **Center** key.

You can think of the resulting shape as being like two folding doors attached to a hinge in the center. At the **Center** key (the main hinge), the keyboard tracking has no effect. The two folding doors swing out from this center point to create changes in the higher and lower ranges of the keyboard.

Intensity to A [−99...+99]

This controls how much the keyboard tracking will affect Filter A’s cutoff frequency. The overall effect of the Keyboard Track is a combination of this Intensity value and the overall Keyboard Track shape.

With **positive values (+)**, the effect will be in the direction specified by keyboard tracking; if the ramp goes up, the filter cutoff will **increase**.

With **negative values (−)**, the effect will be in the opposite direction; if the ramp goes up, the filter cutoff will *decrease*.

Intensity to B [−99...+99]

This controls how much the keyboard tracking will affect Filter B’s cutoff frequency.

Key

Low Break [C−1...G9]

This sets the breakpoint note between the two lower ramps - the “hinge” of the lower door.

Center [C−1...G9]

This sets the center of the keyboard tracking - the main “hinge.” At this key, the keyboard tracking has no effect on the filter cutoff, or on any AMS destinations.

High Break [C−1...G9]

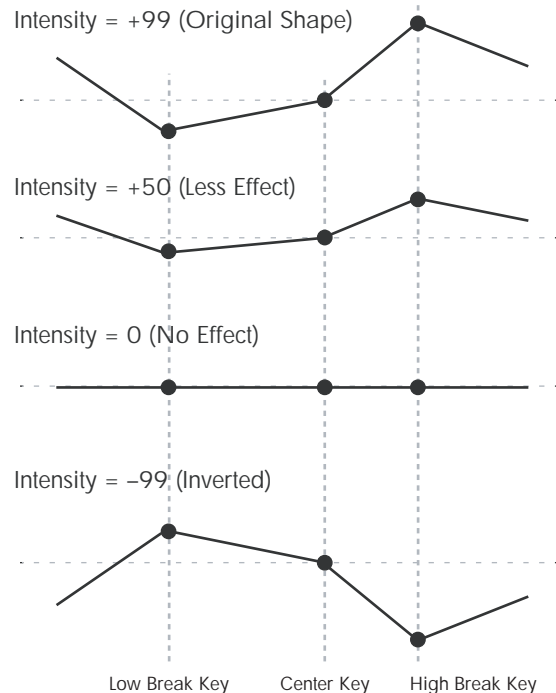
This sets the breakpoint note between the two higher ramps - the “hinge” of the upper door.

Entering notes from the keyboard

You can enter note numbers directly by playing them on the keyboard. To do so:

1. **Select one of the Key parameters.**
2. **Hold down the ENTER key.**
3. **While holding ENTER, play a note on the keyboard.**

Keyboard Track Shape and Intensity



Ramp

Positive ramp values mean that the keyboard tracking output increases as you play farther from the **Center Key**; negative ramp values mean that it decreases.

Because of this, the meanings of positive and negative ramp settings will change depending on whether the ramp is to the left or right of the **Center Key**.

Bottom-Low and Low-Center: negative ramps make the keyboard tracking’s output go down as you play lower on the keyboard, and positive ramps make the output go higher.

Center-High and High-Top: negative ramps make the keyboard tracking’s output go down as you play *higher* on the keyboard, and positive ramps make the output go up.

The effect on the filter cutoff is a combination of the ramp values, as set below, and the Intensity to A and B parameters. When Intensity is set to +99, a ramp of 50 changes the filter frequency by 1 octave for every octave of the keyboard, and a ramp of +99 changes the frequency by 2 octaves for every octave of the keyboard.

Bottom-Low [−Inf, −99...+99, +Inf]

This sets the slope between the bottom of the MIDI note range and the Low Break key. For normal key track, use negative values.

Low-Center [-Inf, -99...+99, +Inf]

This sets the slope between the Low Break and Center keys. For normal key track, use negative values.

Center-High [-Inf, -99...+99, +Inf]

This sets the slope between the Center and High Break keys. For normal key track, use positive values.

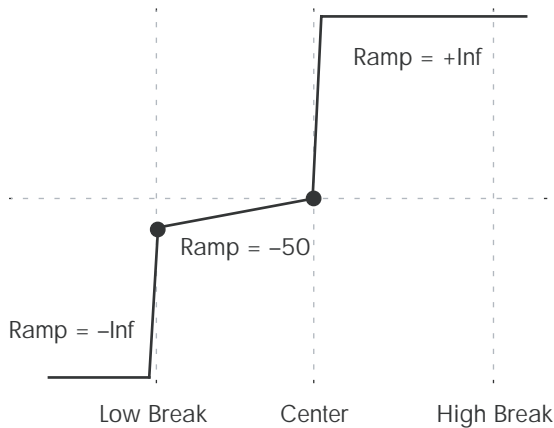
High-Top [-Inf, -99...+99, +Inf]

This sets the slope between the High Break key and the top of the MIDI note range. For normal key track, use positive values.

+Inf and -Inf ramps

+Inf and -Inf are special settings which create abrupt changes for split-like effects. When a ramp is set to +Inf or -Inf, the keyboard tracking will go to its extreme highest or lowest value over the span of a single key.

+Inf and -Inf Ramps



Note: if you set the Center-High ramp to +Inf or -Inf, the High-Top parameter will be grayed out. Similarly, if you set the Low-Center ramp to +Inf or -Inf, the Bottom-Low ramp will be grayed out.

Key Follow

To create the classic Key Follow effect, in which the filter frequency tracks the pitch of the keyboard:

1. Set the Filter Frequency to 30.
2. Set the Keyboard Track Intensity to +99.
3. Set the Bottom-Low and Low-Center ramps to -50.
4. Set the Center-High and High-Top ramps to +50.
5. Set the Center Key to C4.

The settings for the Low Break and High Break keys don't matter in this case.

Filter Keyboard Track is also an AMS source

You can use the keyboard tracking as an AMS source to modulate other parameters, just like the envelopes and LFOs. Simply select Filter Keytrack in the AMS list for the desired parameter.

3-2b: Filter EG

The Filter1 EG modulates the Filter A and B cutoff frequencies over time. You can control how strongly the EG will affect the filters in three different ways:

- Set an initial amount of EG modulation, using the Intensity to A and B parameters.
- Use velocity to scale the amount of the EG applied to the filter.
- Use any AMS source to scale the amount of the EG applied to the filter.

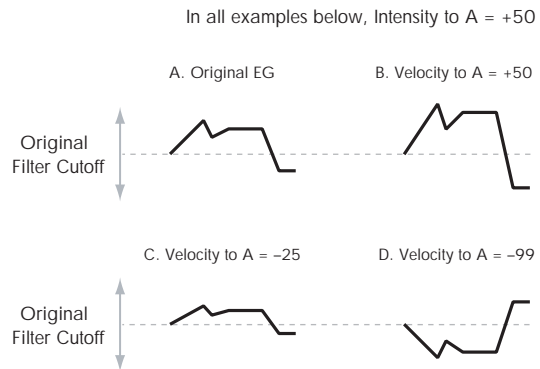
You can use all three of these at once, and the results are added together to produce the total EG effect.

To set up the EG itself, including attack and release times, levels, and so on, see "3-4: Filter1 EG," on page 69.

Velocity to A [-99...+99]

This lets you use velocity to scale the amount of the Filter EG applied to Filter A.

Velocity control of Filter EG



With **positive (+) values**, playing more strongly will increase the effect of the Filter EG, as shown in example **B** above.

With **negative (-) values**, playing more strongly will introduce the *opposite* effect of the Filter EG—like inverting the polarity of the envelope. You can use this in several different ways:

- You can set an initial positive amount with the Intensity to A/B parameters, and then reduce this amount with velocity. In this case, the final effect of the EG is simply diminished, and not actually inverted, as shown in example **C** above.
- You can also set the Velocity to A/B amounts so that they are greater than the initial amounts of Intensity to A/B. In this case, the EG will have a positive effect at low velocities, and an inverted effect at high velocities—as shown in example **D**.

Velocity to B [-99...+99]

This lets you use velocity to scale the amount of the Filter EG applied to Filter B. For more information, see "Velocity to A," above.

Intensity to A [-99...+99]

This controls the initial effect of the Filter EG on Filter A's cutoff frequency, before any velocity or AMS modulation.

The Filter EG's shape can swing all the way from +99 to -99. Positive values increase the cutoff frequency, and negative values decrease the cutoff frequency. For instance, see the graphic "Velocity to A," above. The EG shape in example A rises up at first, and then falls below 0 towards the end.

When Intensity to A is set to a **positive (+)** value, EG's effect will match its shape. When the EG rises above 0, the cutoff frequency will increase.

With **negative (-)** values, the effect will be in the opposite direction; when the EG rises above 0, the filter cutoff will *decrease*.

Intensity to B [-99...+99]

This controls the initial effect of the Filter EG on Filter B's cutoff frequency, before any velocity or AMS modulation. For more information, see "Intensity to A," above.

AMS (Filter EG) [List of AMS Sources]

This selects any AMS modulation source to scale the amount of the Filter EG applied to Filters A and B. The two filters share a single AMS source, with separate intensity settings. Otherwise, the AMS modulation will work in the same way as the **Velocity to A** parameter, described above.

For a list of AMS sources, see "Alternate Modulation Source (AMS) List" on page 1021.

Intensity to A [-99...+99]

This controls the depth and direction of the EG AMS modulation for Filter A.

Intensity to B [-99...+99]

This controls the depth and direction of the EG AMS modulation for Filter B.

3-2c: Filter A/B Modulation

This section lets you assign any two AMS sources to control Filter A, and another two AMS sources to control Filter B. This modulation is added to the basic Filter A and B cutoff frequencies, as set on the Filter 1 page.

Filter A

AMS1 [List of AMS Sources]

This selects the first modulation source for controlling Filter A's cutoff frequency. For a list of AMS sources, see "Alternate Modulation Source (AMS) List" on page 1021.

Intensity (AMS1) [-99...+99]

This controls the depth and direction of AMS1.

AMS2 [List of AMS Sources]

This selects the second modulation source for controlling Filter A's cutoff frequency. For a list of AMS sources, see "Alternate Modulation Source (AMS) List" on page 1021.

Intensity (AMS2) [-99...+99]

This controls the depth and direction of AMS2.

Filter B

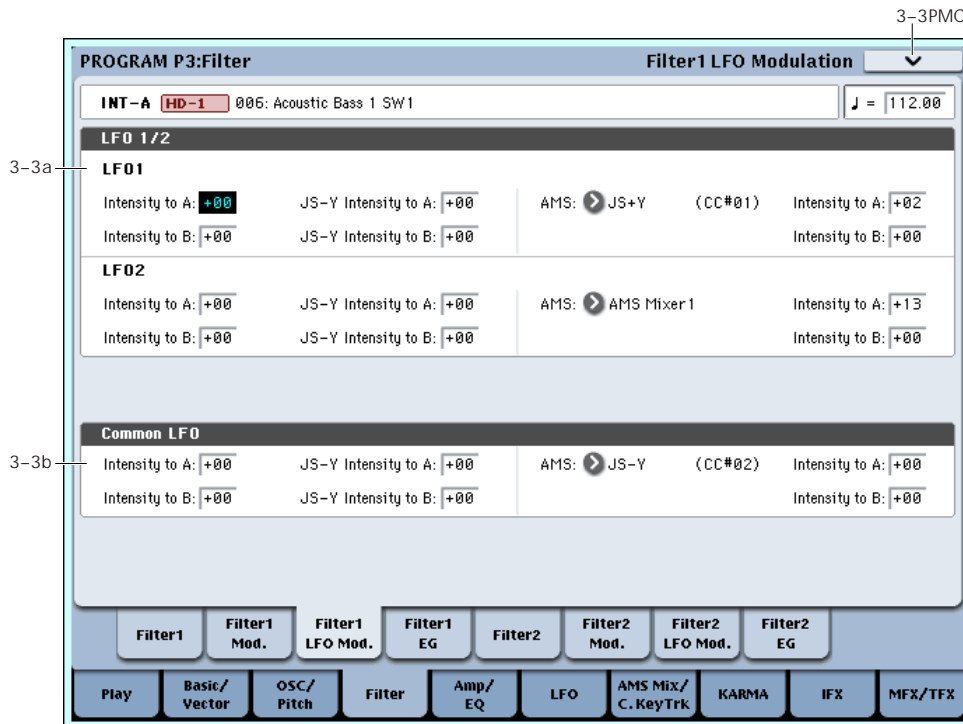
The parameters for Filter B are identical to those for Filter A. For more information, see the descriptions under Filter A, above.

▼ 3-2: Page Menu Commands

The number before each command shows its ENTER + number-key shortcut. For more information on these shortcuts, see "ENTER + 0-9: shortcuts for menu commands" on page 142.

- 0: **Write Program**. For more information, see "Write Program" on page 142.
- 1: **Exclusive Solo**. For more information, see "Exclusive Solo" on page 142.
- 2: **Copy Oscillator**. For more information, see "Copy Oscillator" on page 148.
- 3: **Swap Oscillators**. For more information, see "Swap Oscillator" on page 148.

3-3: Filter1 LFO Modulation



LFO1, LFO2, and the Common LFO can all modulate Filter A and B's cutoff frequencies. You can control the strength of each LFO's modulation in three different ways, independently for each filter:

- Set an initial amount of LFO modulation, using the Intensity to A and B parameters.
- Use JS-Y to scale the amount of the LFO.
- Use any AMS source to scale the amount the LFO.

You can use each of these methods for each of the three LFOs, and do so separately for both Filter A and Filter B. The results are added together to produce the total LFO effect.

3-3a: LFO 1/2

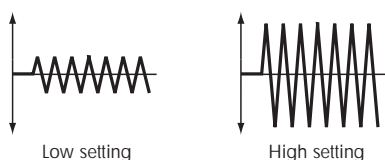
LFO1

Intensity to A (LFO1) [-99...+99]

This controls the initial effect of the LFO on Filter A's cutoff frequency, before any JS-Y or AMS modulation.

Negative (-) settings will invert the phase of the LFO. You can produce interesting effects by using the same LFO to modulate two different parameters (such as Filter A and Filter B), but with one set to a positive intensity, and the other set to a negative intensity.

LFO modulation of Filter Cutoff



Intensity to B (LFO1) [-99...+99]

This controls the initial effect of the LFO on Filter B's cutoff frequency, before any JS-Y or AMS modulation.

JS-Y Intensity to A (LFO1) [-99...+99]

Moving the joystick "down" from the center detent position, towards yourself, produces the JS-Y controller. You can use this to scale the amount of the LFO applied to Filter A.

Negative (-) settings will invert the phase of the LFO. You can also use this to reduce the initial amount of the LFO, as set by **Intensity to A**, above. For example:

1. Set **Intensity to A** to +50.

The LFO will now have a fairly strong effect on the filter cutoff.

2. Set **JS-Y Intensity to A** to -50.

Now, if you move the joystick down, the effect of the LFO will fade away. When the joystick is all the way at the bottom of its range, the LFO will be completely cancelled out.

JS-Y Intensity to B (LFO1) [-99...+99]

This lets you use JS-Y to scale the amount of the LFO applied to Filter B.

AMS (LFO1) [List of AMS Sources]

This selects any AMS modulation source to scale the amount of the LFO applied to Filters A and B. The two filters share a single AMS source, but with separate intensity settings.

For a list of AMS sources, see "Alternate Modulation Source (AMS) List" on page 1021.

Intensity to A [-99...+99]

This controls the depth and direction of the LFO1 AMS modulation for Filter A.

For example, if AMS is set to **After Touch**, positive settings mean that aftertouch will increase the amount of LFO1 applied to Filter A.

Intensity to B [-99...+99]

This controls the depth and direction of the LFO1 AMS modulation for Filter B.

LFO 2

The parameters for LFO2 are identical to those for LFO1. For more information, see the descriptions under LFO1, above.

3-3b: Common LFO

The parameters for the Common LFO are identical to those for LFO1. For more information, see the descriptions under LFO1, above.

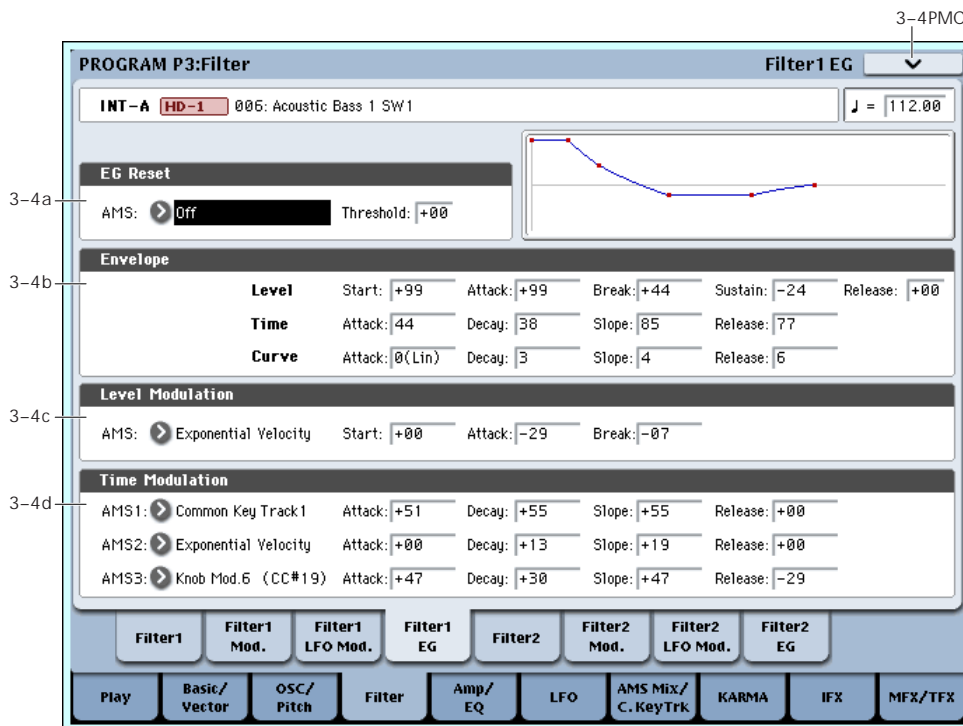
Note that while LFO1 and LFO2 are separate for each voice, the Common LFO is shared by all voices in the Program. This makes it useful when you want all of the voices to have an identical LFO effect.

▼ 3-3: Page Menu Commands

The number before each command shows its ENTER + number-key shortcut. For more information on these shortcuts, see “ENTER + 0-9: shortcuts for menu commands” on page 142.

- 0: **Write Program.** For more information, see “Write Program” on page 142.
- 1: **Exclusive Solo.** For more information, see “Exclusive Solo” on page 142.
- 2: **Copy Oscillator.** For more information, see “Copy Oscillator” on page 148.
- 3: **Swap Oscillators.** For more information, see “Swap Oscillator” on page 148.

3-4: Filter1 EG AMSSource



The Filter EG, or Envelope Generator, lets you create complex, time-varying changes to the cutoff frequencies of Filters A and B. The parameters on this page control the shape of the EG. Among other things, you can:

- Create the basic EG shape by setting the levels and times of each segment.
- Control the curvature of each EG segment, for subtle control over the sound of the EG.
- Set up complex modulation of EG levels and times.
- Set up an AMS source, such as an LFO, to restart the EG.

To control how much effect the EG has on the filters, use the Filter EG parameters on the Filter Mod page, as described under “3-2b: Filter EG,” on page 66.

Filter EG is also an AMS source

You can use the Filter EG as an AMS source to modulate other parameters, just like the keyboard tracking and LFOs. Simply select the Filter EG in the AMS list for the desired parameter.

3-4a: EG Reset

AMS (EG Reset) [List of AMS Sources]

This selects an AMS source to reset the EG to the start point. For instance, you can use a tempo-synced LFO to trigger the EG in a repeating rhythm. This reset is in addition to the initial note-on, which always causes the EG to start.

For a list of AMS sources, see “Alternate Modulation Source (AMS) List” on page 1021.

Threshold [-99...+99]

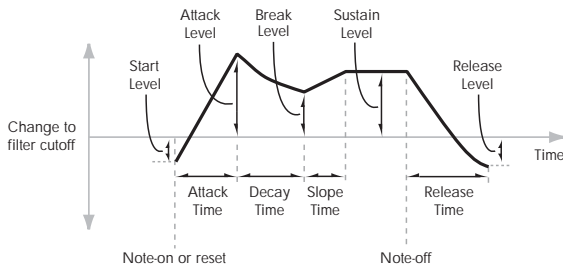
This sets the AMS level which will trigger the EG reset. Among other things, you can use this to adjust the exact point in an LFO’s phase at which the EG will be reset, effectively controlling its “groove” against other rhythmic effects.

When the threshold is **positive**, the EG triggers when passing through the threshold moving upwards. When the threshold is **negative**, the EG triggers when passing through the threshold moving downwards.

Note: with some LFO shapes, and with faster LFO speeds, the LFO may not always reach the extreme values of +99 or -99. In this case, setting the **Threshold** to these values may cause inconsistent behavior, or may mean that the EG doesn’t reset at all. If this happens, reduce the **Threshold** until the EG triggers consistently.

3-4b: Envelope

Filter EG



An envelope creates a modulation signal by moving from one level to another over a specified time, and then moving to another level over another period of time, and so on.

The parameters below let you set five levels, the amount of time it takes to go from each of the levels to the next, and the shape (from linear to curved) of each transition.

Level

Each of the five levels can be either positive or negative.

Positive levels will make the cutoff frequency (or other AMS destination) go up from its programmed value; **negative** levels will make it go down.

Start [-99...+99]

This sets the initial EG level, at note-on.

Attack [-99...+99]

This sets the level at the end of the Attack time.

Break [99...+99]

Break, short for Break Point, sets the level at the end of the Decay time.

Sustain [-99...+99]

This sets the level at the end of the Slope time. Once it reaches the Sustain level, the EG will stay there until note-off, unless it is reset via AMS.

Release [-99...+99]

This sets the level at the end of the Release time.

Time

Higher values mean longer times, as shown below:

EG Value	Actual Time
00	0.667 ms
10	10 ms
20	44 ms
30	104 ms
40	224 ms
50	464 ms
60	944 ms
70	1.8 seconds
80	3.8 seconds
90	10.9 seconds
99	87.3 seconds

Attack [00...99]

This sets how long the EG takes to move from the Start level to the Attack level.

The minimum attack time is 2/3 of a millisecond—as fast as the most punchy of classic analog synths.

For the fastest possible attack time, you can set the Start level to +99; in this case, the EG will start instantaneously at its maximum value.

Decay [00...99]

This sets the time it takes to move from the Attack level to the Break level.

Slope [00...99]

This sets how long the EG takes to move from the Break level to the Sustain level. Once it reaches the Sustain level, the EG will stay there until note-off (unless it is reset via AMS).

Release [00...99]

This sets how long it takes the EG to move from the Sustain level to the Release level.

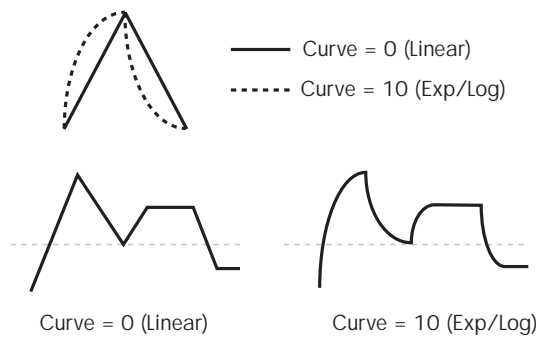
Curve

For the sake of simplicity, most of the diagrams in this manual show envelopes as being made out of straight lines. In actuality, though, envelopes are more likely to be made out of curves.

In other words, each segment's level will change quickly at first, and then slow down as it approaches the next point. This tends to sound better than straight, linear segments.

Classic analog synth envelopes made these curved shapes naturally. The OASYS goes a step further than vintage synths, however, and lets you control the amount of curvature separately for each of the four envelope segments.

Filter EG Curve



When you change the curvature, the EG times remain the same. However, greater curvature will tend to sound faster, because the value changes more quickly at the beginning.

Different curve settings for up and down

You may find that different amounts of curvature are suitable for segments which go up and segments which go down.

For instance, a curve of 3 is a good default setting for upward segments, such as Attack. On the other hand, a curve of 6 or more is good for downward segments, such as Decay and Release.

Attack [0 (Linear), 1...9, 10 (Exp/Log)]

This sets the curvature of the Attack segment - the transition from the Start level to the Attack level.

Decay [0 (Linear), 1...9, 10 (Exp/Log)]

This sets the curvature of the Decay segment - the transition from the Attack level to the Break level.

Slope [0 (Linear), 1...9, 10 (Exp/Log)]

This sets the curvature of the Slope segment - the transition from the Break level to the Sustain level.

Release [0 (Linear), 1...9, 10 (Exp/Log)]

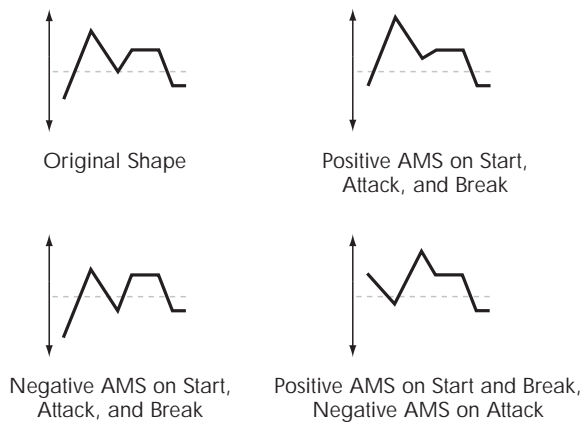
This sets the curvature of the Release segment - the transition from the Sustain level to the Release level.

3-4c: Level Modulation

These settings let you use any AMS source to control the Level parameters of the EG. The Start, Attack, and Break levels share a single AMS source, but can each have different modulation intensities.

By using different settings for each of the three levels, you can cause both subtle and dramatic changes to the EG shape, as shown below.

Filter EG Level Modulation



Once an EG segment begins, it can't be modulated

Once the EG has started a segment between two points, that segment can no longer be modulated. This includes both the time of the segment, and the level reached at the end of the segment.

For instance, if the EG is in the middle of the Decay time, you can no longer modulate either the Decay time or the Break level.

As another example, let's say that you've assigned the Common LFO to modulate Break Level. The LFO may be moving all the time, but the Break Level is only affected by the LFO's value at the instant that the Decay segment starts. After that, the level is fixed.

Finally, this also means that modulating the Start level, Attack level, or Attack time will not affect notes that are already sounding, unless the EG is then reset via AMS.

AMS [List of AMS Sources]

Selects an AMS source to control the EG's Level parameters.

For a list of AMS sources, see "Alternate Modulation Source (AMS) List" on page 1021.

Start [-99...+99]

This controls the depth and direction of the AMS modulation for the Start level.

For example, if you set the AMS source to Velocity and set Start to +99, the Start level will increase as you play harder. If you instead set Start to -99, the Start level will decrease as you play harder.

Attack [-99...+99]

This controls the depth and direction of the AMS modulation for the Attack level.

Break [-99...+99]

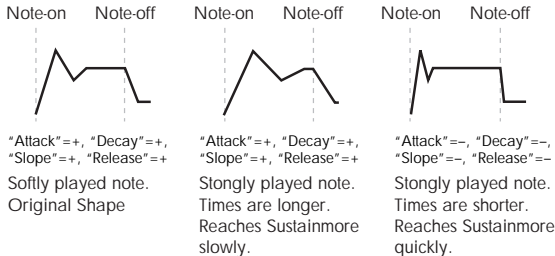
This controls the depth and direction of the AMS modulation for the Break level.

3-4d: Time Modulation

These settings let you use three different AMS sources to control the Time parameters of the EG. For each of the three AMS sources, the Attack, Decay, Slope, and Release times each have their own modulation intensities.

Filter EG Time Modulation

AMS=Velocity, Intensity = a positive (+) value



AMS1

[List of AMS Sources]

Selects the first AMS source to control the EG's Time parameters. Velocity and Keyboard Track can both be useful here, for instance.

For a list of AMS sources, see "Alternate Modulation Source (AMS) List" on page 1021.

Attack

[-99...+99]

This controls the depth and direction of the AMS modulation for the Attack time.

For example, if you set the AMS source to Velocity and set Attack to +99, the Attack time will get much longer at higher velocities. If you instead set Attack to -99, the Attack time will get much shorter at higher velocities.

When the AMS source is at its maximum value—for instance, when Velocity is at 127—a setting of +8 will make the Attack time almost twice as long, and a setting of -8 will cut the Attack time almost in half.

Decay

[-99...+99]

This controls the depth and direction of the AMS modulation for the Decay time.

Slope

[-99...+99]

This controls the depth and direction of the AMS modulation for the Slope time.

Release

[-99...+99]

This controls the depth and direction of the AMS modulation for the Release time.

AMS2 and AMS3

These select the second and third AMS sources, respectively, for controlling the EG's Time parameters. Each has its own intensities for Attack, Decay, Slope, and Release. The parameters of both AMS2 and AMS3 are identical to those of AMS1, above.

▼ 3-4: Page Menu Commands

The number before each command shows its ENTER + number-key shortcut. For more information on these shortcuts, see "ENTER + 0-9: shortcuts for menu commands" on page 142.

- 0: **Write Program.** For more information, see "Write Program" on page 142.
- 1: **Exclusive Solo.** For more information, see "Exclusive Solo" on page 142.
- 2: **Copy Oscillator.** For more information, see "Copy Oscillator" on page 148.
- 3: **Swap Oscillators.** For more information, see "Swap Oscillator" on page 148.
- 4: **Sync Both EGs.** For more information, see "Sync Both EGs" on page 149.

3-5: Filter2

This page controls Oscillator 2's basic filter settings. It is available only when the **Oscillator Mode** is set to **Double**; if not, the page will be grayed out.

The parameters are identical to those for Oscillator 1, as described under "3-1: Filter1," on page 61.

3-6: Filter2 Modulation

This page controls Oscillator 2's filter modulation. It is available only when the **Oscillator Mode** is set to **Double**; if not, the page will be grayed out.

The parameters are identical to those for Oscillator 1, as described under "3-2: Filter1 Modulation," on page 64.

3-7: Filter2 LFO Modulation

This page controls Oscillator 2's LFO filter modulation. It is available only when the **Oscillator Mode** is set to **Double**; if not, the page will be grayed out.

The parameters are identical to those for Oscillator 1, as described under "3-3: Filter1 LFO Modulation," on page 68.

3-8: Filter2 EG AMSource

This page controls Oscillator 2's Filter EG. It is available only when the **Oscillator Mode** is set to

Double; if not, the page will be grayed out.

The parameters are identical to those for Oscillator 1, as described under "3-4: Filter1 EG," on page 69.

Program P4: Amp/EQ

Oscillators 1 and 2 have separate controls for volume (also called “amplitude,” or “amp” for short), pan, and Drive, as well as dedicated amp envelopes and keyboard tracking generators. Additionally, both Oscillators share a three-band EQ.

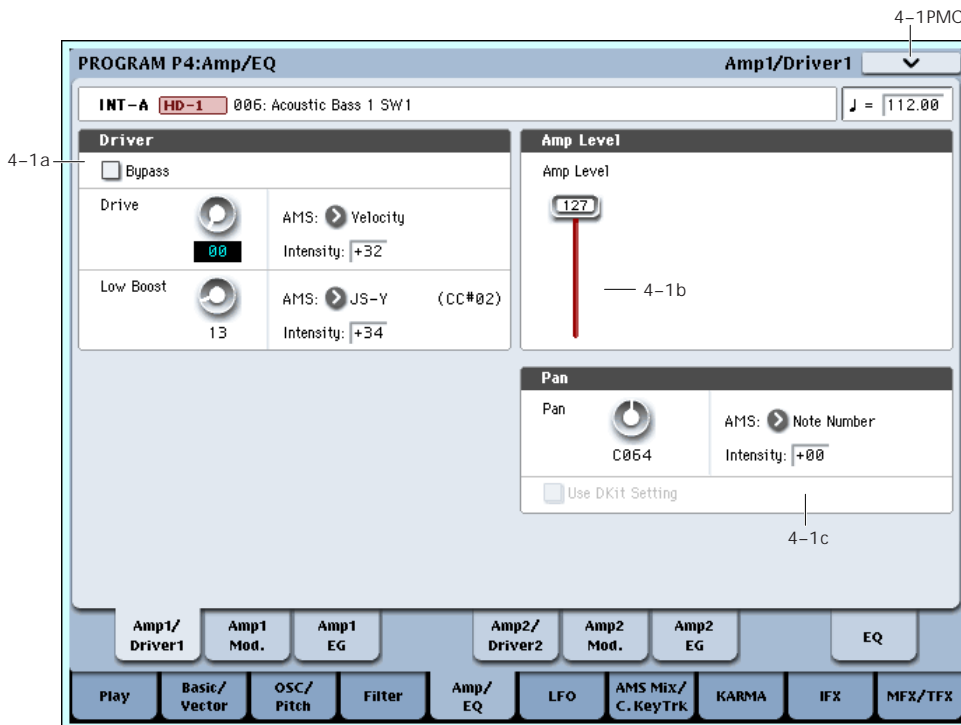
These pages let you control all of these related parameters. Among other things, you can:

- Set up the Driver circuit, which adds saturation and bass boost to the timbre.

- Set the pan position and pan modulation.
- Control amp level and modulation, including keyboard tracking, the amp envelope, LFO modulation, and AMS control.
- Set up the three-band Track EQ.

Note that when the **Oscillator Mode** is set to **Single**, only Oscillator 1’s amp, pan, and drive parameters are active; the pages for Oscillator 2 will be grayed out.

4-1: Amp1/Driver1



This page controls the basic settings for the Amp/EQ section. Here, you can:

- Set up the Driver circuit.
- Set the initial volume level.
- Control the pan position and pan modulation.

4-1a: Driver

The Driver adds saturation and overdrive to the sound, for everything from subtle fattening to drastic distortion. Unlike an overdrive effect, the Driver processes each voice individually, so the timbre stays the same regardless of how many voices are being played.

The two main parameters, Drive and Low Boost, work together to create the overall Driver effect. Drive contributes edge and bite, and Low Boost provides the body as well as boosting the bass.

Bypass [Off, On]

When Bypass is On, the Driver is completely removed from the signal path.

Drive [00...99]

This controls the amount of edge and bite in the timbre. Low settings will produce mild saturation, and higher settings create more obvious distortion.

Often, it’s useful to increase the Low Boost along with the Drive.

Note: even when the Drive amount is set to 0, the Driver circuit still affects the timbre. If your goal is a completely pristine sound, use the Bypass control instead.

AMS (Drive) [List of AMS Sources]

This selects an AMS modulation source to control the Drive amount. For a list of AMS sources, see “Alternate Modulation Source (AMS) List” on page 1021.

Intensity [-99...+99]

This controls the depth and direction of the AMS modulation for Drive.

Low Boost [00...99]

This low-frequency EQ controls the body character of the sound. The specific EQ frequencies affected will change with the Drive setting.

Higher amounts increase the bass boost, and will also intensify the effect of the Drive parameter.

AMS (Low Boost) [List of AMS Sources]

This selects an AMS modulation source to control the Low Boost amount. For a list of AMS sources, see “Alternate Modulation Source (AMS) List” on page 1021.

Intensity [-99...+99]

This controls the depth and direction of the AMS modulation for Low Boost.

4-1b: Amp Level

Amp Level [000...127]

This controls the basic volume level of Oscillator 1, before keyboard tracking, velocity, and other modulation.

The Control Surface and volume

You can control the Oscillator volume directly from the Control Surface sliders. This is a separate parameter, in addition to Amp Level. To do so:

1. Press the Control Surface Timbre/Track button.
2. Move Slider 1 to set the volume for Oscillator 1, and Slider 2 for Oscillator 2.

MIDI and volume

MIDI You can control the Program’s overall volume via MIDI using both Volume (CC#7) and Expression (CC#11). When used one at a time, the two controllers work in exactly the same way: a MIDI value of 127 is equal to the Amp Level setting, and lower values reduce the volume.

If both CC#7 and CC#11 are used simultaneously, the one with the *lower* value determines the maximum volume, and the one with the higher value scales down from that maximum. This is controlled on the global MIDI channel.

4-1c: Pan

Pan [Random, L001...C064...R127]

This controls the stereo pan of Oscillator 1. A setting of L001 places the sound at the far left, C064 in the center, and R127 to the far right.

When this is set to **Random**, the pan position will be different for each note-on.

You can also set the Pan directly from the Control Surface knobs. To do so:

1. Press the Control Surface Timbre/Track button.
2. Set the MIXER KNOBS switch to INDIVIDUAL PAN.
3. Move Knob 1 to set the pan for Oscillator 1, and Knob 2 to set the pan for Oscillator 2.

MIDI You can also control pan via MIDI Pan (CC#10). A CC#10 value of 0 or 1 places the sound at the far left, 64 places the sound at the location specified by the **Pan** parameter, and 127 places the sound at the far right.

Note: you can select Random pan only from the on-screen UI, and not from MIDI or the Control surface.

AMS (Pan) [List of AMS Sources]

This selects an AMS source to modulate Pan. For a list of AMS sources, see “Alternate Modulation Source (AMS) List” on page 1021.

Intensity [-99...+99]

This controls the depth and direction of the AMS modulation for Pan.

For example, if **Pan** is set to C064 and **AMS** is set to Note Number, **positive (+)** intensities will cause the sound to move toward the right as you play higher than C4, and toward the left as you play lower than C4.

Negative (-) intensities will have the opposite effect.

Use DKit Setting [Off, On]

This option is available only when the **Oscillator Mode** is set to **Drums**.

Unlike standard Programs, Drum Kits can have a different pan setting for every note. This parameter lets you choose whether to use the Drum Kit pan settings, or to use the Program’s pan setting instead.

On (checked): The Program will use the Drum Kit’s per-note pan settings; pan AMS will still apply. This is the default setting.

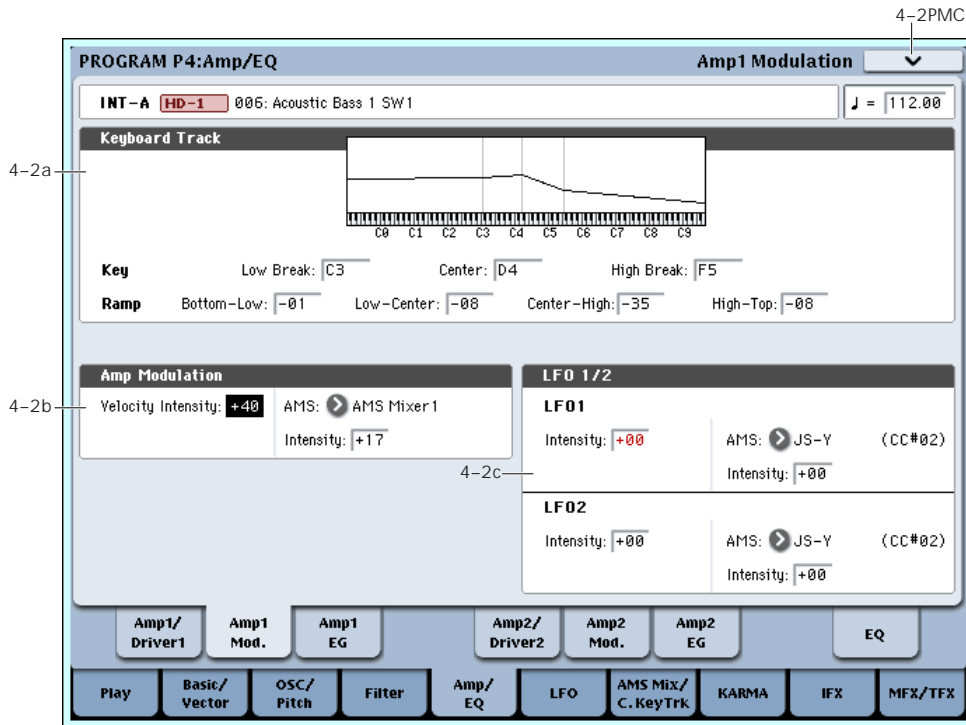
Off (unchecked): The Program will ignore the Drum Kit’s settings, and use the Program pan instead. All keys of the drum kit will use the **Pan** (4-1c) setting.

▼ 4-1: Page Menu Commands

The number before each command shows its ENTER + number-key shortcut. For more information on these shortcuts, see “ENTER + 0-9: shortcuts for menu commands” on page 142.

- 0: **Write Program.** For more information, see “Write Program” on page 142.
- 1: **Exclusive Solo.** For more information, see “Exclusive Solo” on page 142.
- 2: **Copy Oscillator.** For more information, see “Copy Oscillator” on page 148.
- 3: **Swap Oscillators.** For more information, see “Swap Oscillator” on page 148.

4-2: Amp1 Modulation



This page contains the settings for Oscillator 1’s Amp level modulation. Among other things, you can:

- Set up complex keyboard tracking shapes to control the Amp level.
- Assign AMS modulation for the Amp level.
- Control the effect of the LFOs on the Amp level.

The total effects of the modulation can increase the volume to a maximum of two times louder than the Amp Level setting.

4-2a: Keyboard Track AMSource

Keyboard tracking lets you vary the volume as you play up and down the keyboard. Usually, some amount of key tracking is necessary in order to make the volume consistent across the entire range.

OASYS’s keyboard tracking can be fairly complex, if desired. You can create different rates of change over up to four different parts of the keyboard. For instance, you can:

- Make the volume increase very quickly over the middle of the keyboard, and then increase more slowly—or not at all—in the higher octaves.
- Make the volume increase as you play *lower* on the keyboard.
- Create abrupt changes at certain keys, for split-like effects.

How it works: Keys and Ramps

The keyboard tracking works by creating four ramps, or slopes, between five keys on the keyboard. The bottom and top keys are fixed at the bottom and top of

the MIDI range, respectively. You can set the other three keys—named Low Break, Center, and High Break—to be anywhere in between.

The four Ramp values control the rate of change between each pair of keys. For instance, if the Low-Center Ramp is set to 0, the value will stay the same between the Low Break key and the Center key.

You can think of the resulting shape as being like two folding doors attached to a hinge in the center. At the Center key (the main hinge), the keyboard tracking has no effect. The two folding doors swing out from this center point to create changes in the higher and lower ranges of the keyboard.

Key

Low Break [C-1...G9]

This sets the breakpoint note between the two lower ramps - the “hinge” of the lower door.

Center [C-1...G9]

This sets the center of the keyboard tracking - the main “hinge.” At this key, the keyboard tracking has no effect on the volume, or on any AMS destinations.

High Break [C-1...G9]

This sets the breakpoint note between the two higher ramps - the “hinge” of the upper door.

Entering notes from the keyboard

You can enter note numbers directly by playing them on the keyboard. To do so:

1. Select one of the Key parameters.
2. Hold down the ENTER key.

3. While holding ENTER, play a note on the keyboard.

Ramp

Positive ramp values mean that the keyboard tracking output increases as you play farther from the Center Key; negative ramp values mean that it decreases.

Because of this, the meanings of positive and negative ramp settings will change depending on whether the ramp is to the left or right of the Center Key.

Bottom-Low and Low-Center: negative ramps make the keyboard tracking's output go down as you play lower on the keyboard, and positive ramps make the output go higher.

Center-High and High-Top: negative ramps make the keyboard tracking's output go down as you play *higher* on the keyboard, and positive ramps make the output go up.

Differences from other Keyboard Tracks

There are several differences between the Amp keyboard tracking and the Filter and Common keyboard tracking.

For example, the results of the Ramp values are different. As shown in the graphic "Amp Keyboard Tracking," below, negative slopes are more steep than positive slopes.

Also, the amp does not have separate control of Intensity. Instead, Intensity is always fixed at the maximum amount, allowing keyboard tracking to change the volume from complete silence to twice as loud as the programmed level.

Bottom-Low [-Inf, -99...+99, +Inf]

This sets the slope between the bottom of the MIDI note range and the Low Break key. For normal key track, use negative values.

Low-Center [-Inf, -99...+99, +Inf]

This sets the slope between the Low Break and Center keys. For normal key track, use negative values.

Center-High [-Inf, -99...+99, +Inf]

This sets the slope between the Center and High Break keys. For normal key track, use positive values.

High-Top [-Inf, -99...+99, +Inf]

This sets the slope between the High Break key and the top of the MIDI note range. For normal key track, use positive values.

Ramp	Change in level
-Inf	Silent in one half-step
-99	Silent in one whole-step
-95	Silent in one octave
-48	Silent in two octaves
-25	Silent in four octaves
00	no change
+25	x2 in four octaves
+50	x2 in two octaves
+99	x2 in one octave
+Inf	x2 in one half-step

+Inf and -Inf ramps

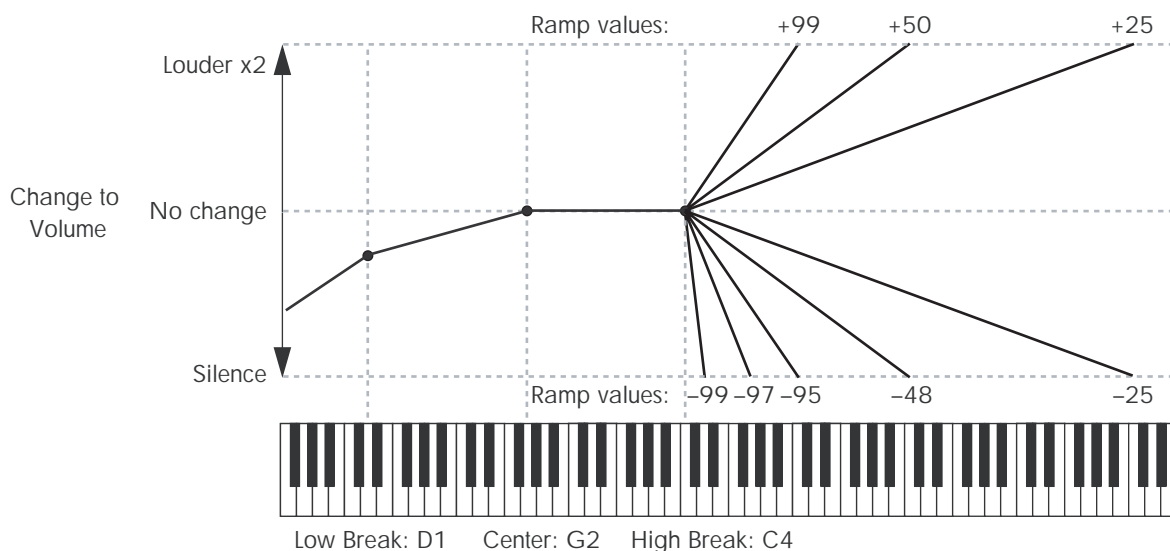
+Inf and -Inf are special settings which create abrupt changes for split-like effects. When a ramp is set to +Inf or -Inf, the keyboard tracking will go to its extreme highest or lowest value over the span of a single key.

When a ramp is set to +Inf, the keyboard tracking will go to its highest value (double the programmed volume) over a single half-step.

Similarly, when a ramp is set to -Inf, the keyboard tracking will go to its lowest value (complete silence) over a single half-step.

Note: if you set the Center-High ramp to +Inf or -Inf, the High-Top parameter will be grayed out. Similarly, if you set the Low-Center ramp to +Inf or -Inf, the Bottom-Low ramp will be grayed out.

Amp Keyboard Tracking



Amp Keytrack is also an AMS source

You can use the keyboard tracking as an AMS source to modulate other parameters, just like the envelopes and LFOs. Simply select Amp Keytrack in the AMS list for the desired parameter.

4-2b: Amp Modulation

You can modulate the Amp level by both velocity and an AMS source.

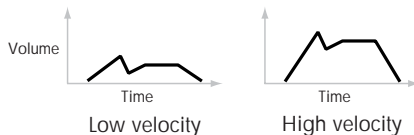
This modulation scales the basic Amp level and Amp EG level parameters. The resulting volume is determined by multiplying the volume changes of the amp EG by other values such as AMS. If these original levels are low, the maximum volume available with modulation will also be reduced.

Velocity Intensity [-99...+99]

With **positive (+)** values, the volume will increase as you play harder.

With **negative (-)** values, the volume will decrease as you play harder.

Velocity modulation of Amp level, with Amp EG



AMS [List of AMS Sources]

This selects any AMS modulation source to control the Amp level. For a list of AMS sources, see “Alternate Modulation Source (AMS) List” on page 1021.

Intensity [-99...+99]

This controls the depth and direction of the modulation.

For example, if AMS is set to After Touch, **positive (+)** values of this parameter will make the volume increase when you press down on the keyboard.

Note that if the other modulation settings have already raised the volume to its maximum level (double the Amp Level and Amp EG level settings), the volume cannot be increased any further.

With **negative (-)** values of this parameter, the volume will decrease when pressure is applied to the keyboard.

4-2c: LFO 1/2

You can modulate the Amp level with both LFO1 and LFO2.

LFO1

Intensity (LFO1) [-99...+99]

This controls the depth and direction of LFO1’s effect on the oscillator’s volume.

Negative (-) values will invert the LFO waveform.

AMS (LFO1) [List of AMS Sources]

This selects an AMS modulation source to scale the amount of the LFO1 applied to the Amp level.

For a list of AMS sources, see “Alternate Modulation Source (AMS) List” on page 1021.

Intensity [-99...+99]

This controls the depth and direction of the LFO1 AMS modulation for the Amp level.

For example, if AMS is set to **After Touch**, **positive** settings mean that aftertouch will increase the amount of LFO1 applied to the Amp level.

LFO2

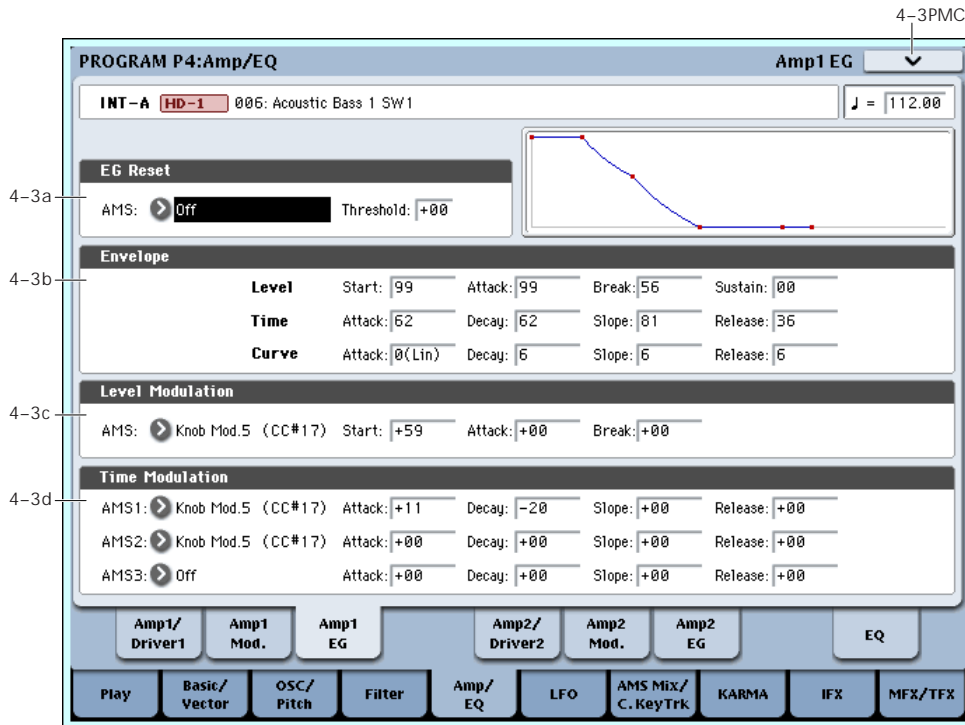
The parameters for LFO2 are identical to those for LFO1. For more information, see the descriptions under LFO1, above.

▼ 4-2: Page Menu Commands

The number before each command shows its ENTER + number-key shortcut. For more information on these shortcuts, see “ENTER + 0-9: shortcuts for menu commands” on page 142.

- **0: Write Program.** For more information, see “Write Program” on page 142.
- **1: Exclusive Solo.** For more information, see “Exclusive Solo” on page 142.
- **2: Copy Oscillator.** For more information, see “Copy Oscillator” on page 148.
- **3: Swap Oscillators.** For more information, see “Swap Oscillator” on page 148.

4-3: Amp1 EG AMSource



These parameters let you create time-varying changes in the volume of oscillator 1.

4-3a: EG Reset

AMS (EG Reset) [List of AMS Sources]

This selects an AMS source to reset the EG to the start point. For instance, you can use a tempo-synced LFO to trigger the EG in a repeating rhythm. This reset is in addition to the initial note-on, which always causes the EG to start.

Note: Once the Amp EG is in its Release segment, it cannot be reset. (Otherwise, the sound might keep playing forever!)

For a list of AMS sources, see “Alternate Modulation Source (AMS) List” on page 1021.

Threshold [-99...+99]

This sets the AMS level which will trigger the EG reset. Among other things, you can use this to adjust the exact point in an LFO’s phase at which the EG will be reset, effectively controlling its “groove” against other rhythmic effects.

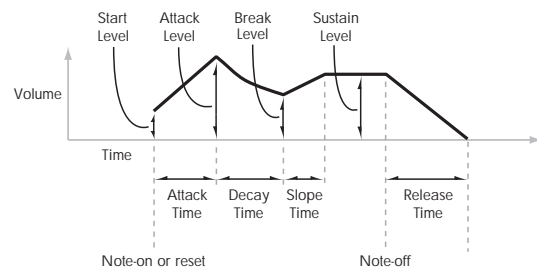
When the threshold is **positive**, the EG triggers when passing through the threshold moving upwards. When the threshold is **negative**, the EG triggers when passing through the threshold moving downwards.

Note: with some LFO shapes, and with faster LFO speeds, the LFO may not always reach the extreme values of +99 or -99. In this case, setting the **Threshold** to these values may cause inconsistent behavior, or may mean that the EG doesn’t reset at all. If this happens, reduce the **Threshold** until the EG triggers consistently.

4-3b: Envelope

These parameters specify how the amp 1 EG will change over time.

Amp EG



Level

Start [00...99]

This sets the initial volume level at note-on.

Attack [00...99]

This sets the level at the end of the Attack time.

Break [00...99]

Break, short for Break Point, sets the level at the end of the Decay time.

Sustain [00...99]

This sets the level at the end of the Slope time. Once it reaches the Sustain level, the EG will stay there until note-off (unless it is reset via AMS).

Time

Higher values mean longer times, as shown below.

EG Value	Actual Time
00	0.667 ms
10	10 ms
20	44 ms
30	104 ms
40	224 ms
50	464 ms
60	944 ms
70	1.8 seconds
80	3.8 seconds
90	10.9 seconds
99	87.3 seconds

Attack [00...99]

This sets how long the EG takes to move from the Start level to the Attack level.

The minimum attack time is 2/3 of a millisecond—as fast as the most punchy of classic analog synths.

For the fastest possible attack time, you can set the Start level to +99; in this case, the EG will start instantaneously at its maximum value.

Decay [00...99]

This sets the time it takes to move from the Attack level to the Break level.

Slope [00...99]

This sets how long the EG takes to move from the Break level to the Sustain level. Once it reaches the Sustain level, the EG will stay there until note-off (unless it is reset via AMS).

Release [00...99]

This sets how long it takes the EG to move from the Sustain level to silence.

Curve

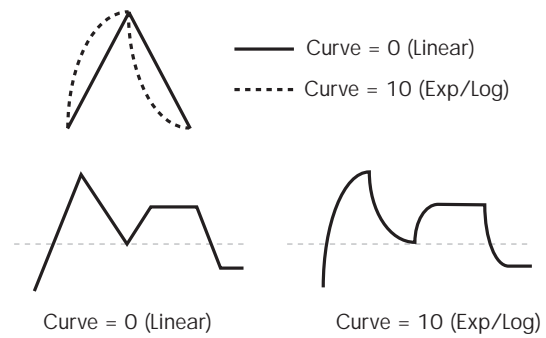
For the sake of simplicity, most of the diagrams in this manual show envelopes as being made out of straight lines. In actuality, though, envelopes are more likely to be made out of curves.

In other words, each segment's level will change quickly at first, and then slow down as it approaches the next point. This tends to sound better than straight, linear segments.

Classic analog synth envelopes made these curved shapes naturally. The OASYS goes a step further than vintage synths, however, and lets you control the amount of curvature separately for each of the four envelope segments.

When you change the curvature, the EG times remain the same. However, greater curvature will tend to sound faster, because the value changes more quickly at the beginning.

Amp EG Curve



Different curve settings for up and down

You may find that different amounts of curvature are suitable for segments which go up and segments which go down.

For instance, a curve of 3 is a good default setting for upward segments, such as Attack. On the other hand, a curve of 6 or more is good for downward segments, such as Decay and Release.

Attack [0 (Linear), 1...9, 10 (Exp/Log)]

This sets the curvature of the Attack segment - the transition from the Start level to the Attack level.

Decay [0 (Linear), 1...9, 10 (Exp/Log)]

This sets the curvature of the Decay segment - the transition from the Attack level to the Break level.

Slope [0 (Linear), 1...9, 10 (Exp/Log)]

This sets the curvature of the Slope segment - the transition from the Break level to the Sustain level.

Release [0 (Linear), 1...9, 10 (Exp/Log)]

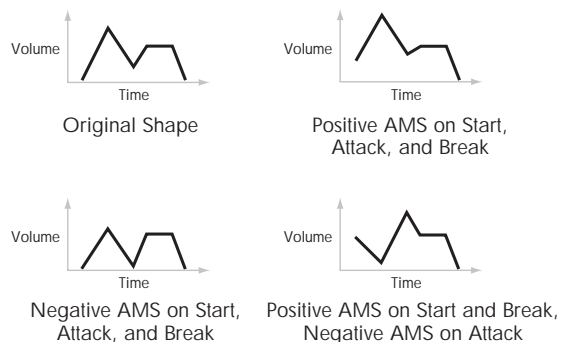
This sets the curvature of the Release segment - the transition from the Sustain level to the Release level.

4-3c: Level Modulation

These settings let you use any AMS source to control the Level parameters of the EG. The Start, Attack, and Break levels share a single AMS source, but can each have different modulation intensities.

By using different settings for each of the three levels, you can cause both subtle and dramatic changes to the EG shape, as shown below.

Amp EG Level Modulation



Once an EG segment begins, it can't be modulated

Once the EG has started a segment between two points, that segment can no longer be modulated. This includes both the time of the segment, and the level reached at the end of the segment.

For more information, see "Once an EG segment begins, it can't be modulated" on page 71.

AMS [List of AMS Sources]

This selects an AMS source to control the EG's Level parameters.

For a list of AMS sources, see "Alternate Modulation Source (AMS) List" on page 1021.

Start [-99...+99]

This controls the depth and direction of the AMS modulation for the Start level.

For example, if you set the AMS source to Velocity and set Start to +99, the Start level will increase as you play harder. If you instead set Start to -99, the Start level will decrease as you play harder.

Attack [-99...+99]

This controls the depth and direction of the AMS modulation for the Attack level.

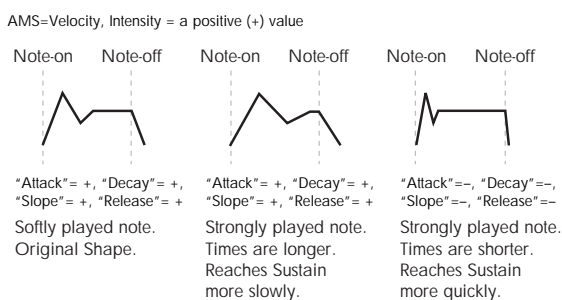
Break [-99...+99]

This controls the depth and direction of the AMS modulation for the Break level.

4-3d: Time Modulation

These settings let you use three different AMS sources to control the Time parameters of the EG. For each of the three AMS sources, the Attack, Decay, Slope, and Release times each have their own modulation intensities.

Amp EG Time Modulation



AMS1 [List of AMS Sources]

Selects the first AMS source to control the EG's Time parameters. Velocity and Keyboard Track can both be useful here, for instance.

For a list of AMS sources, see "Alternate Modulation Source (AMS) List" on page 1021.

Attack [-99...+99]

This controls the depth and direction of the AMS modulation for the Attack time.

For example, if you set the AMS source to Velocity and set Attack to +99, the Attack time will get much longer at higher velocities. If you instead set Attack to -99, the Attack time will get much shorter at higher velocities.

When the AMS source is at its maximum value—for instance, when Velocity is at 127—a setting of +8 will make the segment time almost twice as long, and a setting of -8 will cut the segment time almost in half.

Decay [-99...+99]

This controls the depth and direction of the AMS modulation for the Decay time.

Slope [-99...+99]

This controls the depth and direction of the AMS modulation for the Slope time.

Release [-99...+99]

This controls the depth and direction of the AMS modulation for the Release time.

AMS2 and AMS3

These select the second and third AMS sources, respectively, for controlling the EG's Time parameters. Each has its own intensities for Attack, Decay, Slope, and Release. The parameters of both AMS2 and AMS3 are identical to those of AMS1, above.

▼ 4-3: Page Menu Commands

The number before each command shows its ENTER + number-key shortcut. For more information on these shortcuts, see "ENTER + 0-9: shortcuts for menu commands" on page 142.

- 0: **Write Program.** For more information, see "Write Program" on page 142.
- 1: **Exclusive Solo.** For more information, see "Exclusive Solo" on page 142.
- 2: **Copy Oscillator.** For more information, see "Copy Oscillator" on page 148.
- 3: **Swap Oscillators.** For more information, see "Swap Oscillator" on page 148.
- 4: **Sync Both EGs.** For more information, see "Sync Both EGs" on page 149.

4-5: Amp2/Driver2

This page controls Oscillator 2's basic level, pan, and driver settings. It is available only when the **Oscillator Mode** is set to **Double**; if not, the page will be grayed out.

The parameters are identical to those for Oscillator 1, as described under "4-1: Amp1/Driver1," on page 74.

4-6: Amp2 Mod.

This page controls Oscillator 2's amp modulation. It is available only when the **Oscillator Mode** is set to **Double**; if not, the page will be grayed out.

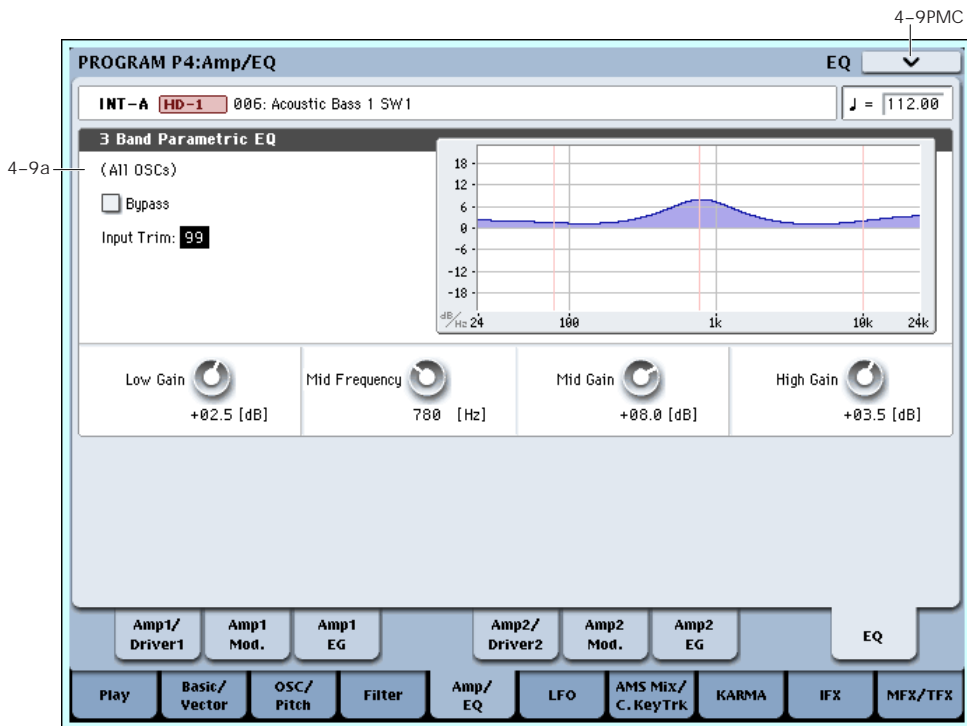
The parameters are identical to those for Oscillator 1, as described under "4-2: Amp1 Modulation," on page 76.

4-7: Amp2 EG AMSource

This page controls Oscillator 2's amp EG. It is available only when the **Oscillator Mode** is set to **Double**; if not, the page will be grayed out.

The parameters are identical to those for Oscillator 1, as described under "4-3: Amp1 EG," on page 79.

4-9: EQ



This three-band EQ, with sweepable mid, is shared by both of the Program's oscillators.

In Combis and Sequences, each timbre and track has its own individual EQ. You can import the Program's EQ settings into Tracks and Timbres by using the Combi and Sequence "Auto-Load Program EQ" options.

4-9a: 3 Band Parametric EQ

In addition to using the on-screen parameters, you can also use the front-panel Control Surface to set up most of the EQ parameters (everything except for Bypass). To do so:

1. Press the Control Surface Timbre/Track button.
2. Set the MIXER KNOBS switch to Channel Strip.
3. Set the Trim, Low Gain, Mid Freq, Mid Gain, and High Gain using the knobs.

Bypass [On, Off]

When Bypass is checked, all of the EQ will be disabled, including the Input Trim.

Bypass can be convenient for comparing the results of the EQ with the original signal.

Input Trim [00...99]

This controls the volume level going into the EQ.

High settings of the Low, Mid, and High Gain controls can cause substantial increases in the overall level. You can compensate for this by turning down the input trim.

Low Gain [-18.0...+18.0dB]

This controls the gain of the 80Hz Low Shelf EQ, in increments of 0.5dB.

Mid Frequency [100Hz...10.00kHz]

This sets the center frequency for the Mid sweep EQ.

Mid Gain [-18.0...+18.0dB]

This controls the gain of the Mid Sweep EQ, in increments of 0.5dB.

High Gain [-18.0...+18.0dB]

This controls the gain of the 10kHz High Shelf EQ, in increments of 0.5dB.

▼ 4-9: Page Menu Commands

The number before each command shows its ENTER + number-key shortcut. For more information on these shortcuts, see “ENTER + 0-9: shortcuts for menu commands” on page 142.

- **0: Write Program.** For more information, see “Write Program” on page 142.
- **1: Exclusive Solo.** For more information, see “Exclusive Solo” on page 142.
- **2: Copy Oscillator.** For more information, see “Copy Oscillator” on page 148.
- **3: Swap Oscillators.** For more information, see “Swap Oscillator” on page 148.

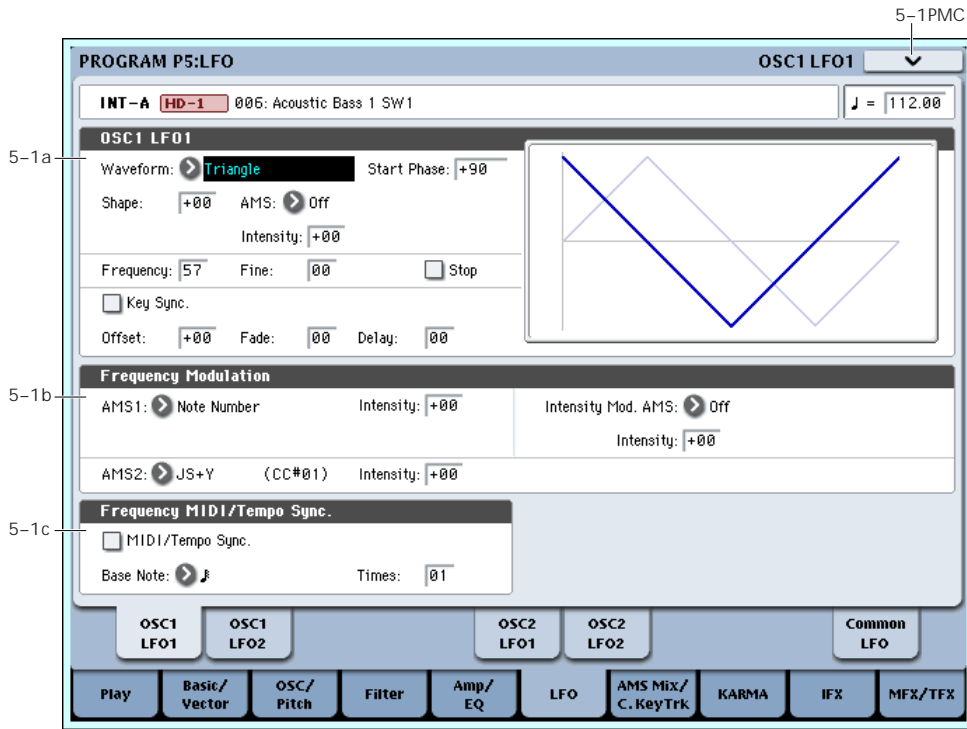
Program P5: LFO

Each of the Oscillators has two LFOs, which you can use to modulate the filter, amp, pitch, and many other parameters.

The two Oscillators also share a single Common LFO, similar to the global LFO on some vintage analog synths.

These pages let you set up all of the parameters for all five LFOs.

5-1: OSC1 LFO1 AMSource



This page has all of the controls for the first LFO of Oscillator 1. For instance, you can:

- Select the LFO's basic waveform, and modify it with the Shape parameter.
- Control the LFO's frequency, and assign AMS controllers to modulate the frequency.
- Use the Key Sync parameter to choose whether the LFO runs separately for each voice, or is synchronized across all of the voices
- Use the Fade and Delay parameters to control how long the LFO waits to start after note-on, and whether it starts abruptly or fades in slowly.
- Set the LFO to sync to MIDI tempo.

5-1a: OSC 1 LFO 1

Waveform [Triangle...Random6 (Continuous)]

This selects the basic LFO waveform, as shown in the graphic below.

Most of the waveforms should be self-explanatory, but a few will benefit from more details:

Guitar is intended for guitar vibrato, and its shape is specifically tuned for this purpose. The waveform is positive-only, so that when used for pitch, it will only bend up, and not down.

Random1 (S/H) generates traditional sample and hold waveforms, in which the level changes randomly at fixed intervals of time.

LFO Waveforms



Random2 (S/H) randomizes both the levels and the timing.

Random3 (S/H) generates a pulse wave with random timing. It's the opposite of traditional sample and hold; the timing varies, but the levels don't.

Random4-6 (Continuous) are smoothed versions of Random 1-3, with ramps instead of steps. You can use them to create more gentle random variations.

Start Phase [-180...+180, Random]

This controls the phase of the waveform at the start of the note, in steps of 5 degrees.

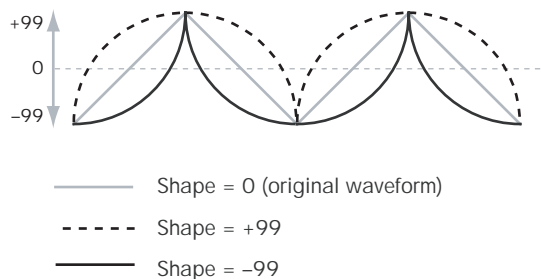
If **Key Sync** is Off, the Start Phase will apply only to the first note of the phrase.

Shape [-99...+99]

Shape adds curvature to the basic waveform. As you can see in the graphic below, this can make the waveforms either more rounded or more extreme. It can also be useful to emphasize certain value ranges, and de-emphasize others.

For example, let's say that you are using a triangle LFO to modulate filter cutoff. If Shape emphasizes the high value range, the filter will spend more time at the higher frequencies. If it emphasizes the low range, the filter will spend more time at the lower frequencies.

LFO Shape



Note: Shape does **not** affect the Square and Random 3 waveforms, since their values are always either +99 or -99. When these are selected, Shape is grayed out.

AMS (Shape) [List of AMS Sources]

This selects a modulation source for controlling the LFO's Shape. Modulating the shape can dramatically alter the effect of the LFO—try it out!

For a list of AMS sources, see "Alternate Modulation Source (AMS) List" on page 1021.

Intensity [-99...+99]

This controls the depth and direction of the Shape modulation.

Frequency [00...99]

This controls the speed of the LFO, before any modulation. Higher values mean faster speeds, as shown in the table below.

By using AMS modulation, you can also get speeds much faster and much slower than are available through this basic setting.

Frequency Value	Frequency in Hz
00	0.014 Hz
10	0.112 Hz
20	0.422 Hz
30	0.979 Hz
40	1.79 Hz
50	2.84 Hz
60	4.14 Hz
70	5.69 Hz
80	7.49 Hz
90	9.53 Hz
99	26.25 Hz
99 + Fine 99	32 Hz

Frequency Fine [00...99]

This allows you to control the LFO frequency with greater precision, giving you 98 additional steps for each step of the main Frequency parameter.

When this is set to 00, the LFO speed is as set by the Frequency parameter.

When this is set to 99, it's the same as increasing the main Frequency value by 1.

Stop [Off, On]

On (checked): When Stop is On, the LFO does not advance normally, and the Frequency parameters are ignored. Instead, the LFO simply generate its very first value (as determined by the combination of the **Waveform, Start Phase, Shape, and Offset**), and then holds that value until the end of the note.

You can use this in conjunction with the Random waveforms to create static, random modulation, with the value changing only at note-on.

Off (unchecked): When Stop is Off, the LFO will function normally.

Key Sync [Off, On]

On (checked): When Key Sync is On, the LFO starts each time you press a key, and an independent LFO runs for each note. This is the normal setting.

Off (unchecked): When Key Sync is Off, the LFO starts from the phase determined by the first note in the phrase, so that the LFOs for all notes being held are synchronized together. The Fade and Delay settings will only apply to the first note's LFO.

Note that even if Key Sync is Off, each note's LFO speed may still be different if you modulate the Frequency by note number, velocity, key scaling, or other note-specific AMS sources.

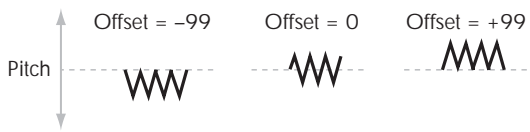
Offset [-99...+99]

By default, almost all of the LFO waveforms are centered around 0, and then swing all the way from -99 to +99. This parameter lets you shift the LFO up and down, so that—for instance—it’s centered on 50, and then swings from -49 to +149.

For example, let’s say that you’re using an LFO for vibrato. If the Offset is 0, the vibrato will be centered on the note’s original pitch, bending it both up and down.

If the Offset is +99, on the other hand, the vibrato will only raise the pitch above the original note.

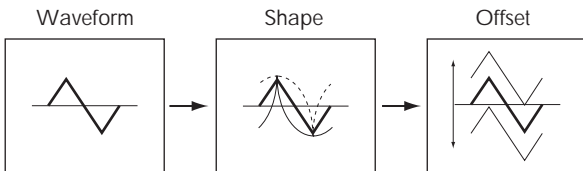
Offset settings and pitch change produced by vibrato



The one exception to this is the Guitar waveform, which is designed to emulate bending a string on a guitar—so that the pitch only goes up, and not down. Because of this, the waveform is centered on 50, and not on 0. Of course, you can always use a negative Offset to shift it back down below 0 again!

Since Offset affects the output values of the LFO, it’s important to note that it affects the signal *after* the Shape function, as shown below:

LFO Signal Flow



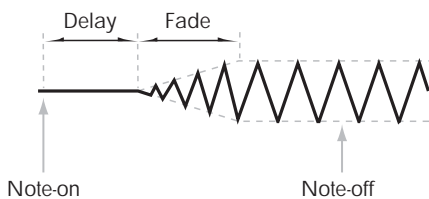
Fade [00...99]

The LFO can fade in gradually, instead of simply starting immediately at full strength. This parameter specifies the time from when the LFO begins to play until it reaches its maximum amplitude.

If the Delay parameter is being used, then the fade will begin after the delay is complete.

When **Key Sync** is **Off**, the fade will apply only to the first note in the phrase.

LFO Fade and Delay



Delay [00...99]

This sets the time from note-on until the LFO starts.

When **Key Sync** is **Off**, the delay applies only to the first note of the phrase.

5-1b: Frequency Modulation

You can use two alternate modulation sources (AMS) to adjust the speed of the LFO.

AMS1 (Frequency) [List of AMS Sources]

This selects the first modulation source for the LFO’s frequency. For a list of AMS sources, see “Alternate Modulation Source (AMS) List” on page 1021.

Note that you can use LFO2 to modulate LFO1’s frequency.

Intensity [-99...+99]

This sets the initial amount of AMS1. The Intensity Mod AMS then adds to this initial amount.

When AMS1 is at its maximum value (for instance, when the joystick is pushed all the way up), the AMS affects the frequency as shown below:

Intensity	Change to LFO Frequency	
+99	64x	Faster
+82	32x	
+66	16x	
+49	8x	
+33	4x	
+16	2x	
-16	1/2x	Slower
-33	1/4x	
-49	1/8x	
-66	1/16x	
-82	1/32x	
-99	1/64x	

Intensity Mod AMS [List of AMS Sources]

This selects a secondary AMS modulation source to scale the intensity of AMS1.

For a list of AMS sources, see “Alternate Modulation Source (AMS) List” on page 1021.

Intensity [-99...+99]

This controls the depth and direction of the Intensity Mod AMS. Even if the main AMS1 Intensity is set to 0, Intensity Mod AMS can still control the final amount of AMS A over the full +/-99 range.

For example, if **AMS1** is set to the **Pitch EG**, and **Intensity Mod AMS** is set to **After Touch**, **positive** settings mean that aftertouch will increase the intensity of the Pitch EG modulation of LFO Frequency.

AMS2 (Frequency) [List of AMS Sources]

This selects the second modulation source for the LFO’s frequency. For a list of AMS sources, see “Alternate Modulation Source (AMS) List” on page 1021.

Intensity [-99...+99]

This controls the amount of modulation from AMS2.

5-1c: Frequency MIDI/Tempo Sync

MIDI/Tempo Sync [Off, On]

On (checked): The LFO will synchronize to the system tempo, as set by either the Tempo knob or MIDI Clock. The LFO speed will be controlled by the **Base Note** and **Times** parameters, below. All settings for **Frequency** and **Frequency Modulation** will be ignored.

Off (unchecked): The Frequency settings will determine the speed of the LFO, and the tempo settings will have no effect.

Base Note [♩... ♪]

This sets a basic rhythmic value for the LFO speed, relative to the system tempo. The values range from a 32nd note to a whole note, including triplets. It applies only when **MIDI/Tempo Sync** is **On**.

Times [01...32]

This multiplies the length of the **Base Note**. For instance, if the **Base Note** is set to a sixteenth note, and **Times** is set to 3, the LFO will cycle over a dotted eighth note.

▼ 5-1: Page Menu Commands

The number before each command shows its ENTER + number-key shortcut. For more information on these shortcuts, see “ENTER + 0-9: shortcuts for menu commands” on page 142.

- 0: **Write Program**. For more information, see “Write Program” on page 142.
- 1: **Exclusive Solo**. For more information, see “Exclusive Solo” on page 142.
- 2: **Swap LFO 1 & 2**. For more information, see “Swap LFO 1&2” on page 150.

5-2: OSC1 LFO2 AMSource

This is Oscillator 1’s second LFO. Its parameters are exactly the same as those for the first LFO, as described under “5-1: OSC1 LFO1” on page 84—except that LFO1 cannot modulate LFO2.

5-5: OSC2 LFO1 AMSource

This page controls Oscillator 2’s first LFO. It is available only when the **Oscillator Mode** is set to **Double**; if not, the page will be grayed out.

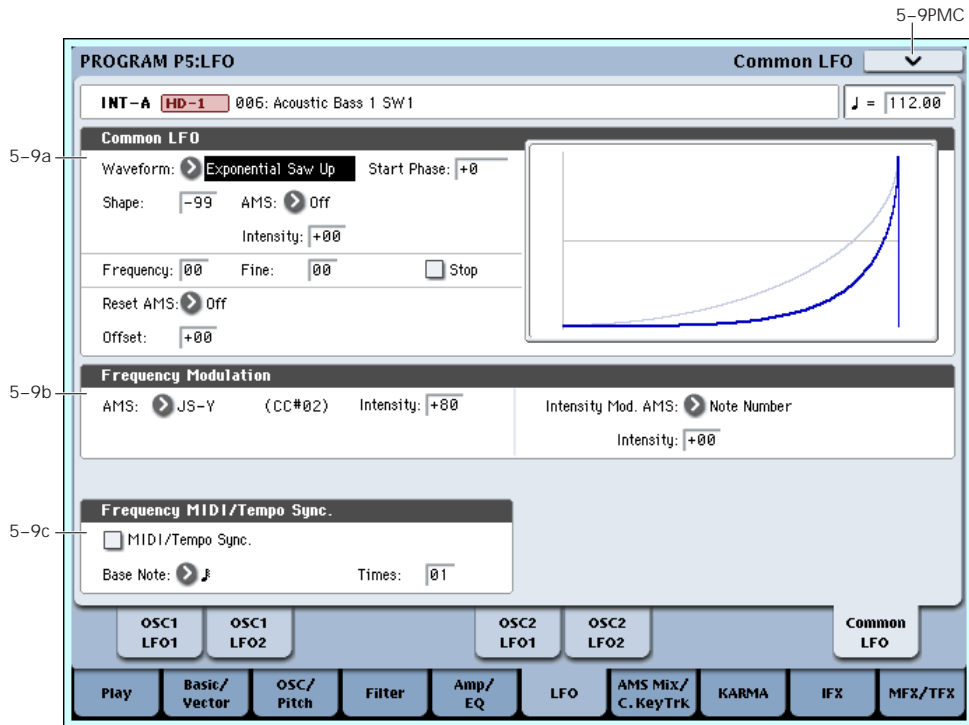
The parameters are identical to those for Oscillator 1, as described under “5-1: OSC1 LFO1” on page 84.

5-6: OSC2 LFO2 AMSource

This page controls Oscillator 2’s second LFO. It is available only when the **Oscillator Mode** is set to **Double**; if not, the page will be grayed out.

Its parameters are exactly the same as those for the first LFO, as described under “5-1: OSC1 LFO1” on page 84—except that LFO1 cannot modulate LFO2.

5-9: Common LFO AMSource



This is a single, free-running LFO, global for all voices in the Program—like the modulation LFOs in some vintage analog synths.

Differences from LFO1/2

The Common LFO starts running as soon as you select the Program, and only resets when you tell it to do so explicitly via the Reset Source control, below. This is different from LFO1/2's Key Sync parameter, which resets whenever all notes are released.

The Common LFO's persistence can be handy if you want to create a constant rhythm with an LFO, and then play "underneath" that rhythm without re-triggering it. For instance, you can use a MIDI controller in your sequencer to reset the Common LFO every few bars, regardless of what notes are being played.

The Common LFO has most of the same controls as LFO1/2. However, it does not include the Delay, Fade, and Key Sync settings, since these only make sense for per-voice LFOs.

5-9a: Common LFO

Waveform [Triangle...Random6 (Continuous)]

This selects the basic LFO waveform. For a complete list of the waveforms and more details, please see the entry under LFO1 "Waveform," on page 84.

Start Phase [-180...+180, Random]

The Reset Source, described above, lets you reset the Common LFO. This is the phase from which the LFO will start when it is reset.

Shape [-99...+99]

Shape adds curvature to the basic waveform. For more details, please see the entry under LFO1 "Shape," on page 85.

Note: Shape does **not** affect the Square and Random 3 waveforms, since their values are always either +99 or -99.

AMS (Shape) [List of AMS Sources]

This selects a modulation source for controlling the LFO's Shape. Modulating the shape can dramatically alter the effect of the LFO—try it out!

For a list of AMS sources, see "Alternate Modulation Source (AMS) List" on page 1021.

Intensity [-99...+99]

This controls the depth and direction of the Shape modulation.

Frequency [00...99]

This controls the speed of the LFO, before any modulation. Higher values mean faster speeds. For a complete description, please see the entry under LFO1 "Frequency," on page 85.

Frequency Fine [00...99]

This allows you to control the LFO frequency with greater precision, giving you 98 additional steps for each step of the main Frequency parameter.

When this is set to 00, the LFO speed is as set by the Frequency parameter.

When this is set to 99, it's the same as increasing the main Frequency value by 1.

Stop [Off, On]

On (checked): When Stop is **On**, the LFO does not advance, and the Frequency parameters are ignored. Instead, the LFO simply generate a single value when the Program is selected, and then holds that value until you select another Program, or until you reset the LFO via AMS.

Note: this is different from LFO1/2, in which the value is reset with every note-on.

You can use this in conjunction with the Random waveforms to create static, random modulation, with the value changing only when you first select the Program.

Off (unchecked): When Stop is **Off**, the LFO will function normally.

Reset AMS [List of AMS Sources]

This selects an AMS source to reset the LFO to the Start Phase. The LFO resets when the AMS value passes the halfway mark: +50 for most AMS sources, or 64 for MIDI controllers.

To create an effect similar to the per-voice LFO's **Key Sync Off** setting, set this to **Gate 1+ Damper**.

Offset [–99...+99]

By default, almost all of the LFO waveforms are centered around 0, and then swing all the way from –99 to +99. This parameter lets you shift the LFO up and down, so that—for instance—it's centered on 50, and then swings from –49 to +149.

For a complete description, please see the entry under LFO1 "Offset," on page 86.

5–9b: Frequency Modulation

These parameters are identical to the Frequency Modulation settings for LFO1, as described under "5–1b: Frequency Modulation," on page 86.

5–9c: Frequency MIDI/Tempo Sync

These parameters are identical to the Frequency MIDI/Tempo Sync for LFO1, as described under "5–1c: Frequency MIDI/Tempo Sync," on page 87.

▼ 5–9: Page Menu Commands

The number before each command shows its ENTER + number-key shortcut. For more information on these shortcuts, see "ENTER + 0-9: shortcuts for menu commands" on page 142.

- **0: Write Program.** For more information, see "Write Program" on page 142.
- **1: Exclusive Solo.** For more information, see "Exclusive Solo" on page 142.

Program P6: AMS Mixer/Common Key Track

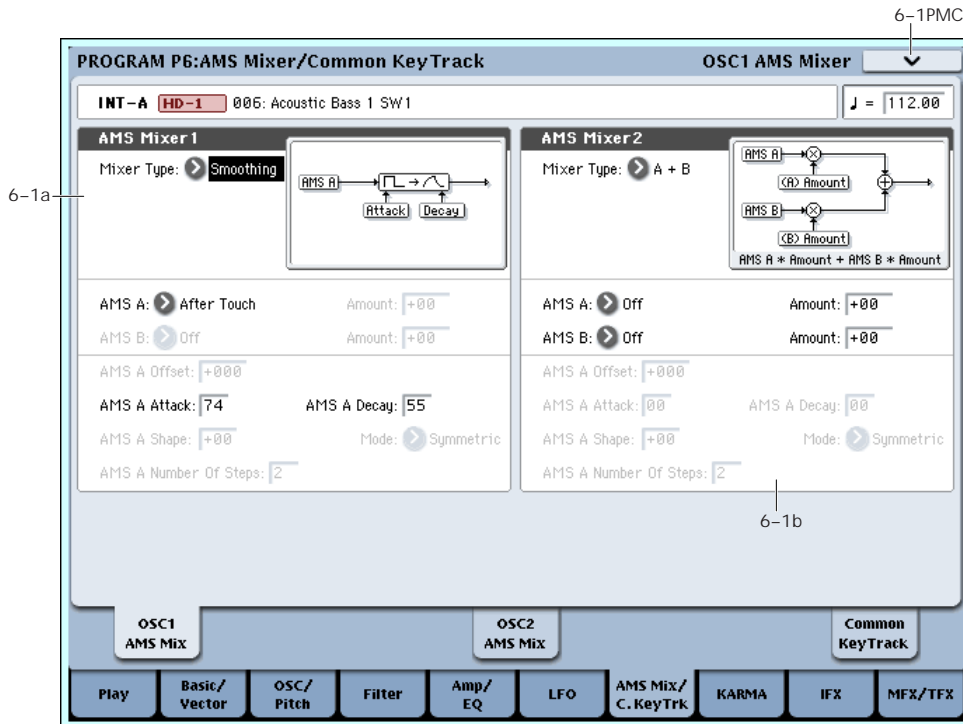
Each Oscillator has two AMS Mixers, which are simple but powerful tools for combining and modifying AMS signals.

The two Oscillators also share two Common keyboard tracking generators, in addition to the dedicated keyboard tracking for the Filter and Amp.

These pages let you control all of these modulation sources.

Note that when the **Oscillator Mode** is set to **Single**, only Oscillator 1's AMS Mixers are active; the pages for Oscillator 2 will be grayed out.

6-1: OSC 1 AMS Mixer



The AMS Mixers combine two AMS sources into one, or process an AMS source to make it into something new.

For instance, they can add two AMS sources together, or use one AMS source to scale the amount of another. You can also use them to change the shapes of LFOs and EGs in various ways, modify the response of realtime controllers, and more.

The AMS Mixer outputs appear in the list of AMS sources, just like the LFOs and EGs.

This also means that the original, unmodified inputs to the AMS Mixers are still available as well. For instance, if you use LFO 1 as an input to a AMS Mixer, you can use the processed version of the LFO to control one AMS destination, and the original version to control another.

Finally, you can cascade the two AMS Mixers together, by using AMS Mixer 1 as an input to AMS Mixer 2.

6-1a: AMS Mixer 1 AMSource

Mixer Type [A+B, Amt Ax B, Offset, Smoothing, Shape, Quantize, Gate]

This controls the type of processing performed by AMS Mixer 1. Each of the Mixer Types is discussed in detail over the next several pages.

A+B adds two AMS sources together. For more information, see "A+B" on page 91.

Amt Ax B scales the amount of one AMS source with the other. See "Amt A x B" on page 91 for more details.

Offset adds or subtracts a constant value to or from an AMS source. For more information, see "Offset" on page 92.

Smoothing creates more gentle transitions between values, smoothing out abrupt changes such as a quick move on a joystick or a sharp edge on an LFO. For details, see "Smoothing" on page 93

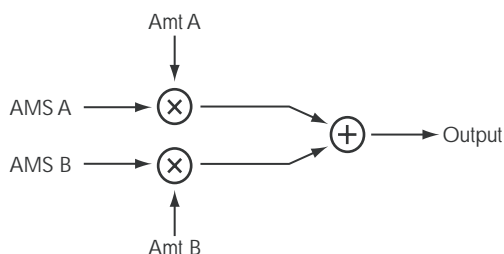
Shape adds curvature to the AMS input. For an in-depth description, see "Shape" on page 93.

Quantize turns smooth transitions into discrete steps. See "Quantize" on page 94 for more information.

Gate chooses between two AMS inputs (or fixed values) based on a third AMS source. See “Gate” on page 95 for more information.

A+B

AMS Mixer, Type = A+B

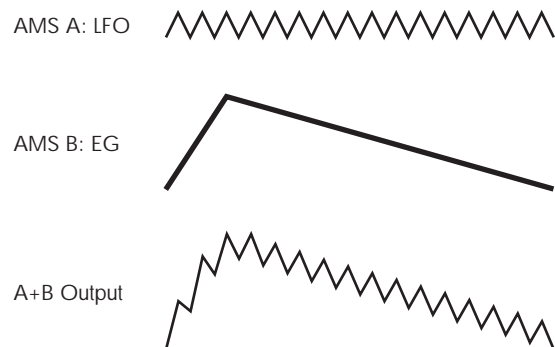


A+B merges two AMS sources into one. This can be handy when you need to add one more modulation source to a parameter, but you’ve already used up all of the available AMS slots.

For instance, let’s say that you’re using an LFO to modulate Filter Resonance, and then you decide that it would be interesting to scale that parameter with an EG as well. Resonance has only a single AMS input, but you can easily merge the LFO and the EG together using the A+B AMS Mixer:

1. Assign the LFO to AMS A.
2. Assign the EG to AMS B.
3. Assign the AMS Mixer as the Filter Resonance AMS source.

AMS Mixer A+B example



AMS A [List of AMS Sources]

This selects the first AMS input.

For a list of AMS sources, see “Alternate Modulation Source (AMS) List” on page 1021.

AMS A Amount [-99...+99]

This controls the depth and direction of the AMS A input.

AMS B [List of AMS Sources]

This selects the second AMS input.

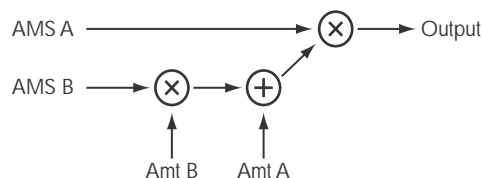
For a list of AMS sources, see “Alternate Modulation Source (AMS) List” on page 1021.

AMS B Amount [-99...+99]

This controls the depth and direction of the AMS B input.

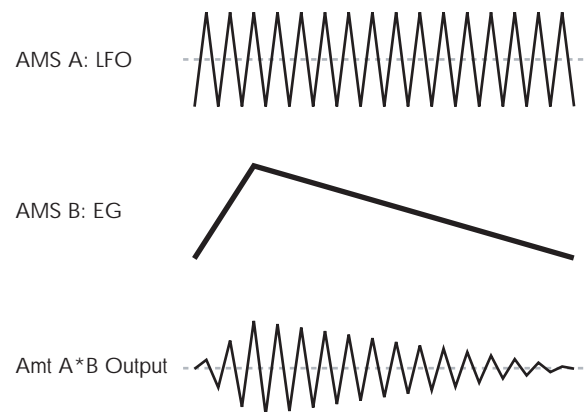
Amt A x B

AMS Mixer, Type = A x B



This Mixer Type uses AMS B to scale the amount of AMS A. For instance, you can control the amount LFO1 with the Filter EG, or control the amount of the Pitch EG with the ribbon.

AMS Mixer Amt AxB example



AMS A [List of AMS Sources]

This selects the first AMS source, which can then be scaled by AMS B. For a list of AMS sources, see “Alternate Modulation Source (AMS) List” on page 1021.

AMS A Amount [-99...+99]

This controls the initial amount of AMS A, before modulation from AMS B. Input from AMS B then adds to this initial amount.

Even if Amount A is set to 0, AMS B can still control the final amount of AMS A over the full +/-99 range.

AMS B [List of AMS Sources]

This selects the second AMS source, to scale the amount of AMS A. For a list of AMS sources, see “Alternate Modulation Source (AMS) List” on page 1021.

AMS B Amount [-99...+99]

This controls the depth and direction of the AMS B modulation of AMS A.

For example, if **AMS A** is set to LFO 1 and **AMS B** is set to the Filter EG, **positive** settings mean that the EG will increase the amount of LFO1.

Tips for using Amt A x B

Using SW 1/2 to turn an AMS source on and off

You can use Amt AxB to “gate” an AMS source:

1. Set AMS A to the desired source, and set AMS A Amount to 0.
2. Set AMS B to SW 1 or 2, and AMS B Amount to +99.

Now, SW1 or 2 will turn AMS A on and off.

Muting individual Wave Sequence steps with SW1

You can use AMS Mixers in conjunction with the AMS outputs of Wave Sequences. For instance, you can use SW1 to turn one or more steps of a Wave Sequence on or off. To do this:

1. In the Oscillator which uses the Wave Sequence, set an AMS Mixer to Amt A*B.
2. In the AMS Mixer, set AMS A to Wave Sequence AMS Output 2.

In the same AMS Mixer:

3. Set AMS B to SW1.
4. Set AMS A Amount to 0.
5. Set AMS B Amount to +99.

Now, SW1 will “gate” Wave Sequence AMS Output 2.

Next, in the Wave Sequence:

6. For the step(s) you'd like to mute, set the AMS Output 2 to +99.

Leave all other steps set to 00.

Back in the Oscillator which uses the Wave Sequence:

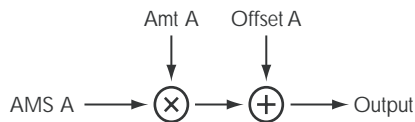
7. Set the Amp AMS source to the AMS mixer you set up in step 1, above.
8. Set the AMS Intensity to -99.

Now, when SW1 is On, the steps you set up in (6) will be muted.

When SW1 is Off, they'll sound normally.

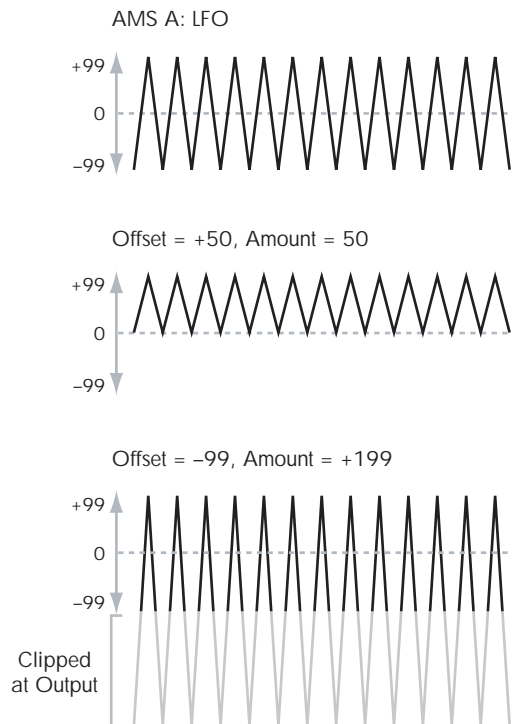
Offset

AMS Mixer, Type = Offset



This simple processor adds a constant positive or negative offset to an AMS source, and also allows you to double the gain. Among other things, you can use this to convert a bipolar AMS source (both negative and positive) to a unipolar source (positive only), or vice-versa.

AMS Mixer Offset examples



AMS A

[List of AMS Sources]

This selects the AMS source to be offset.

For a list of AMS sources, see “Alternate Modulation Source (AMS) List” on page 1021.

AMS A Amount

[-199...+199]

This controls the basic level of AMS A.

+199 doubles the original signal level, while -199 doubles the level and inverts the phase. The values are clipped only at the output; internally, they can be greater than the normal range of -99 to +99.

AMS A Offset

[-199...+199]

This controls the amount of offset for AMS A.

Setting Offset to +199 shifts an AMS input of -99 all the way to +99. In conjunction with high Amount values, this can be useful for creating clipped shapes, such as shown in the last of the “AMS Mixer Offset examples,” above.

Tips for using Offset

Converting from bipolar to unipolar

You can use the Offset function to convert a bipolar AMS source (both negative and positive), such as an LFO, to a unipolar signal (positive only). To do so:

1. Select the LFO as the AMS A input.
2. Set the AMS A Amount to 50.

This cuts the overall level of the LFO in half, so that instead of swinging between -99 and +99, it only swings between -50 and +50.

3. Set the AMS A Offset to 50.

This shifts the LFO signal up, so that it now swings between 0 and +99.

Converting from unipolar to bipolar

Similarly, you can convert a unipolar AMS source (positive only), such as a knob, joystick, etc., to a bipolar signal (both negative and positive). To do so:

1. Select the AMS source as the AMS A input.
2. Set the AMS A Amount to +199.

This doubles the overall level of the AMS source, so that instead of ranging from 0 to +99, it now goes from 0 to +199.

3. Set the AMS A Offset to -100.

This shifts the AMS signal down, so that it ranges from -99 to +99.

Smoothing

This Mixer Type smooths out the AMS input, creating more gentle transitions between values. You have separate control of the amount of smoothing during the attack (when the signal is increasing) and decay (when it's decreasing).

The higher the Attack and Decay settings, the more that the input will be smoothed.

Low settings provide subtle controller smoothing, creating more gradual aftertouch, for instance. Higher settings create auto-fade effects, transforming a quick gesture into a longer fade-in and/or fade-out event.

Smoothing can also be used to alter the shape of programmable mod sources, such as LFOs and EGs. For instance, you can turn a "blip" into a simple envelope shape, as shown below.

AMS Mixer Smoothing examples

Original AMS A: Smoothing with Long Attack and Short Release:



Smoothing with Short Attack & Long Release:



AMS A [List of AMS Sources]

This selects the AMS source to be smoothed.

Here's a handy chart which shows the results of Shape with the different settings and input types:

Mode	Input	Shape	Result
Symmetric	Unipolar	Positive (+)	emphasizes upper value range
		Negative (-)	emphasizes lower value range
	Bipolar	Positive (+)	emphasizes both upper and lower value ranges, and de-emphasizes the center
		Negative (-)	emphasizes center value range, around 0
Asymmetric	Unipolar	Positive (+)	emphasizes extreme upper range, with offset
		Negative (-)	emphasizes extreme lower range, with offset
	Bipolar	Positive (+)	emphasizes upper value range
		Negative (-)	emphasizes lower value range

For a list of AMS sources, see "Alternate Modulation Source (AMS) List" on page 1021.

AMS A Attack [00...+99]

This controls the attack time of the smoother, or how long it takes the smoother to reach a new, *higher* value. Higher Attack settings mean longer times.

Depending on how quickly the AMS input value is changing, high Attack settings may mean that the value is never quite reached, as shown in "AMS Mixer Shape examples," above.

AMS A Decay [00...+99]

This controls the decay time of the smoother, or how long it takes the smoother to reach a new, *lower* value. Higher Decay settings mean longer times.

Shape

This Mixer Type adds curvature to the AMS input. Shape can create custom controller curves, such as exponential joystick, logarithmic velocity, and so on. It can also alter the shape of programmable modulation sources, such as EGs and LFOs.

Note: Shape only affects AMS signals which already have some amount of slope, such as EGs, triangle and sine LFOs, and so on. It does not affect signals which only contain abrupt transitions, such as square waves.

AMS A [List of AMS Sources]

This selects the AMS input source to be shaped.

For a list of AMS sources, see "Alternate Modulation Source (AMS) List" on page 1021.

Mode [Symmetric, Asymmetric]

This selects whether Shape will produce one or two curves. The graphic "AMS Mixer Shape examples" may help to visualize how this works.

Asymmetric will produce a single curve, extending from -99 to +99.

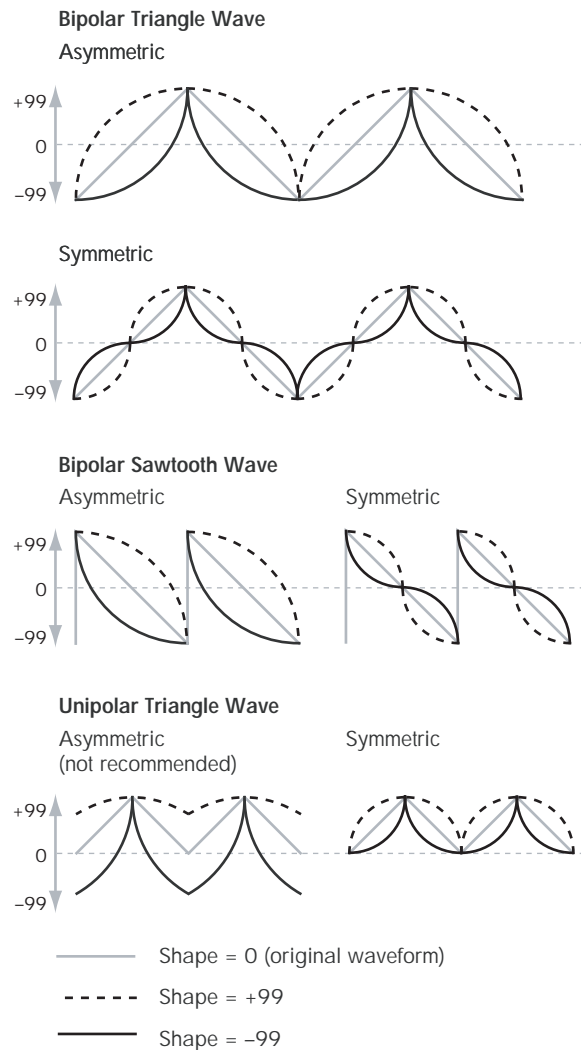
Symmetric will produce two matching curves extending outwards from 0 to -99 and +99, respectively.

Shape [-99...+99]

This controls the amount of curvature, and whether the curves are concave or convex. As you can see in the graphic examples, the shape will tend to emphasize certain value ranges, and de-emphasize others.

For example, let's say that you are using a triangle LFO, through Shape, to modulate filter cutoff. If Shape emphasizes the high value range, the filter will spend more time at the higher frequencies. If it emphasizes the low range, the filter will spend more time at the lower frequencies.

AMS Mixer Shape examples



Bipolar and Unipolar AMS sources

To understand Shape, it helps to understand the difference between **bipolar** and **unipolar** AMS sources.

Bipolar sources can swing all the way from -99 to +99, with 0 in the middle. Most LFOs are bipolar, for instance; so is Pitch Bend.

Generally, bipolar AMS sources will work better with the **Asymmetric** mode, but **Symmetric** may also produce interesting results.

Unipolar sources only go from 0 to 99, with 50 in the middle. MIDI controllers, such as JS+Y (CC#1), are all unipolar. In practice, EGs are usually programmed to be unipolar, even though the Filter and Pitch EGs do allow both positive and negative levels.

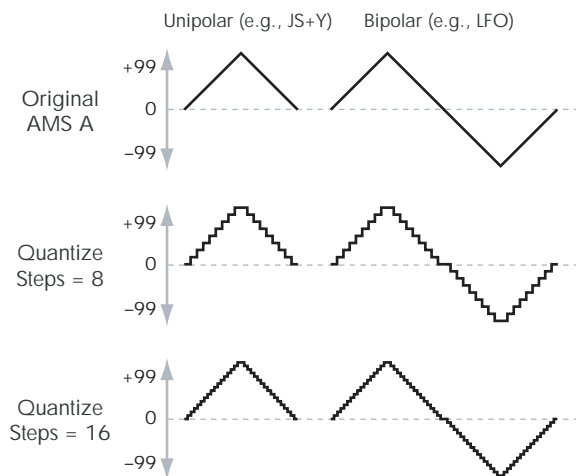
With unipolar sources, it's almost always better to use the **Symmetric** mode. The **Asymmetric** mode can cause offsets and other strange results.

Quantize

This Mixer Type changes the input from a continuous signal into a series of discrete steps. Instead of moving smoothly between values, it will snap immediately from one value to another.

You can use this to change the shape of LFOs or EGs, or to force a controller to land on a few specific values.

AMS Mixer Quantize examples



AMS A [List of AMS Sources]

This selects the AMS input source to be quantized.

For a list of AMS sources, see "Alternate Modulation Source (AMS) List" on page 1021.

AMS A # Of Steps [2...32]

This controls the severity of the effect. The lower the number of steps, the more "steppy" the output will be.

For instance, when this is set to 2, there will be "steps" at 0, 50, and 99. With a bipolar AMS input, there will also be steps at -50 and -99.

As another example, when it is set to 5, there will be steps at 0, 20, 40, 60, 80, and 99 (as well as -20, -40, -60, -80, and -99 for bipolar inputs).

Tips for using Quantize

Quantized Ribbon Pitch Bend

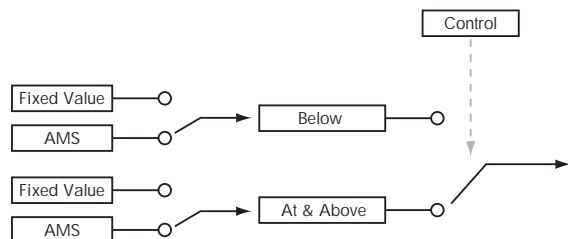
You can easily use the Ribbon to create quantized pitch bend, for fret-dragging effects, brass rips, and more. To do so:

1. Select the AMS Mixer as the Oscillator Pitch AMS input.
2. Set the Pitch AMS Intensity to any exact half-step value, such as +5.00, +7.00, etc.
3. Set the Ribbon amount to 0.00.
4. In the AMS Mixer, select the Ribbon as AMS A.
5. Set the AMS A # of Steps to the same number you used in Step 2.

Now, playing the Ribbon will create quantized pitch bends. JSX will still produce smooth pitch bends, as usual, so you can use both techniques together.

Gate

AMS Mixer, Type = Gate



This Mixer Type lets you set up two different AMS sources (or fixed AMS amounts), and then switch between the two using a third AMS source.

It's similar to an audio gate with a side-chain, but with even more flexibility—since you get to choose what happens when the gate is closed (below the threshold), as well as when it's open (above the threshold).

You can also choose whether the gate will be able to open and close continuously in response to the control source, or whether it only opens or closes at the beginning of the note, and then stays that way over the note's entire duration.

You can use the Gate to:

- Use a foot-switch (or other controller) to apply pitch-bend or other effects to some notes, but not to others
- Apply controllers to a parameter only after the controller reaches a certain threshold—for instance, use Velocity to control harmonics in the STR-1, but only once Velocity is greater than 90
- Use a joystick, switch, or other controller to switch between two different LFOs (or any two AMS sources)

Gate Control

Source [List of AMS Sources]

This selects the AMS source to control the gate.

Control at Note-On Only [Check-box]

When this is enabled (checked), the value of the **Control Source** at note-on will select the output (**Below Threshold** or **At & Above Threshold**). The selected output will then remain active throughout the duration of the note, regardless of any subsequent change in the **Control Source's** value.

Note that the output value itself can continue to change; only the selection of **Below** or **At & Above** is fixed.

Threshold [-99...+99]

This sets the value of the Control Source at which the gate opens or closes.

Gate Output

If the value of the **Control Source** is less than the **Threshold**, the Gate outputs the preset value or AMS source selected under **Below Threshold**.

If the value of the **Control Source** is greater than or equal to the **Threshold**, the Gate outputs the preset value or AMS source selected under **At & Above Threshold**.

Below Threshold [Fixed Value, AMS A]

This selects whether **Below Threshold** uses a preset value, or the selected AMS source.

Fixed Value [-99...+99]

This lets you set a specific value to be used when the **Control Source** is less than the **Threshold**. This only applies when **Below Threshold** is set to **Fixed Value**.

AMS A [List of AMS Sources]

This lets you set an AMS source to pass through the Gate when the **Control Source** is less than the **Threshold**. This only applies when **Below Threshold** is set to **AMS A**.

At & Above Threshold [Fixed Value, AMS B]

This selects whether **At & Above Threshold** uses a preset value, or the selected AMS source.

Fixed Value [-99...+99]

This lets you set a specific value to be used when the **Control Source** is greater than or equal to the **Threshold**. This only applies when **At & Above Threshold** is set to **Fixed Value**.

AMS B [List of AMS Sources]

This lets you set an AMS source to pass through the Gate when the **Control Source** is greater than or equal to the **Threshold**. This only applies when **At & Above Threshold** is set to **AMS B**.

Tips for using Gate

Selective pitch-bend, using a switch

You can use Control at Note-On Only to apply an effect to some notes, but not others, based on the state of an AMS source at the start of the note. For instance:

1. Set the Control Source to Assignable Foot Switch
2. Set Control At Note-On Only to On (checked).
3. Set the Threshold to 50.
4. Set Below Threshold to a Fixed Value of 00.
5. Set At & Above Threshold to AMS B: Ribbon (CC#16).
6. On the Pitch Mod page, assign the AMS Mixer to control the pitch.
7. Also on Pitch Mod, set the standard Ribbon amount to 0.

This way, only the AMS Mixer's processed version of the Ribbon will affect the pitch.

8. With the foot-switch off, play a chord, and hold it through step 9.
9. Press down on and hold the footswitch, and then play a new note above the chord.

10. Use the ribbon to bend the pitch of the new note.

The new note will bend, but the original chord (played before you pressed on the foot-switch) will not.

Selective pitch-bend, using only the joystick

You can also use a single AMS source as both the Control Source and a value source:

1. Set the Control Source to JS X.
2. Set Control At Note-On Only to On (checked).
3. Set the Threshold to 00.
4. Set Below Threshold to AMS A: JS X.
5. Set At & Above Threshold to a Fixed Value of 00.
6. On the Pitch Mod page, assign the AMS Mixer to control the pitch.
7. Also on Pitch Mod, set the standard JS+X and JS-X amounts to 0.

This way, only the AMS Mixer's processed version of the joystick will affect the pitch.

8. With the joystick in the center, play a chord, and hold it through step 9.
9. Bend the joystick to the left, and then play a new note above the chord.

10. Use the joystick to bend the pitch of the new note.

The new note will bend, but the original chord (played before you bent the joystick down) will not. This method is particularly good for bending the top note of a chord up to pitch.

Generating a static value

Sometimes, it can be handy to have a preset value as an AMS source. The Gate is one way to create this. To do so:

1. Set both Below Threshold and At & Above Threshold to Fixed Value, and enter the same value into each.

Now, the AMS mixer will always generate this static value.

6-1b: AMS Mixer 2 AMSource

This is the second AMS Mixer for Oscillator 1. The parameters are exactly the same as those for AMS Mixer 1, as described under "6-1a: AMS Mixer 1" on page 90.

▼ 6-1: Page Menu Commands

The number before each command shows its ENTER + number-key shortcut. For more information on these shortcuts, see "ENTER + 0-9: shortcuts for menu commands" on page 142.

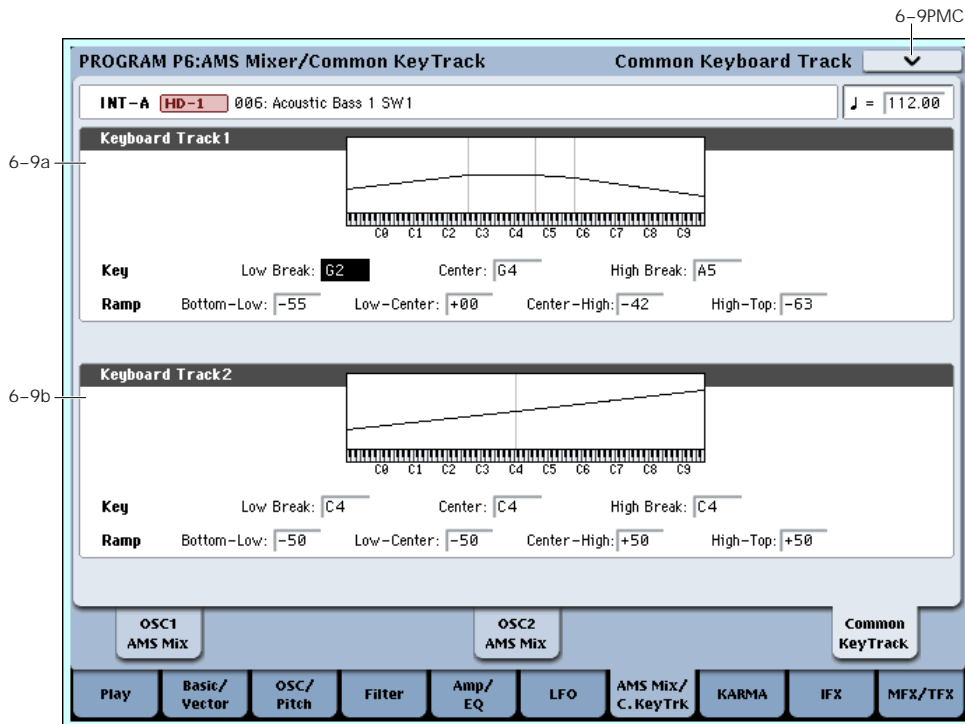
- 0: **Write Program**. For more information, see "Write Program" on page 142.
- 1: **Exclusive Solo**. For more information, see "Exclusive Solo" on page 142.
- 2: **Copy Oscillator**. For more information, see "Copy Oscillator" on page 148.
- 3: **Swap Oscillators**. For more information, see "Swap Oscillator" on page 148.

6-5: OSC 2 AMS Mix AMSource

This page controls the two AMS Mixers for Oscillator 2. These are available only when the **Oscillator Mode** is set to **Double**; if not, the page will be grayed out.

The parameters are identical to those for Oscillator 1, as described under "6-1: OSC 1 AMS Mixer," on page 90.

6-9: Common Keyboard Track



The two Oscillators share two Common keyboard tracking generators, in addition to each Oscillator's dedicated keyboard tracking for the Filter and Amp. You can use these Common keytracks as AMS sources for modulating most AMS destinations.

The Common Key Track parameters are shared by the entire Program, but the actual AMS values are calculated individually for each voice.

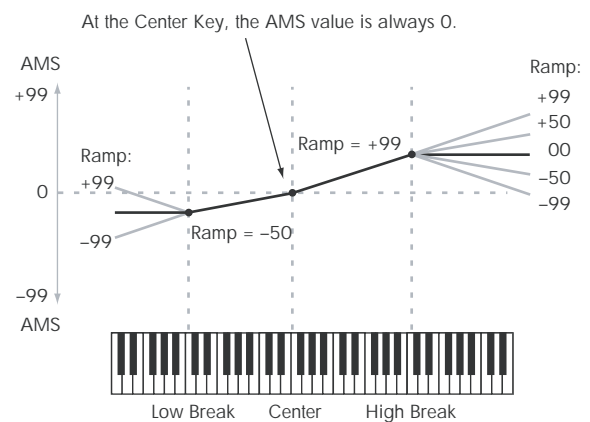
What does Keyboard Tracking do?

At its most basic, keyboard tracking lets you vary the modulation amount as you play up and down the keyboard. This can be useful for making the timbre consistent across the entire range, or adjusting parameters according to pitch.

The OASYS keyboard tracking can be fairly complex, if desired. You can create different rates of change over up to four different parts of the keyboard. For instance, you can:

- Make the modulation increase very quickly over the middle of the keyboard, and then increase more slowly—or not at all—in the higher octaves.
- Make the modulation increase as you play *lower* on the keyboard.
- Create abrupt changes at certain keys, for split-like effects.

Common Keyboard Tracking



How it works: Keys and Ramps

The keyboard tracking works by creating four ramps, or slopes, between five keys on the keyboard. The bottom and top keys are fixed at the bottom and top of the MIDI range, respectively. You can set the other three keys—named Low Break, Center, and High Break—to be anywhere in between.

The four Ramp values control the rate of change between each pair of keys. For instance, if the Low-Center Ramp is set to 0, the value will stay the same between the Low Break key and the Center key.

You can think of the resulting shape as being like two folding doors attached to a hinge in the center. At the Center key (the main hinge), the keyboard tracking has no effect. The two folding doors swing out from this center point to create changes in the higher and lower ranges of the keyboard.

6-9a: Keyboard Track 1 AMSource

Key

Low Break [C-1...G9]

This sets the breakpoint note between the two lower ramps - the "hinge" of the lower door.

Center [C-1...G9]

This sets the center of the keyboard tracking - the main "hinge." At this key, the keyboard tracking has no effect on the AMS destinations.

High Break [C-1...G9]

This sets the breakpoint note between the two higher ramps - the "hinge" of the upper door.

Entering notes from the keyboard

You can enter note numbers directly by playing them on the keyboard. To do so:

1. Select one of the Key parameters.
2. Hold down the ENTER key.
3. While holding ENTER, play a note on the keyboard.

Ramp

Positive ramp values mean that the keyboard tracking output increases as you play farther from the Center Key; negative ramp values mean that it decreases.

Because of this, the meanings of positive and negative ramp settings will change depending on whether the ramp is to the left or right of the Center Key.

Bottom-Low and Low-Center: negative ramps make the keyboard tracking's output go down as you play lower on the keyboard, and positive ramps make the output go higher.

Center-High and High-Top: negative ramps make the keyboard tracking's output go down as you play *higher* on the keyboard, and positive ramps make the output go up.

Bottom-Low [-Inf, -99...+99, +Inf]

This sets the slope between the bottom of the MIDI note range and the Low Break key. For normal key track, use negative values.

Low-Center [-Inf, -99...+99, +Inf]

This sets the slope between the Low Break and Center keys. For normal key track, use negative values.

Center-High [-Inf, -99...+99, +Inf]

This sets the slope between the Center and High Break keys. For normal key track, use positive values.

High-Top [-Inf, -99...+99, +Inf]

This sets the slope between the High Break key and the top of the MIDI note range. For normal key track, use positive values.

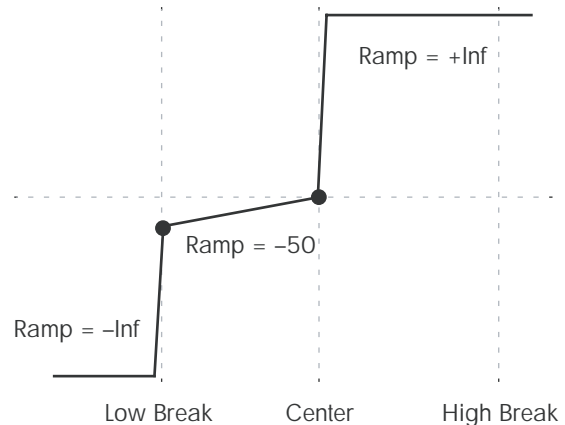
The table below shows how the ramps affect the AMS output:

Ramp value	AMS change
-Inf	goes to -99 in 1 half-step
-99	-20 per octave
-50	-10 per octave
0	no change
+50	+10 per octave
+99	+20 per octave
+Inf	goes to +99 in 1 half-step

+Inf and -Inf ramps

+Inf and -Inf are special settings which create abrupt changes for split-like effects. When a ramp is set to +Inf or -Inf, the keyboard tracking will go to its extreme highest or lowest value over the span of a single key.

+Inf and -Inf Ramps



Note: if you set the Center-High ramp to +Inf or -Inf, the High-Top parameter will be grayed out. Similarly, if you set the Low-Center ramp to +Inf or -Inf, the Bottom-Low ramp will be grayed out.

6-9b: Keyboard Track 2 AMSource

This is the second Common keyboard tracking generator.

Its parameters are exactly the same as those for Keyboard Track 1, as described under "6-9a: Keyboard Track 1" on page 98.

▼ 6-9: Page Menu Commands

The number before each command shows its ENTER + number-key shortcut. For more information on these shortcuts, see "ENTER + 0-9: shortcuts for menu commands" on page 142.

- 0: **Write Program.** For more information, see "Write Program" on page 142.
- 1: **Exclusive Solo.** For more information, see "Exclusive Solo" on page 142.
- 2: **Copy Oscillator.** For more information, see "Copy Oscillator" on page 148.

- 3: **Swap Oscillators**. For more information, see “Swap Oscillator” on page 148.

Program P7: KARMA

This pages let you control the Program’s KARMA settings. In Program mode, you can use one KARMA Module (Module A).

Turning KARMA on and off

KARMA can be enabled or disabled for the current Program by using the front-panel KARMA ON/OFF switch. You can also temporarily disable KARMA for all Programs, Combinations, and Songs by using the Global All KARMA Off parameter. For more information, see “All KARMA Off” on page 701.

Linking KARMA settings to Program changes

KARMA settings can be saved individually for each Program. This includes all of the KARMA-related front-panel buttons, sliders, and knobs, as well as the on-screen parameters.

Normally, when you select a new Program, its KARMA settings will be loaded as well. In some cases, however, you may wish to try out different Programs while keeping the KARMA settings the same.

The Global Basic page **Load KARMA Settings when changing** parameters let you select between these two behaviors. There are separate settings for Programs, Combis, and Songs. To set this up:

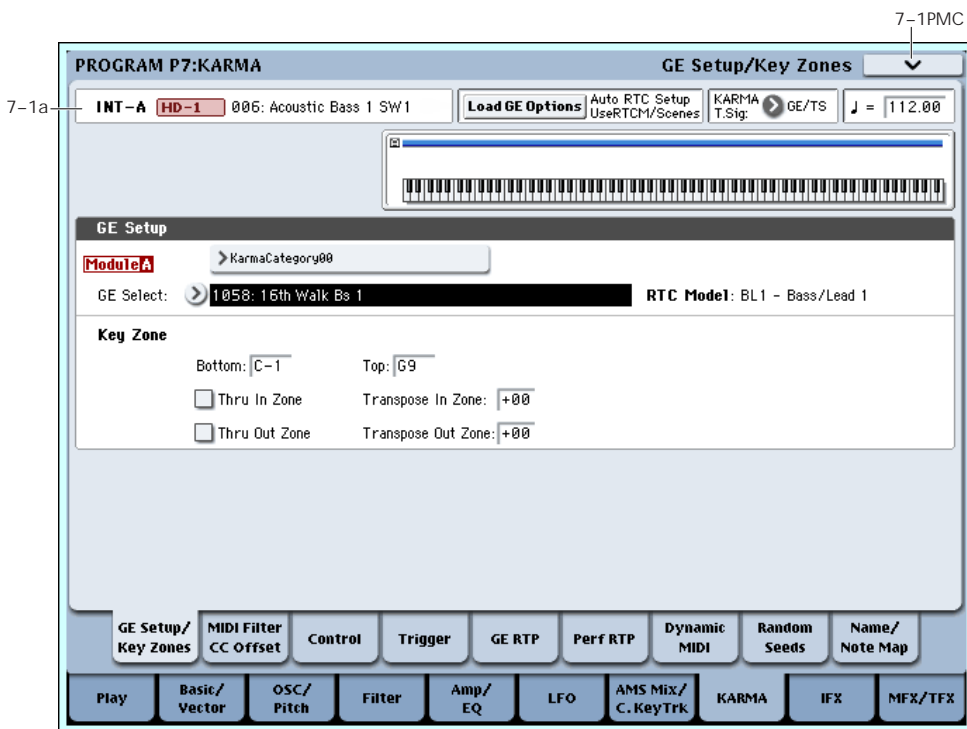
1. Go to the Global Basic page.
2. Under “Load KARMA setting when changing”, set the “Programs” check-box as desired.

Check the box to load the individual Programs’ KARMA settings.

Un-check the box to keep KARMA settings the same, even when changing Programs.

For more information, see the Global parameter “Load KARMA settings when changing” on page 701.

7-1: GE Setup/Key Zones



This page lets you select the GE used by the KARMA Module, and set up the Key Zone in which it operates.

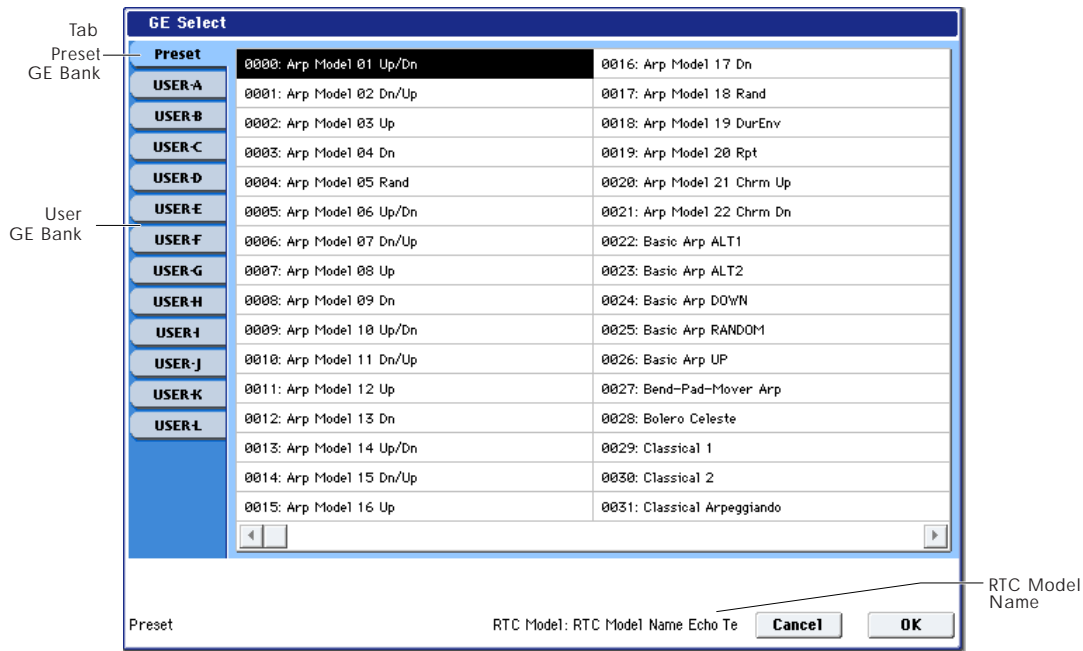
7-1a: Program Name, Load GE Options, KARMA T.Sig, Tempo

Bank [INT-A...F, GM, g(1...9), g(d), USER-A...G]

Bank Type [HD-1, EXi]

Program [0...127 (INT and USER Banks), 1...128 (GM Banks)]

These are the current bank, bank type (HD-1 or EXi), and Program. For more information, see “1-1a: Program Name and Tempo” on page 33.



♪ (Tempo) [040.00...240.00, EXT]

This is the current Tempo. For more information, see "1-1a: Program Name and Tempo" on page 33.

Load GE Options [Dialogue]

These options let you specify whether the values and assignments for the KARMA SLIDERS and SWITCHES will be set automatically, be initialized, or be preserved when you select a GE.

For a detailed description of this parameter, please see "Load GE Options" on page 7.

KARMA T.Sig (Time Signature) [GE/TS, 1/4...16/4, 1/8...16/8, 1/16...16/16]

This specifies the time signature of the phrases or patterns generated by the KARMA Modules. The internal time signature of the phrase or pattern is determined by the GE, but you can set this parameter to change the time signature.

GE/TS: The initial time signature specified by each KARMA Module will be used.

1/4...16/16: Specify the desired time signature. In Combination and Sequencer modes, this will change the time signature for all four KARMA Modules.

GE Setup

GE Select [Preset 0000...2047, USER-A U-A000...U-A127, ..., USER-L U-L000...U-L127]

This selects the GE for the KARMA module. There are a total of 3,584 to choose from: 2,048 preset GEs, and 1,536 rewritable User GEs (12 banks of 128 each).

Preset GEs are part of the system software.

User GEs may be included with new banks of sounds, and can also be created using KARMA OASYS software (dedicated software for the OASYS*). For more information on loading User GEs, see "Load .KGE" on page 773.

* Made by Karma Lab (<http://www.karma-lab.com>). Macintosh and Windows are supported. English version only.

GE Bank Select [Preset...USER-L]

This selects the GE bank. The Preset bank is part of the system software; User banks can be loaded from disk. For more information, see "GE Select," above.

GE Category Select [Arpeggio...Real-Time]

This lets you select a GE by category, from **Arpeggio** through **Real-Time**. For more information, please see "0-6b: GE Select" on page 8.

RTC Model [List of RTC Models]

This shows the GE's RTC Model, as specified internally for each preset GE. For more information, see "RTC Model" on page 198 of the Operation Guide.

Key Zone

The KARMA Module is controlled by input note data in numerous ways, including the variation of phrase or pattern produced by the GE, by trigger, and by chord detection.

Here you can specify the range of note data (Key Zone) that will control the KARMA Module.

Note: within the Key Zone specified Bottom and Top Values will be input into the KARMA function, while notes outside the Key Zone may be used for other functions, or echoed thru.

Note: In Program mode, all MIDI data for the KARMA Module is transmitted and received on the Global **MIDI channel** (Global 2-1).

Bottom (Key Zone Bottom) [C-1...G9]

Specifies the bottom key (lower limit) of the Key Zone.

Top (Key Zone Top) [C-1...G9]

Specifies the top key (upper limit) of the Key Zone.

Note: These parameters can also be set by holding down the Enter switch and pressing a note.

Thru In Zone [Off, On]

On (checked): Note data from keys within the Key Zone will be input to the KARMA Module, and will also be input directly to the tone generator.

When you play a key within the Key Zone, the phrase or pattern generated by the KARMA Module will sound, as will the note itself.

Off (unchecked): Only the phrase or pattern generated by KARMA will sound. Keys played within the Key Zone will not sound.

Transpose In Zone [-36...+36]

Specifies the transpose setting applied to note data from within the Key Zone.

Make this setting if you wish to apply a transposition in semitone steps to the pitch of notes played from the keyboard when "Thru In Zone" is **On (checked)**.

Thru Out Zone [Off, On]

On (checked): Note data from keys outside the Key Zone will be input directly to the tone generator. (They will not be input to the KARMA Module, since they are outside the key zone.) When you play keys outside the key zone, the tone generator will sound.

Off (unchecked): The tone generator will not sound even if you play keys outside the Key Zone.

Transpose Out Zone [-36...+36]

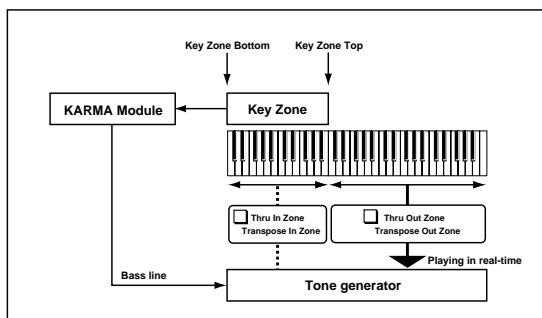
Specifies the transpose setting applied to note data from keys outside the Key Zone.

Make this setting if you wish to apply a transposition in semitone steps to the pitch of notes played conventionally from the keyboard when "Thru Out Zone" is **On (checked)**.

You could select a bass program and make the settings shown below.

Example

Using the KARMA Module to control the bass line in the lower range of the keyboard, and playing in real-time in the upper range.



Module Zone Display



A solid blue line (green while you're editing the key zone) indicates the specified Key Zone.

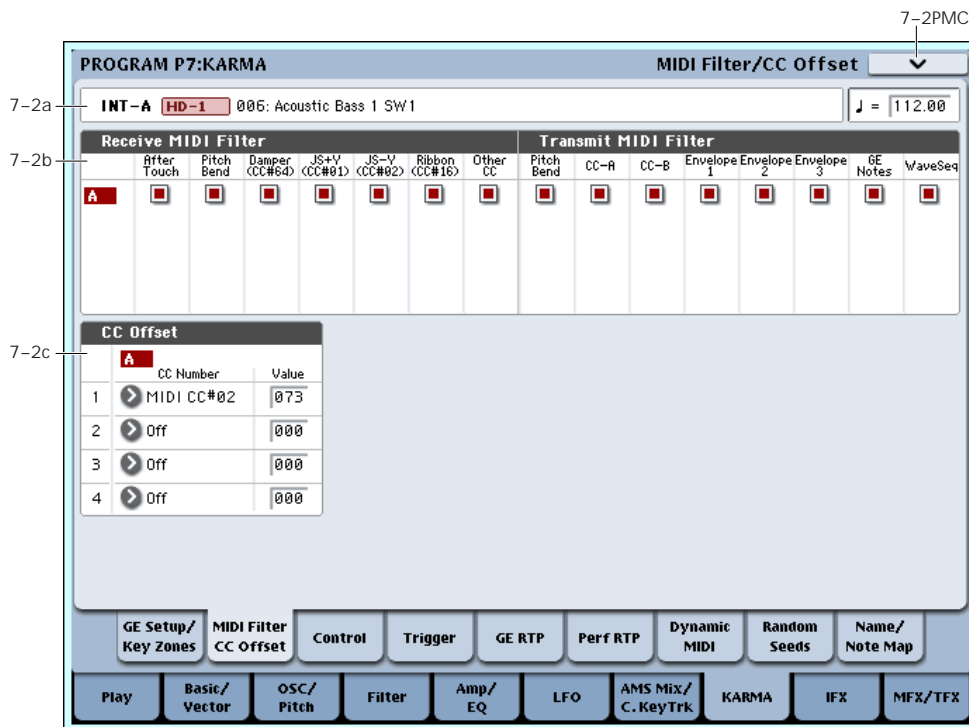
Notes and messages from the MIDI IN connector within this zone will be input to the KARMA Module.

▼ **7-1: Page Menu Commands**

The number before each command shows its ENTER + number-key shortcut. For more information on these shortcuts, see "ENTER + 0-9: shortcuts for menu commands" on page 142.

- **0: Write Program.** For more information, see "Write Program" on page 142.
- **1: Exclusive Solo.** For more information, see "Exclusive Solo" on page 142.
- **2: Copy KARMA Module.** For more information, see "Copy KARMA Module" on page 150.
- **3: Initialize KARMA Module.** For more information, see "Initialize KARMA Module" on page 151.
- **4: Copy Scene.** For more information, see "Copy Scene" on page 151.
- **5: Swap Scenes.** For more information, see "Swap Scene" on page 151.
- **6: Capture Random Seed.** For more information, see "Capture Random Seed" on page 151.

7-2: MIDI Filter/CC Offset



In this page you can make MIDI-related settings for the KARMA function. You can specify the following settings.

- MIDI filtering for the KARMA module
- MIDI control change messages transmitted when the KARMA function is turned on (CC Offset parameters)

7-2a: Program Name and Tempo

Bank [INT-A...F, GM, g(1...9), g(d), USER-A...G]

Bank Type [HD-1, EXi]

Program [(0... 127 (INT and USER Banks), 1... 128 (GM Banks)]

♩ (Tempo) [040.00...240.00, EXT]

These are the current bank, bank type (HD-1 or EXi), Program, and Tempo. For more information, see “1-1a: Program Name and Tempo” on page 33.

7-2b: MIDI Filter

Receive MIDI Filter

This specifies whether filters will be applied to the MIDI control data received by the KARMA Module before it is passed on (echoed) to the tone generator.

On (checked): The corresponding MIDI data will be echoed to the tone generator.

Off (unchecked): The corresponding MIDI data will not be echoed to the tone generator.

When the KARMA function is **on**, the MIDI control data received by the KARMA Module will be transmitted to the tone generator without change. Depending on these settings, you can (for example) make settings so that the damper pedal is enabled when the KARMA Module is **off**, and disabled when it is **on**. (See the diagram below, “KARMA Receive/Transmit Filter.”)

⚠ These settings do not affect the Dynamic MIDI (7-7) settings. If you have specified MIDI control data as the Dynamic MIDI source, it will be valid regardless of these settings.

After Touch [Off, On]

Specifies whether MIDI aftertouch messages will be echoed to the tone generator.

Pitch Bend [Off, On]

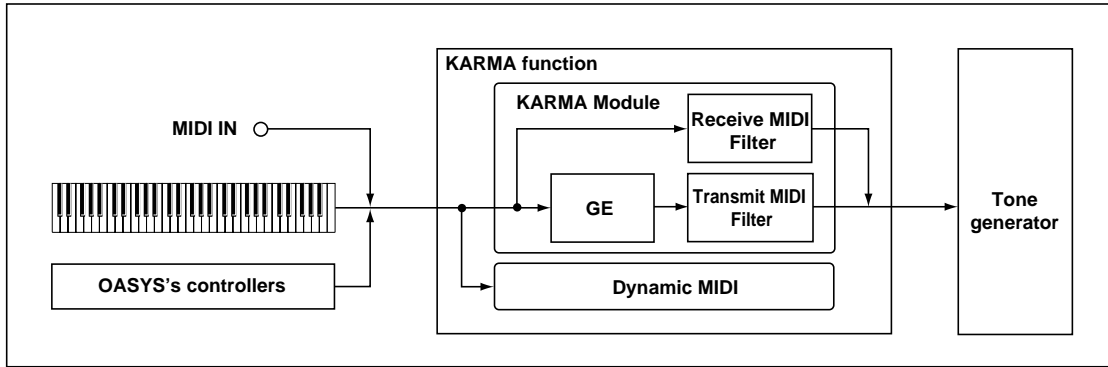
Specifies whether MIDI pitch bend messages will be echoed to the tone generator.

Damper (CC#64) [Off, On]

Specifies whether MIDI control change message #64 Sustain (damper pedal) will be echoed to the tone generator.

JS+Y (JS+Y CC#01) [Off, On]

Specifies whether MIDI control change message #1 (internal joystick +Y direction, specified as the assignment of a real-time control knob, or Vector CC control) will be echoed to the tone generator.



JS-Y (JS-Y CC#02) [Off, On]

Specifies whether MIDI control change message #2 (internal joystick -Y direction, specified as the assignment of a real-time control knob, or Vector CC control) will be echoed to the tone generator.

Ribbon (CC#16) [Off, On]

Specifies whether MIDI control change message #16 (internal ribbon controller, specified as the assignment of a real-time control knob, or Vector CC Control) will be echoed to the tone generator.

Other CC [Off, On]

Specifies whether MIDI control change messages other than the above will be echoed to the tone generator.

Transmit MIDI Filter

Specifies whether filtering will be applied to the MIDI control data produced by the GE selected for the KARMA Module. (See the diagram on the preceding page, "KARMA Receive/Transmit Filter.")

On (checked): The corresponding MIDI data will be transmitted from the KARMA Module.

Off (unchecked): The corresponding MIDI data will not be transmitted from the KARMA Module.

Note: The GE can also automatically produce pitch bend and various types of control change messages in addition to note data. Three envelope generators can also be used to apply time-variant change to velocity, tempo, duration, and various control changes such as pitch bend, JS+Y (CC#1) etc.

The data that is output will depend on the settings of the parameters for the selected GE. For example, transmitting/filtering pitch bend will produce no result if the GE has not been designed to produce pitch bend data. For more information, please see the "Voice Name List" on page 1099.

Pitch Bend [Off, On]

Specifies whether to transmit the MIDI pitch bend messages generated by the GE selected for the KARMA Module.

Note: This setting also applies to the pitch bend messages that may be produced by CC-A, CC-B, Envelope 1, Envelope 2, and Envelope 3.

When the KARMA function is on and the KARMA Module is producing pitch bend data, the pitch bend range of the program will be controlled as follows.

The pitch bend range specified within KARMA GE will automatically be transmitted from the KARMA Module, and set within the program. This ensures that the pitch bend data produced by the GE of the KARMA will function correctly. At this time, the pitch bend data produced when you operate the joystick will automatically be optimized so that it will produce the same bend effect as if the KARMA were off (in most cases).

CC-A/CC-B [Off, On]

Specifies whether to transmit the various MIDI messages generated by CC-A/CC-B of the GE selected by the KARMA Module.

However if CC-A/CC-B are producing pitch bend messages, these settings will be ignored, and the "GE Bend" setting will be used.

Envelope 1/Envelope 2/Envelope 3 [Off, On]

Specifies whether to transmit the various MIDI messages or other functions generated by Envelope 1, Envelope 2, and Envelope 3 of the GE selected by the KARMA Module.

If Envelope 1, Envelope 2, or Envelope 3 are producing pitch bend messages, these settings will be ignored, and the "GE Bend" setting will be used.

GE Notes [Off, On]

Specifies whether the MIDI note-on/note-off messages generated by the KARMA Module will be transmitted.

Note: This setting lets you mute the note phrases generated by the KARMA Module, and use only the control data generated from the KARMA Module (e.g., pan, filter cutoff, resonance) to apply modulation to phrases or chords you yourself play on the keyboard.

WaveSeq [Off, On]

Specifies whether the wave sequence data (multisample number) generated by the KARMA Module will be transmitted.

7-2c: CC Offset

When the KARMA function is **turned on**, MIDI control change messages can be transmitted to the tone generator. Make these settings when you wish to control the program sound or effects etc. when the KARMA function is **turned on**.

You can assign up to four MIDI control changes for each KARMA Module.

1, 2, 3, 4

CC Number [Off, MIDI CC# 00...MIDI CC# 95]

Selects the MIDI control change message that will be transmitted.

The value of the transmitted message is specified by "Value".

- ▲ If the KARMA ON/OFF switch is **on**, the specified MIDI control change message will be transmitted when you select a program whose KARMA ON/OFF switch is turned **on**. If the selected GE produces the control change specified here, the effect of the control change produced by the GE will be given priority.

Note: The MIDI control change messages specified here for transmission and the MIDI control change messages produced by the selected GE when the KARMA ON/OFF switch is **On** will be reset automatically when the KARMA ON/OFF switch is turned **off**.

Value

[000...127]

Specifies the value of the message that will be transmitted.

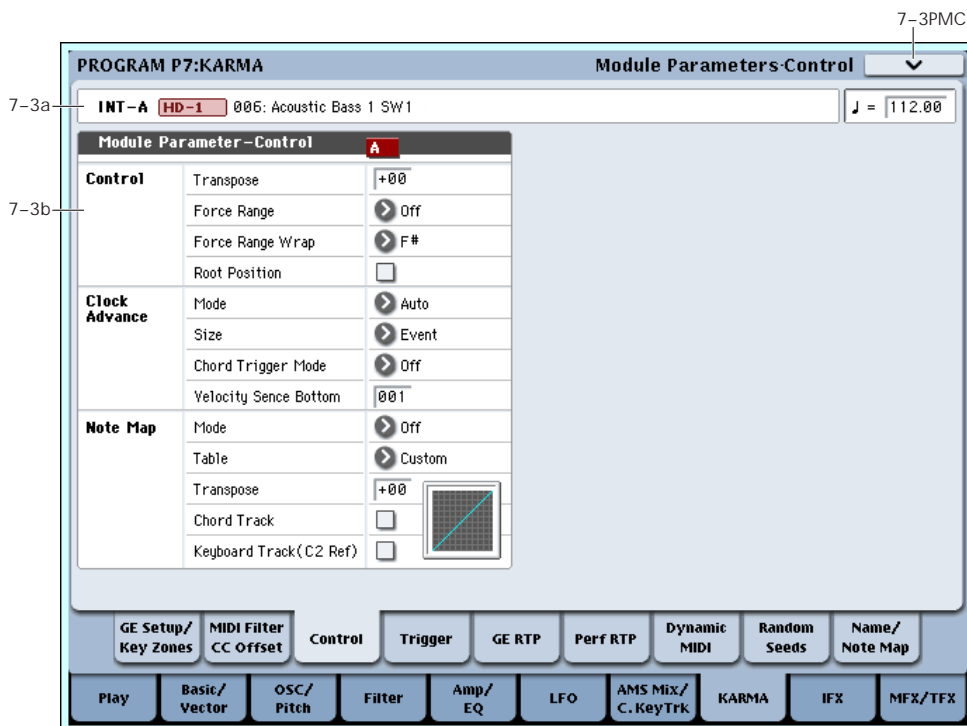
This will have no effect if "CC Number" is **Off**.

▼ 7-2: Page Menu Commands

The number before each command shows its ENTER + number-key shortcut. For more information on these shortcuts, see "ENTER + 0-9: shortcuts for menu commands" on page 142.

- 0: **Write Program**. For more information, see "Write Program" on page 142.
- 1: **Exclusive Solo**. For more information, see "Exclusive Solo" on page 142.
- 2: **Copy KARMA Module**. For more information, see "Copy KARMA Module" on page 150.
- 3: **Initialize KARMA Module**. For more information, see "Initialize KARMA Module" on page 151.
- 4: **Copy Scene**. For more information, see "Copy Scene" on page 151.
- 5: **Swap Scenes**. For more information, see "Swap Scene" on page 151.
- 6: **Capture Random Seed**. For more information, see "Capture Random Seed" on page 151.

7-3: Module Parameters-Control



Here you can set KARMA Module Control parameters. Note that in Program mode, you can use one KARMA Module (Module A).

You can make the following settings:

- Specify the transposition, range, and chord inversion for phrases and chords generated by the KARMA module
- Control the clock that operates the KARMA module

- Convert or delete the note data generated by the KARMA module.

7-3a: Program Name and Tempo

For descriptions of these parameters, please see "7-2a: Program Name and Tempo" on page 103.

7-3b: Module Parameter-Control

Control

Transpose [-36...+36]

Controls the pitch of the phrases or chords produced by the KARMA Module, in semitone steps.

The note data from the keyboard or the MIDI IN connector will be input to the KARMA Module. (☞ Program 7-1a: "Bottom (Key Zone Bottom," "Top (Key Zone Top)") Here you can transpose the pitch (in semitone steps) of the note data that is input to the KARMA Module.

Force Range [Off, Lowest, Highest, C3-B3[1], C3-B3[2]]

Controls the pitch range of the phrases or chords produced by the KARMA Module, in relationship to the area of the keyboard that is played.

Note data from the keyboard or the MIDI IN connector will be input to the KARMA Module ("Bottom (Key Zone Bottom," "Top (Key Zone Top)" (7-1b), "Transpose" 7-3a). Here you can make settings so that the note data input to the KARMA Module is restricted to a specific range.

Off: The input notes will be sent to the KARMA Module as played, with no further alteration.

Lowest: The input notes will be forced to a range within one octave of the lowest note, and duplicate pitches are discarded. Useful for eliminating inversions so that a chord voiced in different ways produces identical results.

If you play a chord of **E2, E4, G#4, B4, and D#5** (i.e., **EMaj7**) on the keyboard, the input notes will all be transposed to be within an octave of the lowest note (**E2**): **E2, G#2, B2, and D#3**.

Highest: The input notes will be forced to a range within one octave of the highest note, and duplicate pitches are discarded. Useful for eliminating inversions so that a chord voiced in different ways produces identical results.

If you play a chord of **E2, E4, G#4, B4, and D#5** (i.e., **EMaj7**) on the keyboard, the input notes will all be transposed to be within an octave of the highest note (**D#5**): **E4, G#4, B4, and D#5**.

Played on keyboard:

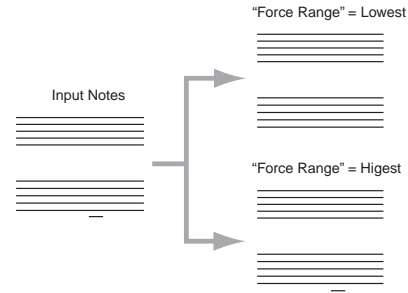
E2 E4 G#4 B4 D#5 (play an **EMaj7** chord)

Resulting transposed input notes:

Lowest: input notes transposed to **E2 G#2 B2 D#3**

Highest: input notes transposed to **E4 G#4 B4 D#5**

C3-B3[1]: all notes near 4th octave (maintain inversion)



The input notes will be forced to a range near the middle octave (C3-B3). The "Force Range Wrap" parameter will become available (see below), and specifies the scale step at which a wrap around will be performed. For example, if "Force Range Wrap" = 7: G, if the pitch of the lowest note is C to F#, it will be placed in the 4th octave with the other notes grouped above it. If the pitch of the lowest note is a G to B, it will be placed in the 3rd octave, with the other notes grouped above it. Playing the same chord chromatically up the keyboard will "wrap around" when the scale step of the root of the chord is determined to be "G," dropping the notes down an octave. This essentially maintains the inversion the chord was played with - notes may also extend into the 5th octave or 3rd octave.

This is effective when you wish to produce phrases or patterns having a similar inversion to what was played, but in a fixed range regardless of where you are playing on the keyboard. The behavior is similar to an auto-accompaniment pattern, in that no matter where you play on the keyboard, the result is in the same octave.

C3-B3[2]: The input notes will be forced to a range within the center octave (C3-B3). because of this, the chord inversion will change significantly; for example, the bass note may change. This is effective when you want to absolutely limit the input notes to a specific octave.

Played on keyboard:

Play chords in the order of

E4 G#4 B4 D#5 (**EMaj7** first inversion)

G#4 B4 D#5 E5 (**EMaj7** second inversion)

B4 D#5 E5 G#5 (**EMaj7** third inversion)

D#5 E5 G#5 B5 (**EMaj7** fourth inversion)

C3-B3[1]

Resulting transposed input notes:

E3 G#3 B3 D#4 (**EMaj7** first inversion)

G#2 B2 D#3 E3 (**EMaj7** second inversion)

B2 D#3 E3 G#3 (**EMaj7** third inversion)

D#3 E3 G#3 B3 (**EMaj7** fourth inversion)

C3-B3[2]

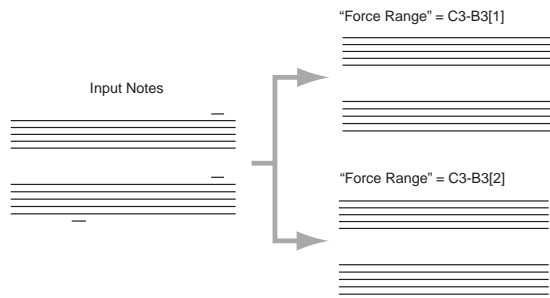
Resulting transposed input notes:

D#3 E3 G#3 B3 (**EMaj7/D#**)

D#3 E3 G#3 B3 (**EMaj7/D#**)

D#3 E3 G#3 B3 (**EMaj7/D#**)

D#3 E3 G#3 B3 (EMaj7/D#)
(all identical)

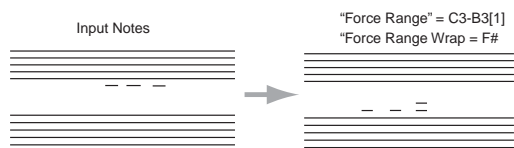


Force Range Wrap

[C...B]

When “Force Range” (above) is set to **C3B3[1]**, this parameter sets the highest scale step for the chord’s root note, after which the range-modified input notes will be dropped down an octave in order to stay centered around the 4th octave. For example, if the value is F#, then starting with G the notes will be dropped down an octave.

FIG. 4 shows an example where a Maj7 chord in a variety of voicings is played through 7 scale tones, i.e. CMaj7, DMaj7, EMaj7, FMaj7, GMaj7 etc. Since “Force Range Wrap” = F#, the resulting input notes drop down an octave starting with the GMaj7 chord. This allows you to keep a GE in a specific range regardless of where a chord is played on the keyboard, but to adjust at which point it drops down an octave.



Note: Not available unless “Force Range” is set to C3B3[1].

Root Position

[Off, On]

The phrases and patterns produced by a KARMA Module are generated by a GE (Generated Effect). In most cases, this is done based on a Note Series. When “Root Position” is On (checked), the Note Series will be created in root position, regardless of the inversion of the chord, based on chord recognition. In other words, when this is **Off (unchecked)**, if you play CMaj/E, the Note Series will start from E and continue up, or if you play CMaj/G, the Note Series will start with G. By using “Root Position” **On (checked)**, you can make sure that any inversion of a chord ends up the same. For example, CMaj/E and CMaj/G will both be the same as CMaj, and the Note Series will start from a C. This can allow a GE to behave more predictably with all inversions of a chord. (See “Note Series Group” on page 956.)

Note: When the GE-Type is **Generated-Drum**, the notes come from Drum Patterns and not the Note Series. The drum patterns can be used to generate melodies, in addition to drum and percussion grooves.

“Root Position” also has a similar effect on how the Drum Patterns are transposed, but only if “Drum-Track Keyboard” is **on**. For more information, see “Drum Group” on page 1003.

Also when the GE-Type is **Generated-Drum**, if using arpeggiated pitch-bending (based on the Note Series), the resulting pitch bend data will be affected as well. For more information, see “Bend Group” on page 999.

When the “GE-Type” is **Real-time**, this parameter has no effect unless you are using Dynamic MIDI to Direct Index the Note Series (see “Dynamic MIDI Sources & Destinations” on page 1038).

Note: when “Root Position” is turned on for any “Note Type” except Regular (i.e. Scalic, Scalic2, Chromatic, Whole Tone etc.), the behavior is very consistent: the scale specified by the Note Type is placed in root position before applying the rest of the Note Series parameters to create the Note Series.

However, when “Root Position” is turned on for “Note Type” Regular, the behavior is a bit different, and requires some explanation, as below.

If the input notes span an octave or less, the effect is very predictable, and similar to the effect when “Note Type” is any other setting besides Regular.

If the input notes span an octave or less:

Input Sort is:	Result on Input Notes before replication:
Up	Notes placed in root position for chord, in octave of lowest note, sorted in up direction
Down	Notes placed in root position for chord, in octave of lowest note, sorted in down direction
As Played Random	Notes are arranged so the first note is the root pitch class.

If the input notes span more than an octave, the effect is less predictable. If the “Input Sort” = Up, As Played, or Random, the first note of each replication will be the root pitch class (meaning that the Note Series will start with the root note, i.e. if the key of the chord is D, the first note will be a D). If the “Input Sort” = Down, then the last note of each replication will be the root pitch class. However, notes lower than the root note will still be allowed, since, after all, the purpose of “Note Type” = Regular is to collect the notes as played. For example, with “Input Sort” = Up, if you play G2 – C4 – E4 – G 4 (Cmaj/G), the notes will be ordered so that a C is first, but the low G will still be present in each replication.

If the input notes span more than an octave:

Input Sort is:	Result on Input Notes before replication:
Up, As Played Random	Notes are arranged so the first note is the root pitch class (i.e. if the key of the chord is D, the first note will be a D). Notes lower than the root note will still be allowed.
Down	Notes are arranged so the last note is the root pitch class. Notes lower than the root note will still be allowed.

Note that “Force Range” may be applied in conjunction with “Root Position.” For example, with any Force Range setting other than “Off,” the effects of “Root Position” with “Note Type” = Regular become

quite predictable, as spans greater than an octave are essentially compressed into one octave before going into the Note Series section.

Clock Advance

Here you can make settings for the clock that will operate the KARMA Module. By using these settings in conjunction with the Dynamic MIDI (Program 7–7) function, you can use **Manual Advance** by operating controllers such as the joystick or notes from the keyboard to trigger the clock that operates the KARMA Module, causing the phrase or pattern to advance under your control.

Mode [Auto, Dyn, Auto+Dyn 1, Auto+Dyn2]

Auto: The KARMA Module will operate according to the **Tempo** (Program 1–1a) setting. If **MIDI Clock** (Global 2–1a) is External, the KARMA Module will operate in synchronization with the MIDI clock from the **External MIDI** device. Normally you will select **Auto**.

Dyn: The clock by which the KARMA Module will operate can be triggered by operating the joystick or other controller according to the Dynamic MIDI (Program 7–7) setting, causing the phrase or pattern to advance, note by note. (Set Dynamic MIDI **Destination** to **Clock Advance**.)

You can input a chord from one area of the keyboard, and use notes from another area of the keyboard to advance through the arpeggio pattern.

Auto+Dyn1: The KARMA Module will operate according to both **Auto** and **Dyn**.

Auto + Dyn2: The KARMA Module will operate according to both **Auto** and **Dyn**, except that a trigger received from Dynamic MIDI will momentarily stop the automatic advancement until the KARMA Module playback is restarted.

Size [Event]

This is valid when **Mode** is **Dyn, Auto + Dyn1** or **Auto + Dyn2**. It specifies the unit by which the phrase or pattern will be advanced when the controller is operated.

3...♪: The phrase or pattern will be advanced by the specified note value, synchronized to the rhythm of the phrase or pattern. Depending on the internal GE Rhythm Parameters, this may result in no notes, 1 note, or several notes for a particular trigger.

Event: The phrase or pattern will be advanced by one note or one chord, ignoring the rhythm of the phrase or pattern. Each trigger will produce the next note or chord in the phrase.

Chord Trigger Mode [Off, 1st, Chord1, Chord2, Chord3]

This is valid when “Mode” is **Dyn, Auto + Dyn1** or **Auto + Dyn2**. It specifies how a chord will be sounded when that chord is input from the keyboard.

Off: There will be no sound when you input a chord from the keyboard. This is analogous to a guitarist changing chords in the left hand. The phrase or pattern will sound from the first step when you operate the controller.

1st: When you input a chord from the keyboard, the first step of the phrase or pattern will sound. When you operate the controller, the phrase or pattern will continue advancing.

Chord1: When you input a chord from the keyboard, the first several steps of the phrase or pattern will sound, according to the number of notes that you input. When you operate the controller, the phrase or pattern will continue advancing.

Chord2: When you input a chord from the keyboard, it will sound in the same way as for Chord1. However, the phrase or pattern will play from the beginning of the pattern when you operate the controller.

Chord3: When you input a chord from the keyboard, it will sound in the same way as for Chord1. However, the phrase or pattern will start from the second step when you operate the controller. When simulating acoustic guitar finger picking, this allows you to create a natural connection between the played chord and the finger picking sounded by the controller.

Velocity Sense Bottom [001...127]

This is valid when **Mode** is **Dyn, Auto + Dyn1** or **Auto + Dyn2**. If the Dynamic MIDI **Source** is **Note** or **Velocity**, the phrase will be produced by applying the velocity of each Manual Advance trigger that is input to the KARMA Module to the notes as they are generated. This parameter specifies the lower limit of a scaled range that the velocity is adjusted by before being applied.

With a setting of **001**, the velocity data will be input to the KARMA Module with an unmodified range of 1–127 (full sensitivity).

With a setting of **064**, velocity data in the range of 1–127 will be scaled to the range of 64–127 before it is input to the KARMA Module (half sensitivity).

Note Map

The Note Map Parameters allow a “final note shaper” to be applied at the end of the KARMA note generation process. Implemented as a large grid (128 x 129), it allows any incoming MIDI note generated by KARMA (0-127) to be remapped to any other MIDI note (0-127), or filtered out (removed). Therefore, a diagonal line represents “linear/no change,” and what goes in is what comes out.

You can use it to remap drum kits from one set of drum sounds to another, remove or substitute different drum sounds within the same kit, remove certain pitches from melodic output, constrain output pitches to various scales, limit notes generated thru Melodic Repeat to certain pitches, and more. For more information, see “Repeat (Melodic Repeat) Group” on page 994.

Each program, combination, or song contains a single user table, named “Custom.” The settings of this single table are stored inside the program, combination, or song. Additionally, there are a number of tables stored in global memory, with pre-defined functions, that can be selected for use by any Module.

The same table can be applied to multiple Modules at the same time. All Modules can run through the single

Custom table at the same time, or be assigned to utilize various Global Note Maps, in any combination.

Mode (Note Map Mode) [Off, On-Main, On-Repeat, On-All]

Selects one of several different modes of operation, controlling whether all notes generated by KARMA or a subset of those notes are modified by the specified Note Map Table.

Off: The table is inactive and no filtering or remapping is done.

On-Main: The table is used to map or filter notes being generated from the Note Series or Drum Pattern(s), but not any notes generated as a result of the Melodic Repeat parameters.

On-Repeat: The table is used to map or filter notes being generated as a result of the Melodic Repeat parameters, but not the main notes generated by the Note Series or Drum Pattern(s). For example, this can be used to “thin out” repeats or limit “strange notes” in Drum Patterns from transposed repeats, without affecting the main notes.

For more information, see “Repeat (Melodic Repeat) Group” on page 994.

On-All: The table is used to map or filter all notes being generated by the module.

Table (Note Map Table) [Custom, Gtable 1...Maj 7 -> oct]

Selects the Custom table (user table) or one of the Global Note Map Tables.

Note: You can edit a custom table in Program 7-9: Name/Note Map. (See “7-9c: Note Map” on page 125.)

Transpose (Note Map Transpose) [-12...+12]

This allows you to set up a “Fixed” Note Transpose Map, without “Chord Track” or “Keyboard Track (C2 Ref),” and then apply an offset to transpose it to other keys. In other words, you can set up a fixed map so that no matter what you play, it comes out in C Mixolydian. Then, you can set the Note Map Transpose to +2, and it would be D Mixolydian, etc.

🔗 The “Transpose” parameter is only available when “Chord Track” is Off (unchecked).

Chord Track (Note Map Chord Track) [Off, On]

Selects whether the Note Map Table will track your chord changes within the range of a single octave.

Tables use the key of C as a reference. As an example, assume you play a C Chord that generates a C Major arpeggio (C-E-G etc.) in the Middle C octave (C4 to C5). You edit that octave in the note Map Editor to have no 3rd (E4 removed).

With “Chord Track” set to Off (unchecked), playing a D chord would exhibit no changed notes, because there is no E4 in the arpeggio. With “Chord Track” set to On (checked), the D chord would sound the same as the C chord (no 3rd), except it would be in the key of D. When On (checked), all chords played in the Middle C octave would have their 3rd removed.

However, if you play the input chord an octave lower, the notes would go through the octave of the table below Middle C, and would not have the removed note. This allows you to set up different maps for each octave, yet have the table track your chord changes within each octave.

Note: The way that this parameter works is affected by **Kbd Track (C2 Ref)**, below.

Keyboard Track (C2 Ref) (Note Map Kbd Track) [Off, On]

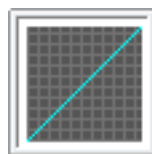
Selects whether the Note Map Table will track your chord changes across the entire keyboard, with reference to C2.

When Chord Track is already turned on, setting “Kbd Track” to On (checked) provides the additional functionality of tracking the table to the lowest note of the input chord (with reference to C2), no matter where it is played. In other words, any chord played in any octave will be transposed so it ends up with its lowest note in the C2 octave before being run through the table, and returned to the correct octave after. As an example, assume you play an input chord in the key of C in the C2 octave (lowest octave of a 61 note keyboard). If you remove the 3rd (for example) which is E2, playing a chord anywhere on the keyboard will have the lowest note run through the table at C2 and hence keep the exact same table mapping for any chord, removing the third in any key, in any octave. This allows you to set up complex melodic maps spanning several octaves if desired, and then have them track your chords all over the keyboard.

Note: Not available unless “Chord Track” is set to On (checked).

Note Map Table Display

This displays a small graphic of the current Note Map Table selected for the Module. Changing the “Note Map Table” setting (directly or via Real-Time Parameter Control) causes the selected table to be displayed.



The various Note Map Tables can be viewed full size on the Note Map Page (7-9c).

When you press the display, you will move to the note map table for the same module in the Note Map tab of the Name/Note Map page.

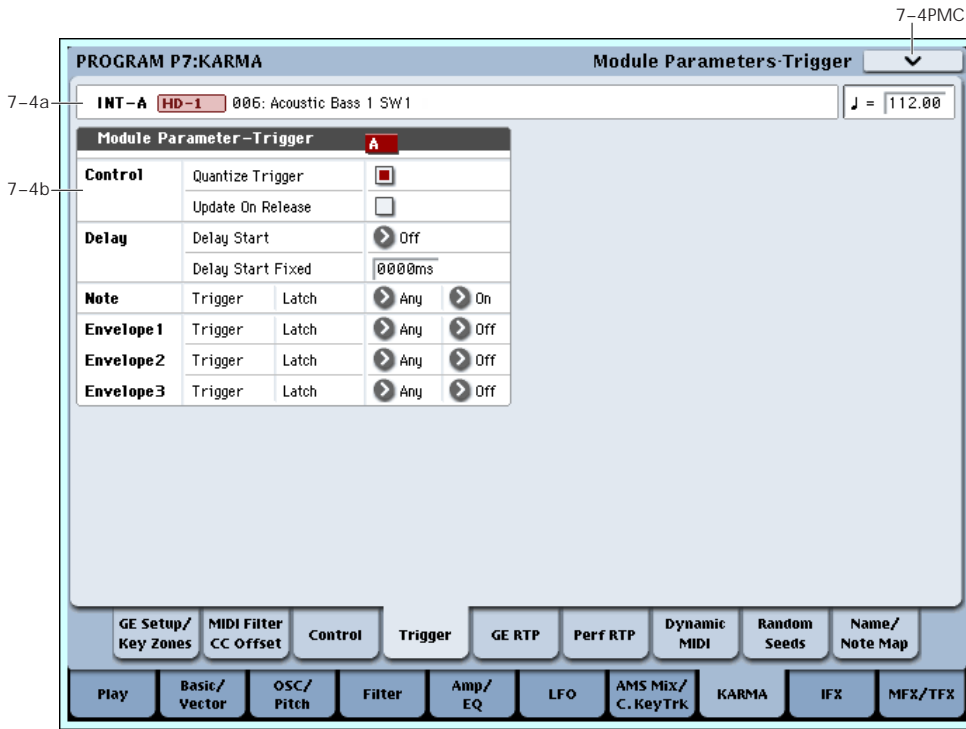
▼ **7-3: Page Menu Commands**

The number before each command shows its ENTER + number-key shortcut. For more information on these shortcuts, see “ENTER + 0-9: shortcuts for menu commands” on page 142.

- 0: **Write Program.** For more information, see “Write Program” on page 142.

- 1: **Exclusive Solo.** For more information, see “Exclusive Solo” on page 142.
- 2: **Copy KARMA Module.** For more information, see “Copy KARMA Module” on page 150.
- 3: **Initialize KARMA Module.** For more information, see “Initialize KARMA Module” on page 151.
- 4: **Copy Scene.** For more information, see “Copy Scene” on page 151.
- 5: **Swap Scenes.** For more information, see “Swap Scene” on page 151.
- 6: **Capture Random Seed.** For more information, see “Capture Random Seed” on page 151.

7-4: Module Parameters-Trigger



Here you can set KARMA Module Trigger parameters. In Program mode, you can use one KARMA Module (Module A).

You can make the following settings.

- Timing correction and latch operation for triggers
- Settings for the envelope generators inside the GE

7-4a: Program Name and Tempo

For descriptions of these parameters, please see “7-2a: Program Name and Tempo” on page 103.

7-4b: Module Parameters-Trigger

Control

Quantize Trig/Window

Quantize Trigger

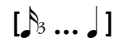
[Off, On]

Quantize (correct) the timing of the Module’s triggering caused by input note data from the keyboard or Dynamic MIDI.

On (checked): Trigger timing will be quantized to the metric unit specified by the “Window” setting, relative to the basic tempo.

Off (unchecked): Triggering will occur instantly at the moment you play the keyboard or activate a trigger through Dynamic MIDI.

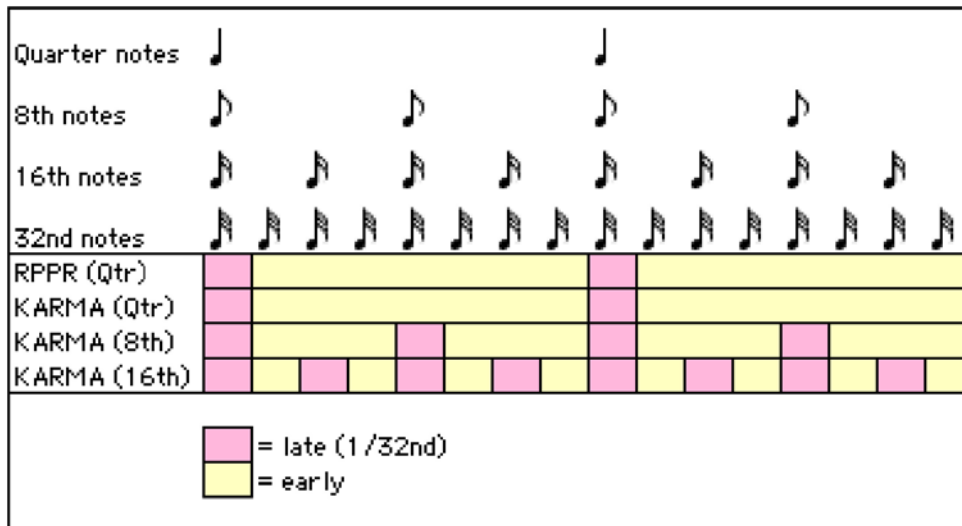
Quantize Window



Specify the metric division by which input note data from the keyboard or Dynamic MIDI will be quantized before triggering the Module and the start of the phrase.

16th triplet...Quarter: Specify the time window as a note value interval relative to the tempo. For triplet-based patterns, you may need to select one of the triplet-based settings if you intend to retrigger “off the beat.”

Note: When Quantize Trigger is On (checked), triggering at a timing that is within a 32nd note of the Quantize Window setting will be considered “late” (shown by the pink color in the diagram above), and will cause the playback to begin immediately while bringing the Module into sync with other running Modules or time-based features such as the Drum Track and RPPR. If the trigger is later than this (shown by the yellow color in the diagram above), playback will start at the next metric division corresponding to the Quantize Window.



Update On Release [Off, On]

Allows the release of individual input notes to remove those notes from the notes going to the GE, thereby changing the effect to use only those notes still being held.

Off (unchecked): Releasing some notes while holding others causes no change to the input source material, and therefore no change in the Generated Effect. This is the most smooth and natural way, and similar to most advanced auto-accompaniment keyboards.

On (checked): Notes that are released are removed from the input source material, thereby changing the effect to use only those notes still being held. This is typically the way simple arpeggiators work, especially if their latch mode is turned off.

Delay

Delay Start [Off, Fixed, 3...4x1]

Specify the delay from when the trigger (by note data) is input, until the phrase or pattern starts.

3...4x1: Specify the delay time as a note value interval relative to the tempo.

Fixed: The delay time will be specified in time units (ms). Set the time in "Delay Start Fixed."

Delay Start Fixed [0000 ms... 5000 ms]

This is valid if "Delay Start" is set to **Fixed**. Set "Delay Start" in ms units. The delay specified here will remain constant, even when the tempo is changed.

Note

Note Trigger [Any, AKR, 1st, Dyn]

Any (Any Note + Dynamic MIDI): Every note-on will cause triggering; i.e., each note-on will cause the phrase or pattern to restart from the beginning.

AKR (1st Note After Key Release + Dynamic MIDI): Triggering will occur when the first note-on occurs from a state in which no keys are "on." Triggering will not occur if even one note is being pressed. By changing the chord you play on the keyboard while holding at least one note, you can change the notes of the phrase or pattern without triggering.

1st (1st Only Until Module Stops + Dynamic MIDI):

After KARMA function is turned on, only the first note-on will cause triggering. Subsequent note-ons will not cause triggering.

This is useful for drum grooves and phrases where you do not want subsequent chord changes to restart the phrase.

Dyn (Dynamic MIDI): Triggering will be produced by operating the controller specified by Dynamic MIDI (Program 7-7). In this case, note-ons will not cause triggering.

Note: With any of these settings, the trigger will be applied by operations of the controller specified for Dynamic MIDI (Program 7-7), if "Destination" is set to **Trigger Notes&Envs, Trigger Note** (see "Dynamic MIDI Sources & Destinations" on page 1038).

Note Latch [Off, On]

Specifies whether the phrase or pattern will continue when you release your hand from the keyboard (**latch on**) or whether the phrase or pattern will stop (**latch off**). In Program mode, turn this **On (checked)** and use the LATCH switch to control latch on/off.

Off (unchecked): Latch will be off regardless of the LATCH switch on/off status.

On (checked): The LATCH switch will control latch on/off.

When the LATCH switch is **off** (LED dark), **latch is off**.

When the LATCH switch is **on** (LED lit), **latch is on**.

Note: In Combination and Sequencer mode, up to four KARMA Modules can be used. In these modes, you can turn "Note Latch" on/off independently for each KARMA Module. If you use "Copy KARMA Module" to copy KARMA Module settings from these modes to a program, there may be cases in which the setting here will be **off**, so that latch-on will not occur even if you turn **on** the LATCH switch. In such cases, turn this **on**.

Envelope 1, Envelope 2, Envelope 3

Each GE provides three Envelopes. They can produce time-variant control of velocity, tempo, duration, pitch bend, and various control changes.

You can specify triggering conditions and latch conditions for each of the three Envelopes of the GE, separately from the Note Trigger and Latch (although many times you will want them to be the same.)

🔍 If the selected GE does not use Envelopes, these settings will have no effect. For information on specific GEs, please see the “Voice Name List” on page 1099.

Envelope Trigger [Any, AKR, 1st, Dyn]

Any (Any Note + Dynamic MIDI): Every note-on will cause triggering; i.e., each note-on will cause the envelope to start from the beginning.

AKR (1st Note After Key Release + Dynamic MIDI): Triggering will occur when the first note-on occurs from a state in which no keys are “on.” Retriggering will not occur if even one note is being pressed.

1st (1st Only Until Module Stops + Dynamic MIDI): After KARMA is turned on, only the first note-on will cause triggering. Subsequent note-ons will not cause triggering.

Dyn (Dynamic MIDI): Triggering will be produced by operating the controller specified by Dynamic MIDI (Program 7–7). In this case, note-ons will not cause triggering.

Note: For any of these settings, triggering will be applied by operations of the controller specified for Dynamic MIDI, if “Destination” is set to **Trigger Notes&Envs, Trigger Env1...Trigger Env3**.

Envelope Latch [Off, Sus1, Rel1, Sus2, Rel2]

Off: The envelope will not be latched. When all keys are released or a Dynamic MIDI trigger is released (note-off), the envelope will move to the release segment.

Sus1: Once the envelope is started, it will proceed through attack → decay → sustain → release. If note-off occurs before the envelope reaches the sustain level, the envelope will not begin the release immediately but wait until after reaching the sustain level. Even in the case of a note for which the note-on/off interval is short, the envelope will proceed through attack → decay → sustain → release as if the key was being held for a longer time. If the envelope reaches the sustain level before receiving note-off, it will hold at the sustain level (the same operation as for the Off setting). If the note-off occurs after the envelope reaches the sustain level, the envelope will begin the release when note-off occurs (the same operation as for the Off setting).

Rel1: Once the envelope has started, it will proceed through attack → decay → release, regardless of when the note-off occurs. Even if a key is being pressed, the envelope will ignore sustain, and will proceed immediately to the release.

Sus2: The envelope will ignore note-off, and will proceed through attack → decay → sustain. Therefore, this setting will never reach the release portion. Other operation is the same as for **Sus1**.

Rel2: The same operation as **Rel1**, except will ignore note-off for the purpose of looping, as explained below.

The envelope can be set to repeat as a loop as part of the GE. A looped envelope will be controlled as follows.

For Sus1 and Rel1, the envelope will continue repeating as long as the key is held.

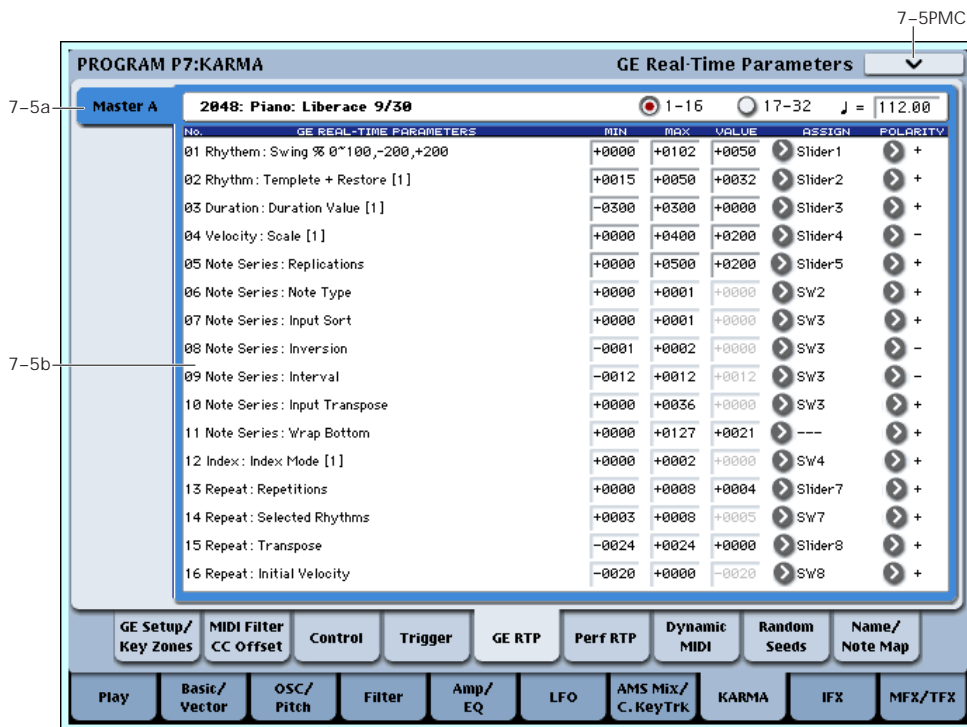
For Sus2 and Rel2, the envelope will continue repeating even if the key is released.

▼ 7-4: Page Menu Commands

The number before each command shows its ENTER + number-key shortcut. For more information on these shortcuts, see “ENTER + 0-9: shortcuts for menu commands” on page 142.

- 0: **Write Program.** For more information, see “Write Program” on page 142.
- 1: **Exclusive Solo.** For more information, see “Exclusive Solo” on page 142.
- 2: **Copy KARMA Module.** For more information, see “Copy KARMA Module” on page 150.
- 3: **Initialize KARMA Module.** For more information, see “Initialize KARMA Module” on page 151.
- 4: **Copy Scene.** For more information, see “Copy Scene” on page 151.
- 5: **Swap Scenes.** For more information, see “Swap Scene” on page 151.
- 6: **Capture Random Seed.** For more information, see “Capture Random Seed” on page 151.

7-5: GE Real-Time Parameters



Here you can edit the Real-Time parameters of the GE selected for the KARMA Module. By assigning GE parameters to KARMA Real-Time Controls, you can control the phrase or pattern in real-time while you play.

7-5a: GE Number & Name, RTC Select, and Tempo

GE Number & Name

[0000: Arp Model 01 Up/Dn...
2047: Tempo Env Repeats]

This shows the GE selected for the Module. For more information, please see "0-6b: GE Select" on page 8.

GE RTC Select [1-16, 17-32]

This switches the GE realtime parameter display.

1-16: GE parameters 1-16 will be displayed.

17-32: GE parameters 17-32 will be displayed.

Tempo [40.00...240.00, EXT]

For more information, please see "Tempo" on page 5.

7-5b: GE Real-Time Parameters

GE Parameter 01...32 [Parameter Name]

Each GE has up to 32 preset parameters for controlling the phrase or pattern, referred to as GE Real-Time Parameters (or GE RTP). The specific parameters, and the available value ranges, will vary depending on the selected GE.

ASSIGN [---, Slider1...8, Slider (SW)1...8, SW1...8, DynaMIDI1...8]

Each of the GE Real-Time Parameters has a basic value, a controller assignment with polarity, and minimum and maximum values (for setting the range of the selected controller). When you select a new GE, the basic, minimum, and maximum values will be reset to the values saved in the GE, and the controller assignment will be set to the defaults for the GE's RTC Model.

For details on the individual GE Real-Time parameters, please see the "KARMA GE guide" on page 949.

MIN (Minimum Value) [-5000...+5000]

This sets the parameter value when the selected controller is at its minimum point—for instance, when a slider is at the bottom of its throw. Note that you can reverse the action of the controller by setting this to be higher than the MAX value, below.

The available values will depend on the GE Real-Time parameter.

MAX (Maximum Value) [-5000...+5000]

This sets the parameter value when the selected controller is at its maximum point—for instance, when a slider is at the top of its throw.

The available values will depend on the GE Real-Time parameter.

VALUE [-5000...+5000]

This sets the basic value of the GE parameter, which corresponds to the center position of the controller. It must be within the MIN and MAX values.

Here you can assign the controller for the GE Real-Time parameter.

By assigning GE Real-Time Parameter to KARMA Real-Time Controls, they can be controlled in real-time while you play.

---: No assignment.

Slider1...8: Assign the parameter to KARMA SLIDERS 1-8. The slider will continuously control the "value."

For example, let's assume that the "Rhythm Swing%" parameter of the selected GE is set to a **MIN** of +0000, and a **MAX** of +0100.

- If you set "Value": +0050, "Assign": **Slider 1**, and **Polarity**:+

Slider 1 at the center position will produce a value of +0050. At minimum the value will be +0000, and at maximum the value will be +0100. Turning the Slider from center toward the minimum will control the value from +0050...+0000, and turning it from center toward the maximum will control the value from +0050...+0100.

- If you set "Value": +0080, "Assign": **Slider 1**, and "Polarity":+

Slider 1 at the center position will produce a value of +0080. At minimum the value will be +0000, and at far maximum the value will be +0100. Turning the slider from center toward the minimum will control the value from +0080...+0000, and turning it from center toward the maximum will control the value from +0080...+0100.

Slider (SW) 1...8: Assign the parameter to KARMA SLIDER 1-8. The Slider will switch the value between minimum and maximum only. The minimum to center range of the Slider is off, and the center to maximum is on.

- If you set "Value": +0050, "Assign": **Slider (SW) 1**, and **Polarity**:+

Turning the slider toward the minimum will produce a value of +0000. Turning it to center or maximum will produce a value of +0100.

SW1...8: The parameter will be assigned to switch 1-8. The minimum is off, and the maximum is on.

Note: the correspondence between the KARMA SLIDERS, SWITCHES and MIDI control change messages can be specified in Global P3-1: Controller/Scale, Controller. For SW1...8 and Slider (SW) 1...8, a MIDI control change message value of less than 64 will be "off," and 64 or greater will be "on."

DynaMIDI 1...8: This corresponds to Dynamic MIDI 1...8.

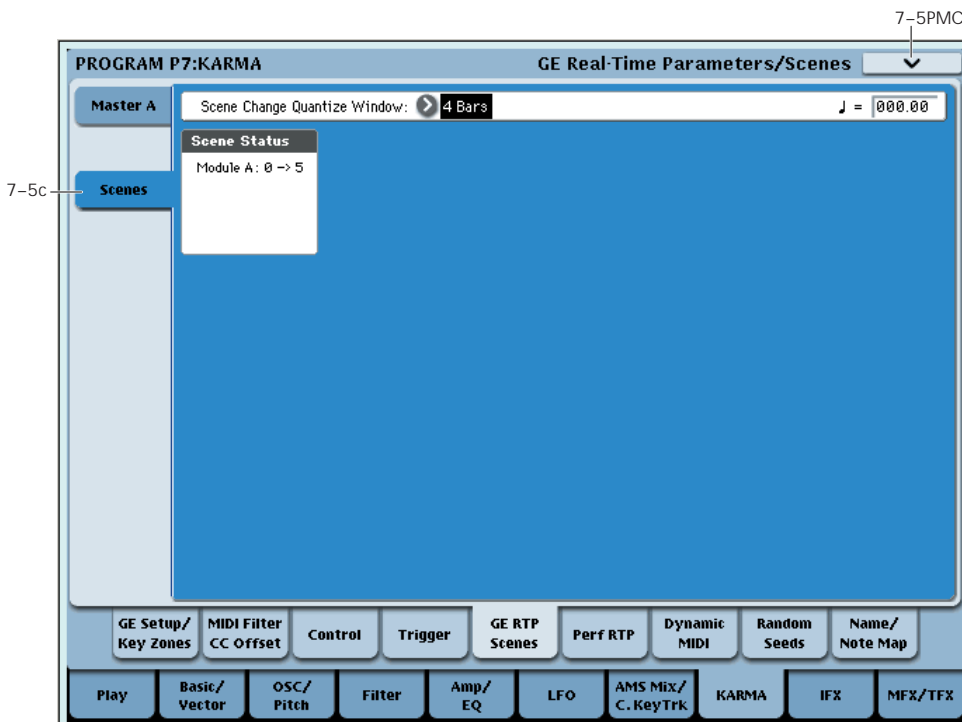
Select this if you wish to control a GE parameter using the controller selected for **Source** in Dynamic MIDI (7-8). (Set the Dynamic MIDI "Destination" to **RTPParams Control**.)

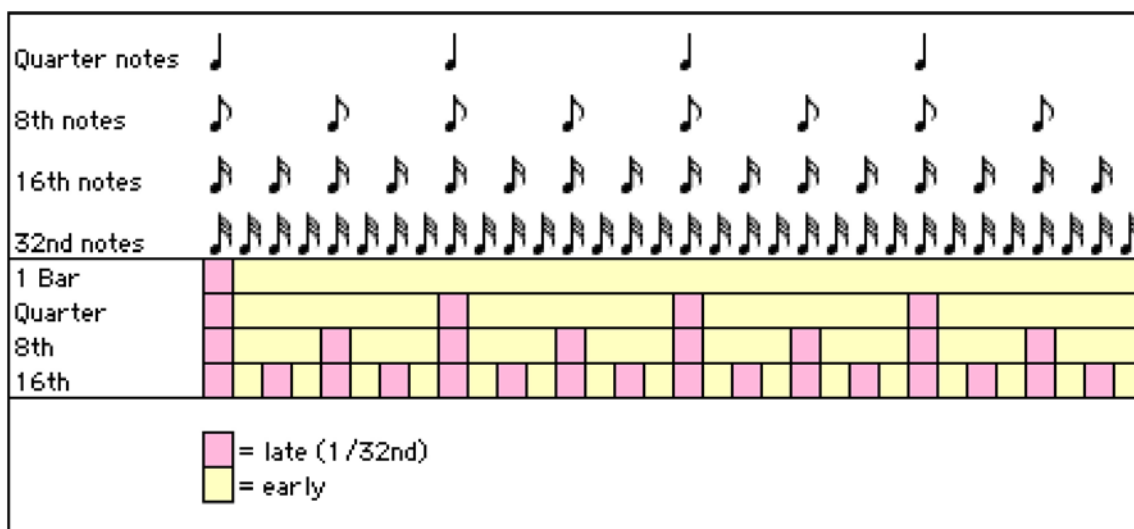
POLARITY [+, -]

This sets the polarity of the selected controller.

+: In the case of **Slider 1-8**, moving down from the center will move the value towards the "Minimum" setting, and moving up from the center will move towards the "Maximum" setting. In the case of **Slider (SW) 1-8**, the bottom of the slider throw will be "Minimum," and the top will be "Maximum." In the case of **SW1-8**, the parameter will be "Maximum" when the LED is lit.

-: In the case of **Slider1-8**, moving down from the center will move the value towards the "Maximum" setting, and moving up from the center will move towards the "Minimum" setting. In the case of **Slider (SW) 1-8**, the bottom of the slider throw will be "Maximum," and the top will be "Minimum." In the case of **SW1-8**, the parameter will be "Maximum" when the LED is dark.






7-5c: Scenes

Here you can set a Scene Change Quantize Window that controls a time interval for when the scene changes will occur, and view information about upcoming scene changes.

Scene Change Quantize Window

 1 Bar...4 Bars]

Specify the metric division by which scene changes will be quantized. Depending on the setting, this may delay the scene change from occurring until the next beat, next bar, or several bars later.

: Specify the time window as a note value interval relative to the tempo. For triplet-based patterns, you may need to select one of the triplet-based settings if you intend to perform scene changes "off the beat."

1 Bar...4 Bars: Specify the time window as a bar value relative to the tempo, and the time signature of the Performance or the Module's GE.

Note: if the KARMA T.Sig (Time Signature) is set to something other than "0 GE/TS", then the specified Time Signature is what will be used to calculate the bar lengths. If the KARMA T.Sig is set to "0 GE/TS" (meaning that the Module's GE uses its own stored internal time signature), then the bar length is based on the internal stored time signature of the GE. For more information, see "KARMA T.Sig (Time Signature)" on page 7.

Note: Scene changes selected at a timing that is within a 32nd note of the Scene Change Quantize Window setting will be considered "late" (shown by the pink color in the diagram above), and will cause the scene change to occur immediately. If the scene change is later than this, it will be considered "early" (shown by the yellow color in the diagram above), and will occur at the next metric division corresponding to the Scene Change Quantize Window. (Due to space, not all settings are shown in the diagram.)

 (Tempo) [40.00...240.00, EXT]

For more information, please see "Tempo" on page 5.

Scene Status

Displays information related to upcoming scene changes. When using the Scene Change Quantize Window with longer settings such as 1, 2 or 4 bars, you can select a scene change several beats or more in advance of when you want it to occur. The Control Surface and Scene Matrix will change to the new scene immediately, but internally the scene change will not occur until the specified time interval has elapsed. The Scene Status area displays a message indicating a pending scene change, from the current scene to the new scene. You can use this to "cancel" a pending scene change if desired. For example, if you are on Scene 2 and you select Scene 8, the message "2 -> 8" will be displayed. The Scene Matrix and Control Surface immediately change to Scene 8, but internally the scene change has not yet occurred. You can reselect Scene 2 and thereby cancel the upcoming scene change.

Note: if you have selected a scene change in advance, and it has not yet occurred, the Control Surface and various editing pages such as the KARMA GE Page 0-6 and the Control Surface RT/KARMA Page 0-9d will show the new scene's parameters. Editing them while the scene change is pending will actually be editing the upcoming scene, and you will not hear any changes until the scene change has actually occurred.

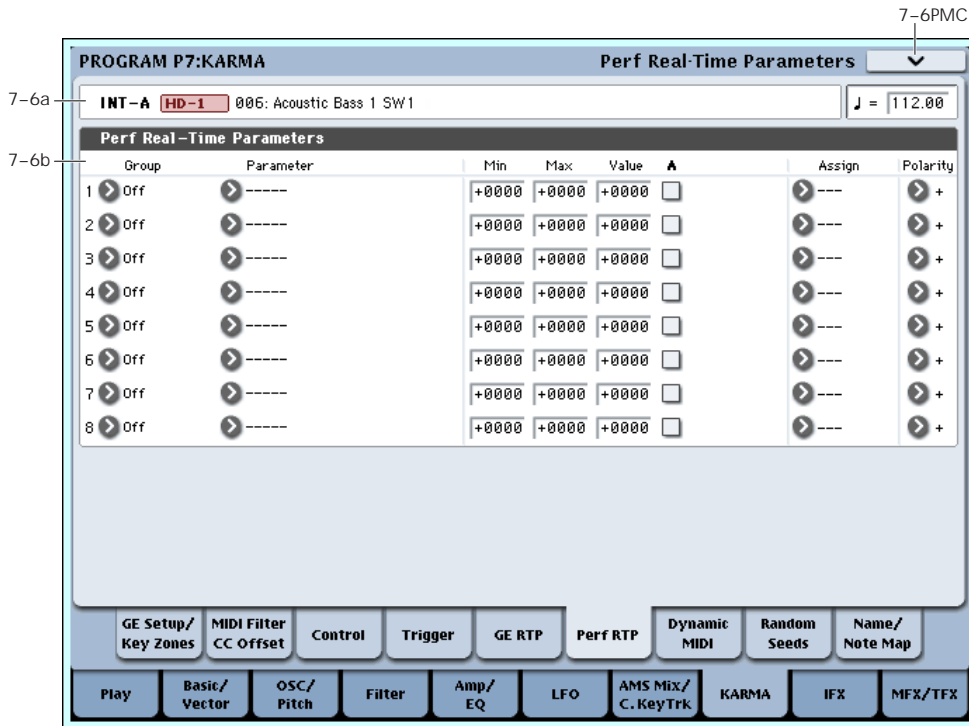
▼ 7-5: Page Menu Commands

The number before each command shows its ENTER + number-key shortcut. For more information on these shortcuts, see "ENTER + 0-9: shortcuts for menu commands" on page 142.

- 0: **Write Program.** For more information, see "Write Program" on page 142.
- 1: **Exclusive Solo.** For more information, see "Exclusive Solo" on page 142.
- 2: **Copy KARMA Module.** For more information, see "Copy KARMA Module" on page 150.
- 3: **Initialize KARMA Module.** For more information, see "Initialize KARMA Module" on page 151.

- 4: **Copy Scene.** For more information, see “Copy Scene” on page 151.
- 5: **Swap Scenes.** For more information, see “Swap Scene” on page 151.
- 6: **Capture Random Seed.** For more information, see “Capture Random Seed” on page 151.

7-6: Perf Real-Time Parameters



Here you can assign controllers to KARMA Performance Real-Time Parameters (Perf. RTP) outside of the GE Real-Time Parameters that control the internal settings of the GE. Examples include the KARMA Key Zone parameters (Program 7-1b) and KARMA Control and Trigger parameters (Program 7-3, 7-4).

By assigning these to KARMA SLIDERS 1-8 and KARMA SWITCHES 1-8 etc., you can control them in real-time while you play.

- 🔍 In Perf Real-Time Parameters 1-8, if you select a parameter by “Group” and “Parameter” and **On (checked)** “Module A,” that parameter can no longer be edited as a KARMA Key Zone parameter (Program 7-1b) or KARMA Control and Trigger parameter (Program 7-3,7-4).

7-6a: Program Name and Tempo

For descriptions of these parameters, please see “7-2a: Program Name and Tempo” on page 103.

7-6b: Perf Real-Time Parameters

You can set up 8 different Performance Real-Time Parameters, each of which has an identical set of parameters, as described below.

Real-Time Parameters 1...8

Group [Off, PE, Mix, Control, Trigger, Key Zones, Random Seeds]

Selects the group of parameters that you wish to choose a “Parameter” from. The KARMA parameters are divided into six groups.

Parameter [---, Time Signature... Retrigger Each Time]

Indicates the parameter that you wish to assign. The parameters that can be selected will differ according to the “Group” setting, above.

Min (Minimum Value) [-8192...+8192]

This sets the parameter value when the selected controller is at its minimum point—for instance, when a slider is at the bottom of its throw. Note that you can reverse the action of the controller by setting this to be higher than the **MAX** value, below.

The available values will depend on the selected parameter. When a parameter is selected, the minimum parameter value will be set as the default.

Max (Maximum Value) [-8192...+8192]

This sets the parameter value when the selected controller is at its maximum point—for instance, when a slider is at the top of its throw. The available values will depend on the selected parameter.

Value [-8192...+8192]

Specifies the value of the selected KARMA parameter. If you turn on "A (Module A)" and select "Parameter," this will be set as the current value of the parameter (set in 7-3 and 7-4). The value you specify here will be the center value when you use "Assign" to control the parameter from a KARMA SLIDER, etc. The value will not be available when assigning to Switches or Slider (SW).

A (Module A) [Off, On]

Specifies the module to which the settings of RT Parm 1-8 will apply. In Program mode, only one KARMA Module (Module A) can be used. Thus in Program mode, you can turn the RT Parm 1-8 settings on/off.

On (checked): RT Parm settings will be valid.

Off (unchecked): RT Parm settings will be ignored.

Assign [---, Slider 1...8, Slider (SW) 1...8, SW1...8, DynaMIDI1...8]

Assigns the selected parameter to a controller. If you assign a parameter to KARMA Real-Time Controls, you can control it in real-time while you play.

For more information, see "ASSIGN" on page 113.

Polarity [+ , -]

Specifies the polarity used when you operate the KARMA Real-Time Controls that you selected for "Assign."

For more information, please see "POLARITY" on page 114.

Group: PE (Performance)


Time Signature [+0000...+0048]

Assigns the "KARMA T.Sig" (Program 7-1a) function.

+0000: Off

+0001...+0048: Corresponds to 1/4-16/16.

For more information, see "KARMA T.Sig (Time Signature)" on page 101.

 If you select Time Sig. as a parameter for assignment, you will not be able to set "A (Parm Module A)."

Group: Mix

Transpose [-0036...+0036]

Assigns the "Transpose" (Program 7-3b) function. Control the transposition in semitone steps.

Transpose Octave [-0036...+0036]

Assigns the "Transpose" (Program 7-3b) function. Control the transposition in octave steps.

Transpose Octave/5th [-0036...+0036]

Assigns the "Transpose" (Program 7-3b) function. Control the transposition in steps of an octave and a fifth.

Group: Control

Force Range [+0000...+0004]

Assigns the "Force Range" (Program 7-3b) function.

+0000: Off

+0001: Lowest

+0002: Highest

+0003: C3-B3[1]

+0004: C3-B3[2]

For more information, see "Force Range" on page 106.

Force Range Wrap [+0000...+0011]

Assigns the "Force Range Wrap" (Program 7-3b) function.

+0000: C...0011: B

For more information, see "Force Range Wrap" on page 107.

Root Position [+0000, +0001]

Assigns the "Root Position" (Program 7-3b) function.

+0000: Off

+0001: On

For more information, see "Root Position" on page 107.

Clock Advance Mode [+0000...+0003]

Assigns the "Mode (Clock Advance Mode)" (Program 7-3b) function.

+0000: Auto

+0001: Dyn


+0002: Auto+Dyn1

+0003: Auto+Dyn2

For more information, see "Mode" on page 108.

Clock Advance Size [+0000...+0011]

Assigns the "Size (Clock Advance Size)" (Program 7-3b) function.

+0000...+0010: 

+0011: Event

For more information, see "Size" on page 108.

CA Vel. Sensitivity [+0001...+0127]

Assigns the "Velocity Sense Bottom" (Program 7-3b) function.

For more information, see "Velocity Sense Bottom" on page 108.

CA Chord Trigger Mode [+0000...+0004]

Assigns the "Chord Trigger Mode" (Program 7-3b) function.

+0000: Off

+0001: 1st

+0002: Chrd1

+0003: Chrd2

+0004: Chrd3

For more information, see "Chord Trigger Mode" on page 108.

Note Map Mode [+0000...+0003]

Assigns the "Mode (Note Map Mode)" (Program 7-3b) function.

+0000: Off

+0001: On-Main

+0002: On-Repeat

+0003: On-All

For more information, see “Mode (Note Map Mode)” on page 109.

Note Map Table [+0000...+0064]

Assigns the “Table (Note Map Table)” (Program 7–3b) function.

+0000: Custom

+0001...+0064: Global Tables 1...Maj 7 -> oct

For more information, see “Table (Note Map Table)” on page 109.

Note Map Transpose [-0012...+0012]

Assigns the “Transpose (Note Map Transpose)” (Program 7-3b) function.

For more information, see “Transpose (Note Map Transpose)” on page 109.

Note Map Chord Track [+0000, +0001]

Assigns the “Chord Track (Note Map Chord Track)” (Program 7–3b) function.

+0000: Off

+0001: On

For more information, see “Chord Track (Note Map Chord Track)” on page 109.

Note Map Kbd Track [+0000, +0001]

Assigns the “Keyboard Track (Note Map Kbd Track)” (Program 7–3b) function.

+0000: Off

+0001: On

For more information, see “Keyboard Track (C2 Ref) (Note Map Kbd Track)” on page 109.

Group: Trigger

Quantize Trigger [+0000, +0001]

Assigns the “Quantize Trigger” (Program 7–4b) function.

+0000: Off

+0001: On

For more information, see “Quantize Trigger” on page 110.

Quantize Window [+0000...+0005]

+0000...+0005: 16th triplet to Quarter Note

Assigns the “Quantize Window” (Program 7-4b) parameter. For more information, see “Quantize Window” on page 110.

Update On Release [+0000, +0001]

Assigns the “Update On Release” (Program 7–4b) function.

+0000: Off

+0001: On

For more information, see “Update On Release” on page 111.

Delay Start [+0000...+0025]

Assigns the “Delay Start” (Program 7–4b) function.

+0000: Off

+0001: Fixed

+0002...+0025: ♪₃...4x ◦

For more information, see “Delay Start” on page 111.

Delay Start ms [+0000...+5000]

Assigns the “Delay Start Fixed” (Program 7–4b) function.

See “Delay Start Fixed” p.111

Note Trigger [+0000...+0003]

Assigns the “Note Trigger” (Program 7–4b) function.

+0000: Any

+0001: AKR

+0002: 1st

+0003: Dyn

For more information, see “Note Trigger” on page 111.

Note Latch [+0000, +0001]

Assigns the “Note Latch” (Program 7–4b) function.

+0000: Off

+0001: On

For more information, see “Note Latch” on page 111.

Env1 Trigger [+0000...+0003]

Env2 Trigger [+0000...+0003]

Env3 Trigger [+0000...+0003]

Assigns the Envelope “Trigger” (Program 7–4b) functions.

+0000: Any

+0001: AKR

+0002: 1st

+0003: Dyn

For more information, see “Envelope Trigger” on page 112.

Env1 Latch Mode [+0000...+0004]

Env2 Latch Mode [+0000...+0004]

Env3 Latch Mode [+0000...+0004]

Assigns the “Latch” (Program 7–4b) function.

+0000: Off

+0001: Sus1

+0002: Rel1

+0003: Sus2

+0004: Rel2

For more information, see “Envelope Latch” on page 112.

Group: Zone

Thru Inside Zone [+0000, +0001]

Assigns the “Thru In Zone” (Program 7–1a) function.

+0000: Off

+0001: On

For more information, see “Thru In Zone” on page 102.

Thru Outside Zone [+0000, +0001]

Assigns the “Thru Out Zone” (Program 7-1a) function.

+0000: Off

+0001: On

For more information, see “Thru Out Zone” on page 102.

Key Zone Bottom [+0000...+0127]

Assigns the “Bottom (Key Zone Bottom)” (Program 7-1a) function.

+0000...+0127: C-1-G9 (corresponds to note numbers)

For more information, see “Bottom (Key Zone Bottom)” on page 101.

Key Zone Top [+0000...+0127]

Assigns the “Top (Key Zone Top)” (Program 7-1a) function.

+0000...+0127: C-1-G9 (corresponds to note numbers)

For more information, see “Top (Key Zone Top)” on page 101.

Transpose In Thru [-0036...+0036]

Assigns the “Transpose In Zone” (Program 7-1a) function. This controls transposition of the note data from the keyboard within the Key Zone, in semitone steps.

For more information, see “Transpose In Zone” on page 102.

Transpose Out Thru [-0036...+0036]

Assigns the “Transpose Out Zone” (Program 7-1a) function. This controls the transposition of note data from the keyboard outside the Key Zone, in semitone units.

For more information, see “Thru Out Zone” on page 102.

Transpose Octave In Thru [-0036...+0036]

Assigns the “Transpose In Zone” (Program 7-1a) function. This controls the transposition of note data from the keyboard within the Key Zone, in octave units.

Transpose Octave Out Thru [-0036...+0036]

Assigns the “Transpose Out Zone” (Program 7-1a) function. This controls the transposition of note data from the keyboard outside the Key Zone, in octave units.

Transpose Octave/5th In Thru [-0036...+0036]

Assigns the “Transpose In Zone” (Program 7-1a) function. This controls the transposition of note data from the keyboard within the Key Zone, in units of an octave and a fifth.

Transpose Octave/5th Out Thru [-0036...+0036]

Assigns the “Transpose Out Zone” (Program 7-1a) function. This controls the transposition of note data from the keyboard outside the Key Zone, in units of an octave and a fifth.

Group: Random

Start Seed [-8192...0...+8191]

Assign the “Start Seed” (Program 7-8b) function.

+0000: Random

Other than +0000: Any desired “Start Seed” value. However, you cannot select values outside the range of -8192 to +8191 when changing the value in this way.

For more information, see “Start Seed” on page 122.

Note: If the “Start Seed” value is set to a value outside of this range when you first assign it as a RT Parameter, it will be limited to either end of the range.

Freeze Loop Length [+0000...+0032]

Assigns the “Freeze Loop Length” (Program 7-8b) function. This specifies the number of measures (bars) in the phrases that are repeatedly generated by the KARMA Module. After being triggered, the Module will generate a phrase of the number of measures you specify here, and will then repeat that phrase.

Freeze Loop Length + Reset [+0000...+0032]

Like **Freeze Loop Length**, above, this also assigns the “Freeze Loop Length” (Program 7-8b) function. However, when this is used, and the Start Seed is set to some other value than 0: Random, changing the Freeze Loop Length to any value except 0: Off will reset the Start Seed internally to the indicated value, thereby restoring the original phrase at the next downbeat without retriggering it from the keyboard.

Normally, if you were generating a randomized riff from a particular Start Seed value, setting Freeze Loop Length to 0: Off would cause the phrase to continue randomizing from its current internal position. If you then set the Freeze Loop Length to some other value than 0: Off, thereby looping the phrase, it does not automatically reset the Start Seed until you retrigger it from the keyboard (depending on Trigger settings). By using “Freeze Loop Length + Reset,” a change in the Freeze Loop Length can additionally reset the internal Start Seed and therefore generate the same phrase as before, allowing instantaneous switching between “randomized” and “preset” phrases.

Retrigger Each Time [+0000, +0001]

Assigns the “Retrigger Each Time” (Program 7-9b) function.

+0000: Off

+0001: On

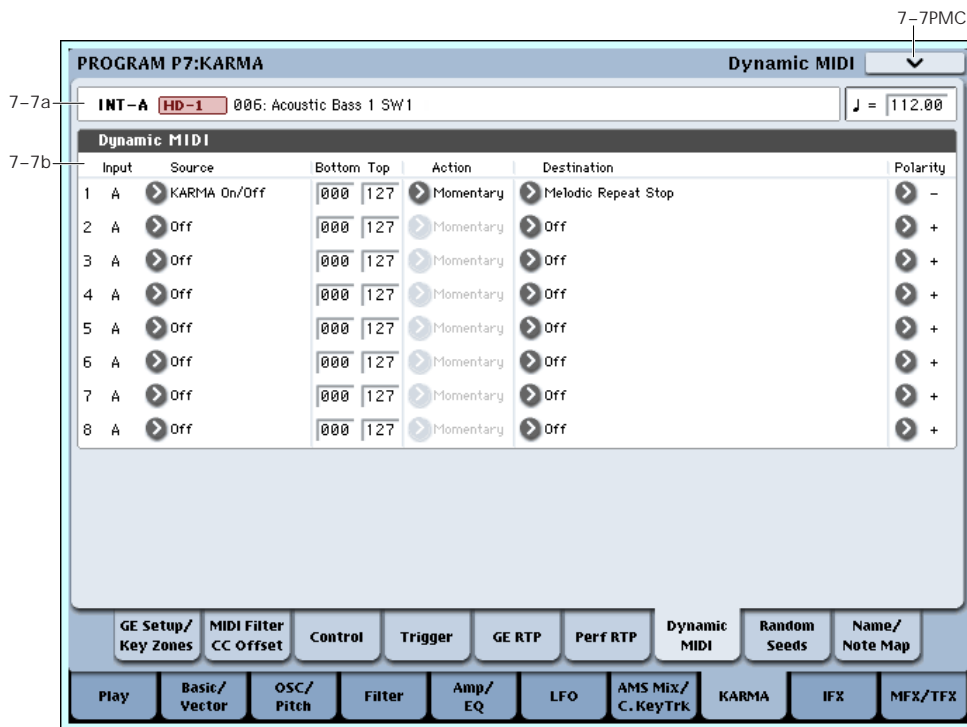
For more information, see “Retrigger Each Time” on page 124.

▼ 7-6: Page Menu Commands

The number before each command shows its ENTER + number-key shortcut. For more information on these shortcuts, see “ENTER + 0-9: shortcuts for menu commands” on page 142.

- 0: **Write Program.** For more information, see “Write Program” on page 142.
- 1: **Exclusive Solo.** For more information, see “Exclusive Solo” on page 142.
- 2: **Copy KARMA Module.** For more information, see “Copy KARMA Module” on page 150.
- 3: **Initialize KARMA Module.** For more information, see “Initialize KARMA Module” on page 151.
- 4: **Copy Scene.** For more information, see “Copy Scene” on page 151.
- 5: **Swap Scenes.** For more information, see “Swap Scene” on page 151.
- 6: **Capture Random Seed.** For more information, see “Capture Random Seed” on page 151.

7-7: Dynamic MIDI



Dynamic MIDI lets you use this instrument’s controllers and MIDI control messages to control specific KARMA functions.

You can take advantage of this to control KARMA in various ways while you play. For example, you can use note-ons to advance the KARMA clock (Manual Advance), or a joystick to Trigger the start of the patterns. You can use a foot pedal to control Auto Transpose, or a damper pedal to control the KARMA Latch settings.

7-7a: Program Name and Tempo

For descriptions of these parameters, please see “7-2a: Program Name and Tempo” on page 103.

7-7b: Dynamic MIDI

You can set up 8 different Dynamic MIDI routings, each of which has an identical set of parameters, as described below.

Dynamic MIDI 1...8

Input (Input Module) [A]

In Program mode this is fixed at A. This is because only KARMA Module A is used. This setting cannot be changed.

Source [Off, JS+Y (CC#01) ...Velocity Outside Zone]

Indicates the controller or action that will be the Dynamic MIDI source. For more information, see “Dynamic MIDI Sources & Destinations” on page 1038.

Bottom (Range Bottom) [000... 127]

Specifies the lower limit for the value controlled by **Source**. If **Source** is **Short Note**, **Note No.**, **White Note**, or **Black Note**, the numeric value corresponds to the note numbers C-1-G9.

Top (Range Top) [000...127]

Specifies the upper limit for the value controlled by **Source**. If **Source** is **Short Note**, **Note No.**, **White Note**, or **Black Note**, the numeric value corresponds to the note numbers C-1-G9.

Action (Source Action) [Momentary, Toggle, Continuous]

Specifies the operation mode for Dynamic MIDI.

Momentary: The parameter will be controlled as a momentary switch. For example if **Source** is JS+Y (CC#01), the parameter will normally be **off**, and will be **on** when you move the joystick.

Note: If **Polarity** is + and the source controller value is less than or equal to the **Bottom** setting, the destination will be off. If the controller value is greater than or equal to the **Top** setting, it will be on.

Example

When **Bottom:** 000 and **Top:** 127

The controller value and the on/off status are related as follows.

000 → 127: **on** at 127

127 → 000: **off** at 000

Toggle: The parameter will be controlled as a toggle switch. For example, if **Source** is JS+Y (CC#01), moving it to the top and releasing it one time will turn the destination on, and moving it to the top and releasing it again will turn the destination off. If **Polarity** is +, on and off will alternate each time the source controller value exceeds the **Top** value after having passed through the **Bottom** value.

Example

When **Bottom:** 0 and **Top:** 127

The controller value and the on/off status are related as follows.

000 → 127: **on** → **off** at 127

127 → 000 → 127: **off** → **on** at 127

(127 → 001 → 127: no change)

Continuous: The parameter will be controlled continuously, over the range specified by **Bottom** and "Top." For example, if bottom is 25 and **Top** is 100, the destination value will be smoothly operated when the controller's value moves between 25 and 100. Values outside that range will cause no further change.

Note: The operating modes that can be selected are limited by the "Destination." For more information, see "Dynamic MIDI Sources & Destinations" on page 1038.

Destination [Off, RT Params Control...Buffer Latch]

Selects the Dynamic MIDI Control destination function. For more information, see "Dynamic MIDI Destinations" on page 1040.

Polarity [+ , - , +/- , -/+]

Specifies the Dynamic MIDI polarity.

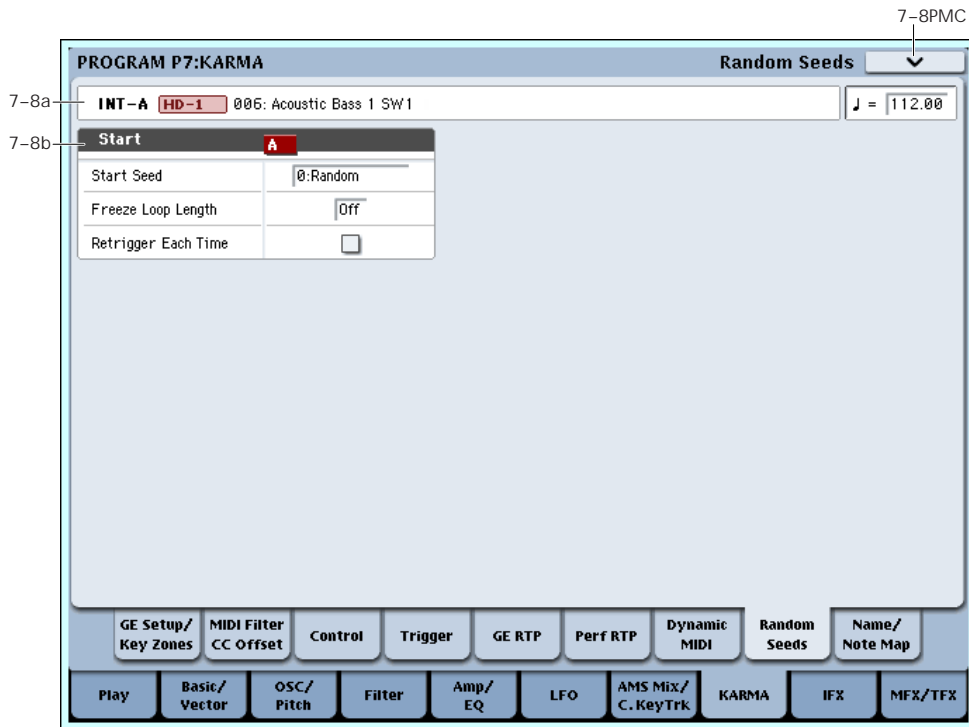
For example if you set **Polarity** to + and the Source is **KARMA SLIDER 1**, moving the Slider 1 from min to max will change the value from 0 → 127. If you set **Polarity** to -, the same Slider 1 movement will change the value from 127 → 0.

▼ 7-7: Page Menu Commands

The number before each command shows its ENTER + number-key shortcut. For more information on these shortcuts, see "ENTER + 0-9: shortcuts for menu commands" on page 142.

- 0: **Write Program.** For more information, see "Write Program" on page 142.
- 1: **Exclusive Solo.** For more information, see "Exclusive Solo" on page 142.
- 2: **Copy KARMA Module.** For more information, see "Copy KARMA Module" on page 150.
- 3: **Initialize KARMA Module.** For more information, see "Initialize KARMA Module" on page 151.
- 4: **Copy Scene.** For more information, see "Copy Scene" on page 151.
- 5: **Swap Scenes.** For more information, see "Swap Scene" on page 151.
- 6: **Capture Random Seed.** For more information, see "Capture Random Seed" on page 151.

7-8: Random Seeds



The Random Seeds page allows you to control some of the randomizable characteristics of a Module's GE.

You can freeze (capture) the endlessly varying phrases generated by KARMA's randomize features.

7-8a: Program Name and Tempo

For descriptions of these parameters, please see "7-2a: Program Name and Tempo" on page 103.

7-8b: Start

By using the "Capture Random Seed" (p.151), "Start Seed", and "Freeze Loop Length" parameters, you can loop a randomly changing phrase, or play the same phrase each time you trigger it. These capabilities are collectively called **Freeze Randomize**. You can also store a Program or Combination with these settings, so that it will always play the same randomized phrase or pattern when you first call it up.

⚠ Not all GEs have been programmed to utilize the KARMA function's randomization capabilities. If no randomization has been programmed as part of the GE, changing these parameters will appear to have no effect.

Start Seed [-2147483648...0:
Random...+2147483647]

Specifies the seed that is used by the KARMA Module to generate the random phrase.

Note: "Seed" is the source data from which the randomizations are created. "Start Seed" is the seed that will be used each time a trigger occurs.

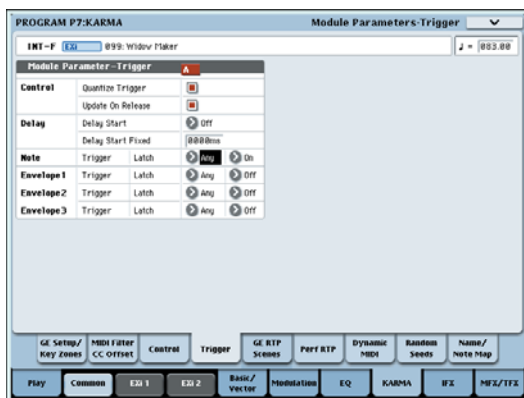
0: Random: A different phrase will be generated each time the trigger occurs. Within the KARMA Module, a different "Start Seed" value is specified randomly each time the trigger occurs.

Any value other than Random: The same phrase will be generated each time the trigger occurs. Different values for the Start Seed parameter will produce different phrases, but the same phrase will always be generated if the Start Seed value is the same.

How the "Start Seed" value affects the phrase

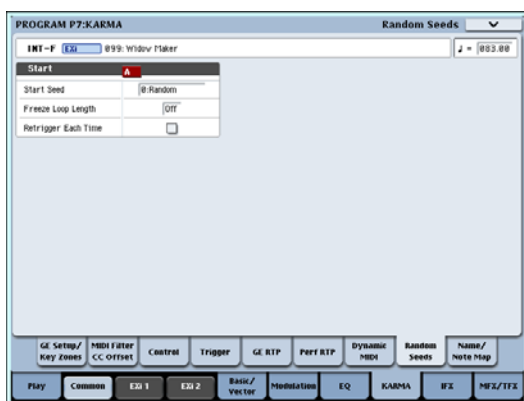
As an example, we will use Program INT-F099: Widow Maker to see how different "Start Seed" settings will affect the phrase.

1. In Program mode, select INT-F099: Widow Maker. This is an EXi Program, using two AL-1s to create a lead synth sound. KARMA is programmed to play a phrase.
2. Turn on the front-panel KARMA ON/OFF switch.
3. Press the Common button, to see the EXi Common pages.
4. Select the P7-8: Random Seeds page.
5. Press the Common button to access the 7-4: Module Parameters- Trigger page, and set "Note Trigger" to Any.



6. Turn the front panel KARMA LATCH switch on.
7. Go to the 7–8: Random Seeds page.
8. Make sure that the KARMA module’s “Start Seed” value is 0:Random.

If “Start “Seed” is other than 0:Random, set it to 0:Random.



The KARMA module will generate a lead synth phrase.

9. Use pad 1 to produce a trigger several times at a fixed interval (one or two seconds). When doing so, pay attention to the phrase that begins immediately after triggering. A different phrase will begin playing each time triggering occurs.
10. Set “Start Seed” to any value other than 0:Random. For this example, we’ll set it to +1.
11. As you did in step 4, trigger pad 1 several times, and pay attention to the phrase that begins immediately after triggering. The same phrase will begin playing each time triggering occurs.
12. Set “Start Seed” to a value other than +1, and repeat the actions you performed in step 4.

The phrase will be different than when “Start Seed” was +1, but the same phrase will begin playing each time triggering occurs.

Note: If you set “Start Seed” to **0: Random**, and execute “Capture Random Seed” (p.151) after triggering, the “Start Seed” value that was internally set within the module at the time of triggering will be specified here. While listening to the phrases that change randomly at each trigger, you can execute this when you hear a phrase that you want to reproduce. In conjunction with the “Freeze Loop Length” and “Retrigger Each Time” settings, you can also loop a phrase that you like.

For more information, see “Checking the Freeze Randomize function, and performing “Capture Random Seed”” on page 152.

Freeze Loop Length [Off, 01...32]

Specifies the number of measures in the phrases that are repeatedly generated by the KARMA Module. After being triggered, the module will generate a phrase of the number of measures you specify here, and will then repeat that phrase. If you set this to Off, the phrase will not be repeated.

The table below and the explanations that follow describe how various combinations of “Start Seed” and “Freeze Loop Length” settings will affect the phrase or control data that is randomly generated by the KARMA Module each time triggering occurs, according to the GE settings you are using.

1. “Start Seed”: 0: Random, “Freeze Loop Length”: Off (unchecked)

The phrase will change randomly each time triggering occurs. Each time the phrase repeats, it will change randomly. For example, suppose there is a GE that, if you input C-D-E-F, will randomly vary the order of notes, and repeatedly play four notes in each measure. When you trigger this GE, it produces notes in a random order of (for example) C-D-E-F, C-C-D-F, F-D-C-E.... When you trigger this GE again, it produces a different random phrase of (for example) E-D-C-C, C-C-D-D, C-D-C-E....

2. “Start Seed”: any value, “Freeze Loop Length”: Off

Each time triggering occurs, the same phrase will be generated. Different “Start Seed” values cause different phrases to be generated. The phrase will change randomly each time it repeats, but the same phrase will always be generated each time you retrigger with a given “Start Seed” value. This lets you select any desired one of more than four billion (!) different phrase variations. For example, suppose there is a GE that, if you input C-D-E-F, will randomly vary the order of notes, and repeatedly play four notes in each measure. When you trigger this GE, it produces notes in a random order of (for example) C-D-D-C, D-C-E-C, D-E-C-D.... Even if you trigger this GE again, it reproduces the same phrase of C-D-D-C, D-C-E-C, D-E-C-D.... If you change the “Start Seed” value, a different phrase will be generated; for example, E-E-C-D, D-C-C-C, E-E-E-E....

3. “Start Seed”: 0: Random, “Freeze Loop Length”: 1...32

The phrase will change randomly each time triggering occurs. However, that phrase will loop (repeat) for the number of measures you specified in “Freeze Loop Length.” The same phrase will continue looping until you trigger the GE again. When you trigger the GE again, a different phrase will loop. For example, suppose there is a GE that, if you input C-D-E-F, will randomly vary the order of notes, and repeatedly play four notes in each measure. If you set “Freeze Loop Length” to 1 (measure) and trigger this GE, the same four notes will continue looping (e.g., F-E-D-C, F-E-D-C, F-E-D-C, ...). When you trigger it again, a different

phrase will loop (e.g., D-D-C-C, D-D-C-C, D-D-C-C, ...). (☞ “Retrigger Each Time” on page 119)

4. “Start Seed”: any value, “Freeze Loop Length”: 1...32

The same phrase will play each time you trigger the GE. That phrase will loop for the number of measures you specified in “Freeze Loop Length.” For example if you select a program or combination, and make these settings for a KARMA Module that generates random changes each time it is triggered, the exact same phrase will loop every time. The phrase that is looped will be different if you change the “Start Seed” value. For example, suppose there is a GE that, if you input C-D-E-F, will randomly vary the order of notes, and repeatedly play four notes in each measure. If you set “Freeze Loop Length” to 1 (measure) and trigger this GE, the same four notes will loop (e.g., D-E-E-C, D-E-E-C, D-E-E-C, ...). Even if you trigger the GE again, the same phrase (D-E-E-C, D-E-E-C, D-E-E-C, ...) will be reproduced. If you change the “Start Seed” value, a different phrase (e.g., C-C-E-E, C-C-E-E, C-C-E-E, ...) will loop. (☞ “Retrigger Each Time” on page 119)

- 2: **Copy KARMA Module.** For more information, see “Copy KARMA Module” on page 150.
- 3: **Initialize KARMA Module.** For more information, see “Initialize KARMA Module” on page 151.
- 4: **Copy Scene.** For more information, see “Copy Scene” on page 151.
- 5: **Swap Scenes.** For more information, see “Swap Scene” on page 151.
- 6: **Capture Random Seed.** For more information, see “Capture Random Seed” on page 151.

Retrigger Each Time [Off, On]

When set to **On (checked)**, every time the specified loop length is completed, the Phase Pattern, Envelopes, and Indexes will retrigger as if the keyboard itself was retriggered. This means that the notes in the phrase will be restarted according to the Note Trigger settings (☞ “Note Trigger” on page 111) and the applicable internal settings of the GE, and any envelopes will be retriggered according to the Envelope Trigger/Latch settings (☞ “Envelope Trigger” on page 112, “Envelope Latch” on page 112)

When **Off (unchecked)**, the overall length of the internal GE Phase Pattern controls when the loop will be retriggered. For example, if the Phase Pattern is 8 bars, and the “Freeze Loop Length” is set to 2 bars, then the randomizations will reset every 2 bars (controlling the rhythm and movement of notes, for example), but the melody and envelopes may not trigger from the beginning until every 8 bars is completed. (☞ “Checking the Freeze Randomize function, and performing “Capture Random Seed”” on page 152)

 Not available unless “Freeze Loop Length” is set to something other than **Off (unchecked)**.

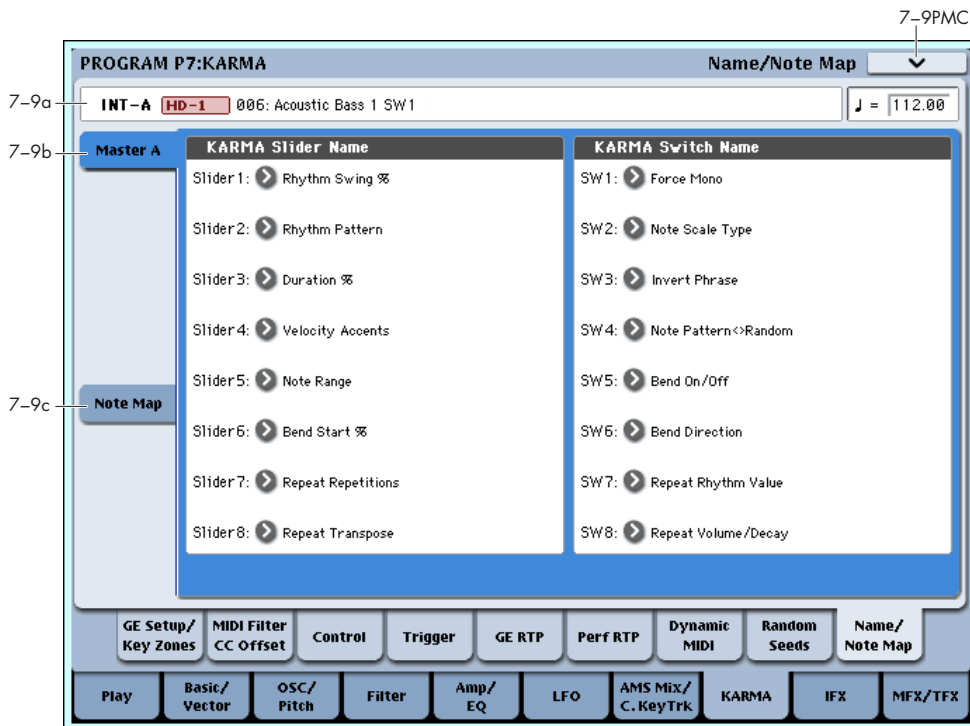
Note: In some cases, the two settings may sound the same, depending on the internal settings of the GE.

▼ **7-8: Page Menu Commands**

The number before each command shows its ENTER + number-key shortcut. For more information on these shortcuts, see “ENTER + 0-9: shortcuts for menu commands” on page 142.

- 0: **Write Program.** For more information, see “Write Program” on page 142.
- 1: **Exclusive Solo.** For more information, see “Exclusive Solo” on page 142.

7-9: Name/Note Map



Here you can assign the names for KARMA SLIDERS 1-8 and KARMA SWITCHES 1-8, view Global Note Map Tables, and edit the Custom Note Map Table stored with the Program.

7-9a: Program Name and Tempo

For descriptions of these parameters, please see “7-2a: Program Name and Tempo” on page 103.

7-9b: Module A

Here you can assign the names for KARMA SLIDERS 1-8 and KARMA SWITCHES 1-8.

The RTC Models include appropriate names for the sliders and switches. However, you may wish to edit the names if you modify the control assignments, or create new ones.

Slider1...Slider8 [000: (no name)...
571: Waveform Select [16]]

Selects the name for the KARMA SLIDERS.

Switch1...Switch8 [000: (no name)...
571: Waveform Select [16]]

Selects the name for the KARMA SWITCH.

Note: The Slider and Switch names can also be automatically assigned to new control assignments using the Page Menu “Auto Assign KARMA RTC Name” command. For more information, see “Auto Assign KARMA RTC Name” on page 143.

7-9c: Note Map

Note Maps allow notes being generated by the GE to be selectively remapped to other notes, or removed completely (changed into rests). Here you can view Global Note Map Tables, and edit the Custom Note Map Table that is stored with each Program. The Note Map Table is assigned in Module Parameters-Control: Note Map (p.108).

Table [Custom, Global 1...64]

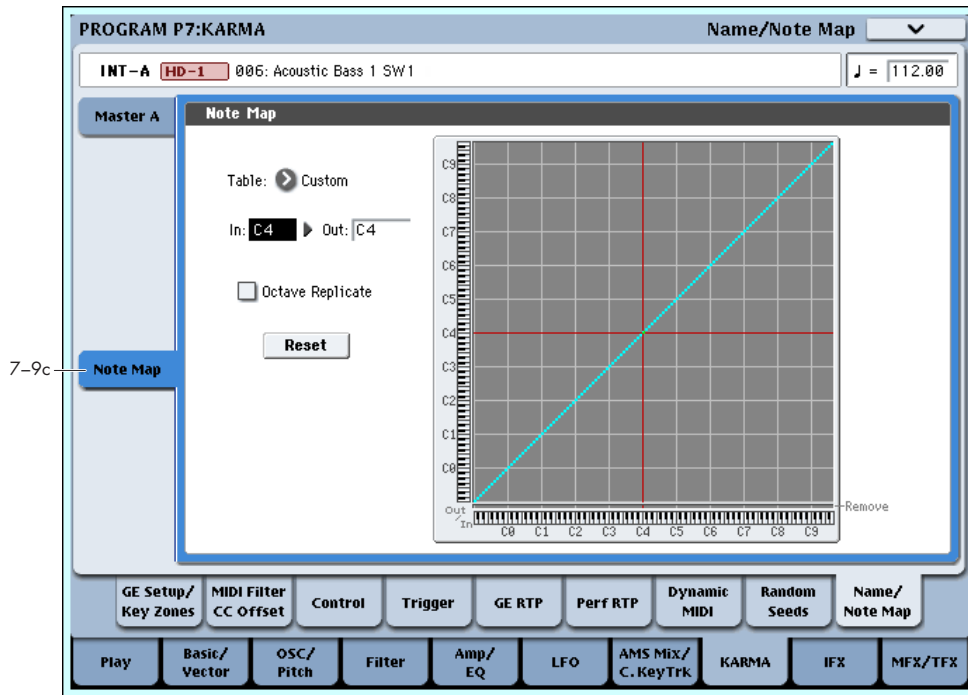
There are 64 Global Note Map Tables provided in the system which cannot be edited, and provide a wide variety of preset note-remapping functions. There is also a single Custom Note Map Table stored in each Program, Combi, and Sequence.

When “Table” = Custom, you can edit the Custom Table using the “In” and “Out” parameters below. When “Table” is one of the 64 Global Tables, you cannot edit it.

In (Note In) [C-1...G9]

Specifies a note number (of data being generated by the GE) that you want to map to a different note or to remove (change to a rest).

Note: When “In” is selected, you can hold down the ENTER switch and press a note on the keyboard to set the “In” field to that note.



Out (Note Out) [Remove, C-1...G9]

Specify what will be done with the note you specified in the “In” field.

Remove: The note specified by “In” will be removed from the output data (and changed to a rest).

C1...G9: The note specified by “In” will be converted to the note number you specify here, and sent to the tone generator.

Note: When “Out” is selected, you can hold down the ENTER switch and press a note on the keyboard to set the “Out” field to that note.

Table Grid This area graphically shows the overall “In” and “Out” settings in visual form.

The horizontal axis (X-axis) corresponds to the incoming note numbers, and the vertical axis (Y-axis) corresponds to the outgoing note numbers. The note transmitted for each received note is shown by the light blue pixels. Notes that are being removed from the incoming data are shown in yellow pixels in the bottom “Remove” row. A straight diagonal line represents no change (what goes in is passed through without modifications).

You can use the buttons located below the graphic to change the “In” note number up or down.

Octave Replicate [Off, On]

When On (checked), any edit that you make within an octave will be made in **every** octave. This is mainly for applying the table to Melodic GEs, where you want to do something like remove every minor third, remap every fourth to a fifth, etc., and have that change take place in every octave.

Reset [button]

Restores the current table to “linear/no change” (a diagonal line).

▼ 7-9: Page Menu Commands

The number before each command shows its ENTER + number-key shortcut. For more information on these shortcuts, see “ENTER + 0-9: shortcuts for menu commands” on page 142.

- 0: **Write Program.** For more information, see “Write Program” on page 142.
- 1: **Exclusive Solo.** For more information, see “Exclusive Solo” on page 142.
- 2: **Copy KARMA Module.** For more information, see “Copy KARMA Module” on page 150.
- 3: **Initialize KARMA Module.** For more information, see “Initialize KARMA Module” on page 151.
- 4: **Copy Scene.** For more information, see “Copy Scene” on page 151.
- 5: **Swap Scenes.** For more information, see “Swap Scene” on page 151.
- 6: **Capture Random Seed.** For more information, see “Capture Random Seed” on page 151.
- 7: **Auto Assign KARMA RTC Name.** For more information, see “Auto Assign KARMA RTC Name” on page 143.
- 9: **Copy Note Mape.** For more information, see “Copy Note Map” on page 143.

Program P8: Insert Effect

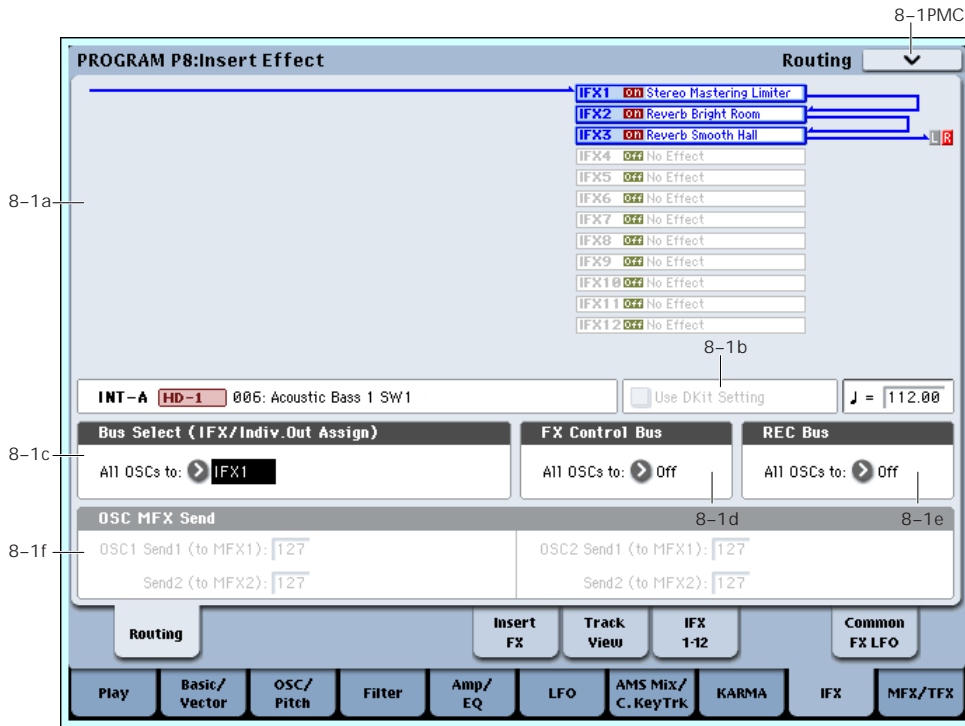
These pages let you can make settings for the insert effects. For instance, you can:

- Send the output of an oscillator to an insert effect
- Route a sound to an insert effect

- Make detailed settings for insert effects
- Make common LFO settings for effects

For more information, please see “Effect Guide” on page 787.

8-1: Routing



8-1a: Routing Map

This graphic shows an overview of the insert effects, including the routing of the oscillators to the effects, the effects names and on/off status, chaining between the effects, and the output bus to which the insert effects are themselves routed.

This page lets you adjust the routing of the oscillators to the insert effects. To adjust the other settings shown in this graphic, see “8-5: Insert FX,” as described on page 130.

8-1b: Program Information & Use DKit

Bank [(INT-A...INT-G, USER-A...USER-G)]

Program Name [000...127/001...128: Name]

Tempo (♩) [040.00...240.00, EXT]

This area displays information about the program selected for editing, including the Program Bank, number, and name, and the tempo used for LFOs, effects, and KARMA.

Use Dkit Setting

[Off, On]

This is shown if **Oscillator Mode** is set to **Drums**. If **Oscillator Mode** is set to **Single** or **Double**, this setting is ignored. For more information, please see “Oscillator Mode” on page 33.

On (checked): The **Bus Select**, **FX Control Bus**, **Send 1**, and **Send 2** settings (Global 5-3b) for each key of the selected drum kit will be used. Check this setting if you want to apply an individual insert effect to each drum instrument, or to send individual drum instruments to AUDIO OUTPUT (INDIVIDUAL).

Tip: In most preloaded drumkits, the drum instruments have the same **Bus Select** settings according to their type, as follows.

Snares → IFX1

Kicks → IFX2

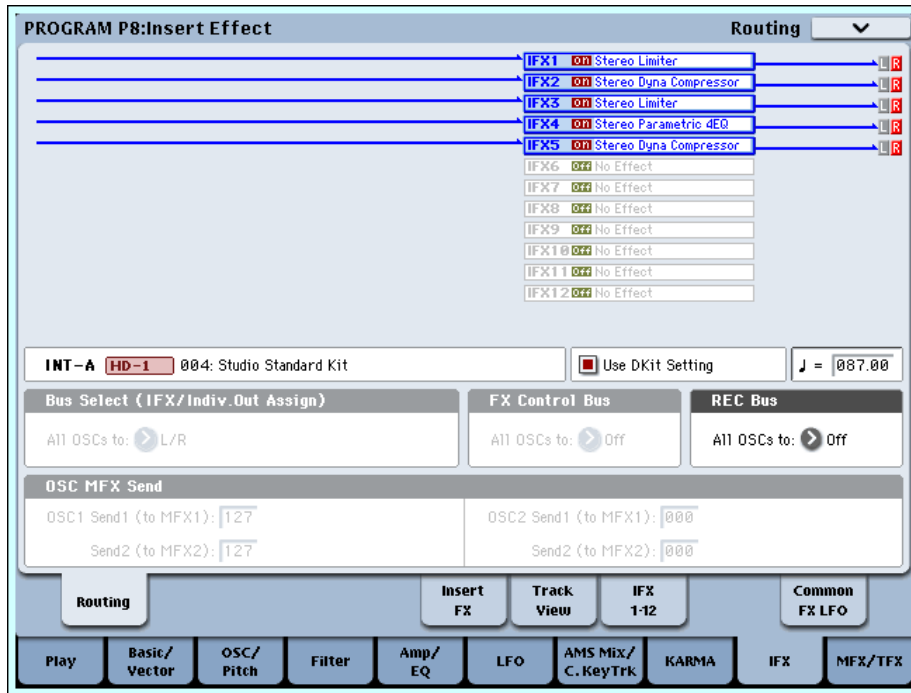
Toms → IFX3

Cymbals → IFX4

Percussion, etc. → IFX5

Off (unchecked): The **Bus Select**, (8-1c) **FX Control Bus**, (8-1d), “8-1f: OSC MFX Send” **OSC MFX Send** settings will be used. All drum instruments will be sent to the specified bus.

Use Dkit Setting = On



8-1c: Bus Select (IFX/Indiv.Out Assign)

All OSCs to [L/R, IFX1...12, 1...8, 1/2...7/8, Off]

This specifies the output bus for oscillators 1 and 2.

L/R: The oscillators will be output to the L/R bus.

Normally you will choose L/R.

IFX1...12: Output to the IFX1-12 busses.

1...8: The oscillator will be output in mono from the corresponding AUDIO OUTPUT (INDIVIDUAL).

1/2...7/8: The oscillator will be output in stereo according to its pan setting (4-1c, 4-5: Amp/Driver2) from the corresponding AUDIO OUTPUT (INDIVIDUAL) pair.

Off: The oscillator will not be output from the L/R bus, IFX1-12 busses, or Individual 1-8 busses. Choose the Off setting if you want the program oscillator output of the timbre to be connected in series to a master effect. Use **Send1 (to MFX1)** and **Send2 (to MFX2)** to specify the send levels.

8-1d: FX Control Bus

All OSCs to [Off, 1, 2]

Sends the output of the oscillator 1, 2 to an FX Control bus (two-channel stereo FX Ctrl 1 or 2).

Use the FX Control busses when you want a separate sound to control the audio input of an effect. You can use two FX Control busses (each is a two-channel stereo bus) to control effects in various ways.

For more information, please see "FX Control Buses" on page 790.

8-1e: REC Bus

All OSCs to [Off, 1...4, 1/2, 3/4]

These settings send the output of the oscillator 1, 2 to the REC busses (four mono channels: 1, 2, 3, 4).

The REC busses are dedicated internal busses for recording, used for sampling in the various modes or for recording audio tracks in Sequencer mode.

In Program mode, you can resample your keyboard or KARMA performance, or sample an external audio signal from the AUDIO INPUT jacks.

In order for you to sample, **Source Bus** must be set to a REC bus.

Normally you will set **Source Bus** to L/R so that you can sample the signal of the L/R bus line, such as your keyboard or KARMA performance. However, you can use a REC bus if you want to sample only an audio input while performing on the keyboard or KARMA function which are being output via L and R. If desired, multiple audio inputs can be mixed to a REC bus, or the direct signal from an audio input can be mixed to a REC bus along with the sound from an insert effect and sampled. For more information, see the diagram "Source Bus = REC Bus 1/2" on page 16.

Off: The signal will not be sent to a REC bus. Normally you will leave this off.

1...4: The output of the oscillator 1, 2 will be sent to the corresponding REC bus. The **Pan** setting (4-1c, 4-5: Amp/Driver2) of each oscillator will be ignored, and the signal will be sent in monaural.

1/2, 3/4: The output of the oscillator 1, 2 will be sent in stereo to the corresponding pair of REC busses. The signal is sent in stereo to REC busses 1/2 or 3/4 according to the **Pan** setting.

8-1f: OSC MFX Send

OSC1 Send1 (to MFX1) [000...127]

Sets the volume (send level) at which the output of oscillator 1 will be sent to master effect 1. This applies only when **Bus Select** (8-1c) is set to **L/R** or **Off**.

If **Bus Select** is set to **IFX1-IFX12**, the send levels to master effects 1 and 2 are set by **Send 1** and **Send 2** (8-5a) after passing through IFX1-12.

OSC1 Send2 (to MFX2) [000...127]

Sets the volume (send level) at which the output of oscillator 1 will be sent to master effect 2 (see “OSC1 Send1 (to MFX1)”).

OSC2 Send1 (to MFX1) [000...127]

OSC2 Send2 (to MFX2) [000...127]

Sets the volume (send level) at which the output of OSC2 will be sent to master effects 1 and 2. These parameters will be valid when **Oscillator Mode** is set to **Double** and **Bus Select** is set to **L/R** or **Off**.

Note: You can use the control surface to control Send1 and Send2. These can also be controlled from the mixer section of the front panel, or from the P0- Control Surface page of the LCD screen. Here’s the procedure for editing these settings from the front panel.

1. Press the **CONTROL ASSIGN MIXER TIMBRE/TRACK** switch to turn it on (lit).
2. Press the **MIXER KNOBS** switch to select **CHANNEL STRIP**.
3. Use the **MIXER SELECT 1-2** switches to select the oscillator whose send levels you want to adjust.
4. Use **FX SEND 1 (knob 7)** and **FX SEND 2 (knob 8)** to control the send levels.

If **Bus Select (IFX/Indiv. Out Assign)** is set to **L/R** or **OFF**, this will control **OSC1 Send1 (to MFX1)** and **OSC2 Send2 (to MFX2)**.

If “**Bus Select (IFX/Indiv. Out Assign)** is set to **IFX1-12**, this will control **Send1** and **Send2** (P8- Insert FX page).

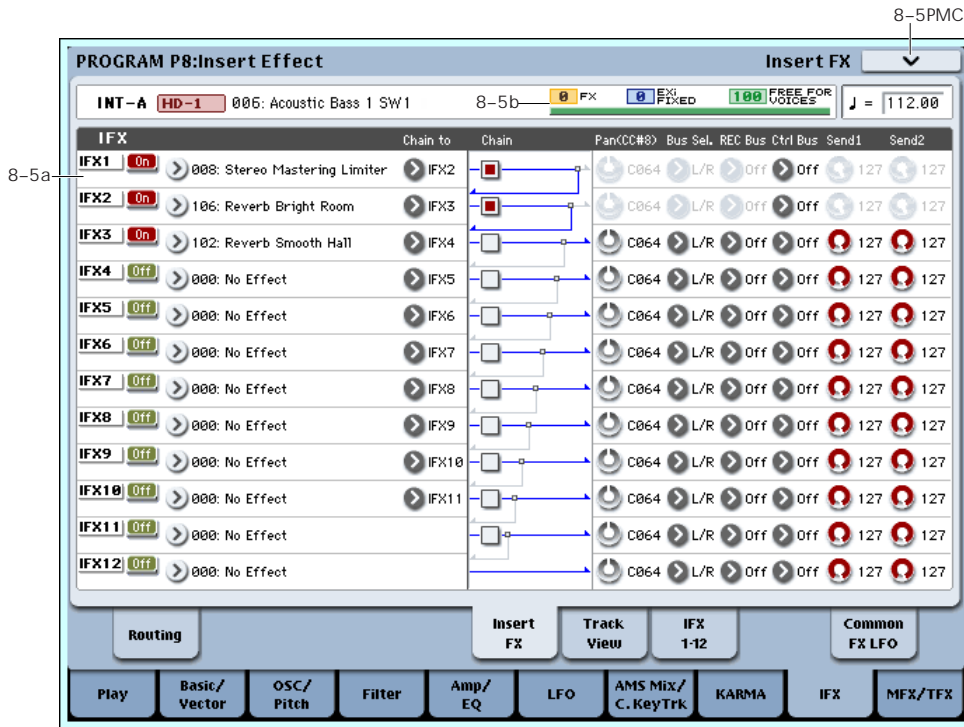
MIDI CC#93 controls OSC 1/2’s Send 1 level, and CC#91 controls the Send 2 level. These are controlled on the global **MIDI Channel** (Global 1-1a). The actual send level is determined by multiplying these values with the send levels of each oscillator.

▼ 8-1: Page Menu Commands

The number before each command shows its **ENTER + number-key** shortcut. For more information on these shortcuts, see “**ENTER + 0-9: shortcuts for menu commands**” on page 142.

- **0: Write Program.** For more information, see “**Write Program**” on page 142.
- **1: Exclusive Solo.** For more information, see “**Exclusive Solo**” on page 142.
- **2: Copy Insert Effect.** For more information, see “**Copy Insert Effect**” on page 153.
- **3: Swap Insert Effects.** For more information, see “**Swap Insert Effect**” on page 154.

8-5: Insert FX



8-5a: Effect/EXi Fixed Resource Meter

Background information

Most hardware synthesizers offer a single, fixed method of synthesis, a predetermined number of voices, and a fixed amount of effects processing power. OASYS is different; it has no fixed synthesis method, and it shares its processing power between voices and effects.

This flexibility means that the system can deliver power where you need it the most. For instance, one Program may need a bunch of voices layered together, but not many effects; another might need complex effects processing, but not as many voices. In both cases, OASYS will automatically divide its processing power appropriately.

Unlike most computer-based systems, OASYS also monitors the overall processing power, reducing the overall number of voices if necessary, to make sure that there are never problems with the audio.

Normally, you shouldn't need to think about this at all; it will just happen automatically. Sometimes, however, it can be convenient to know how the system is allocating its resources. That's what this meter is for.

The resource meter

The resource meter shows how the OASYS processing power is being used, as an approximate percentage of the total available power. There are three main categories: FX, EXi Fixed, and Free for Voices.

Note: the displayed values are rounded to the closest 1%, but the internal values have a much finer resolution. This means that you may sometimes add an effect, but see no change in the resource meter.

FX shows the percentage of the total processing power being used for the IFX, MFX, and TFX. This will vary depending on the specific effects being used.

If an effect has been assigned to an IFX, MFX, or TFX, it will take up the same amount of processing resources even if it is turned Off or bypassed. If you want to free up the processing resources, change the selection to 000: No Effect.

EXi FIXED shows the percentage of the total processing power used for the fixed components of EXi instruments. "Fixed" means that part of the EXi starts using processing power as soon as the EXi is loaded, before playing any notes; this includes the built-in effects of the CX-3, for example.

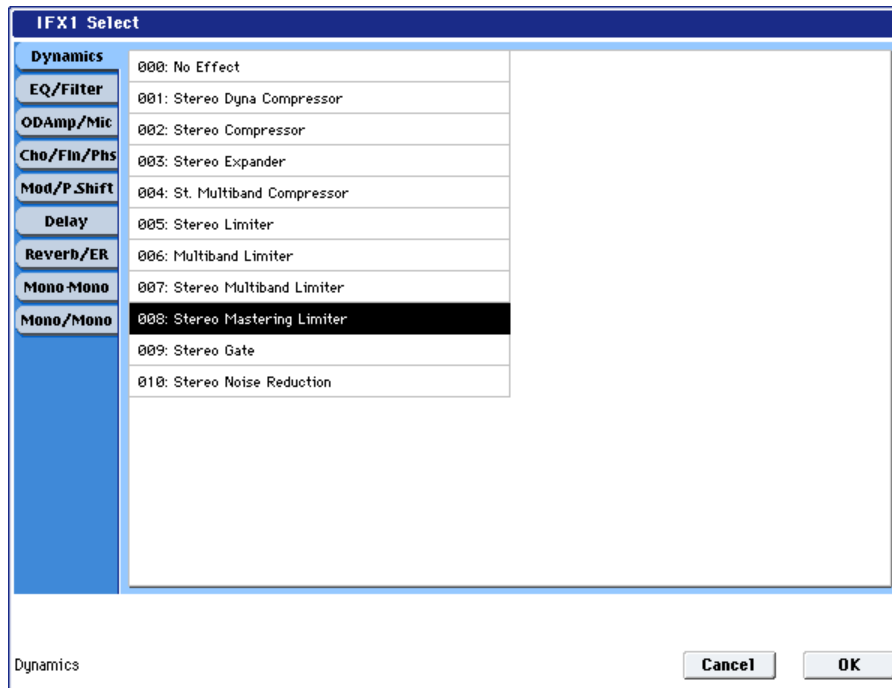
Only some EXi include fixed components; for instance, the CX-3 does, but the AL-1 does not. For information on other EXi, see their individual documentation.

For more information on EXi fixed resources, please see "CX-3 & STR-1: Limitations on EXi fixed resources" on page 382.

FREE FOR VOICES shows the percentage of the total processing power remaining after the FX and EXi fixed components. This power is available for playing synthesizer voices.

When Free for Voices is at 100%, you can achieve the maximum polyphony—for instance, 172 voices of the HD-1, 96 voices of the AL-1, or 172 voices of the CX-3. When more effects or EXi fixed resources are being used, polyphony will be reduced accordingly.

Category/IFX Select menu



Note: As with the meter as a whole, the number shown in **FREE FOR VOICES** is only an approximation. For example, if **FREE FOR VOICES** is showing 98, the maximum polyphony for the HD-1 may not be exactly 172×0.98 (approximately 168).

The maximum polyphony will also depend on various other parameters; for more information, see “A note about polyphony” on page 33.

8-5b: IFX

Here you can choose the type of each insert effect 1 through 12, its on/off status, chaining, and adjust the post-IFX mixer settings. For insert effects, the direct sound (Dry) is always stereo-in and out. The input/output configuration of the effect sound (Wet) depends on the effect type. For more information, please see “Insert Effects (IFX1...IFX12)” on page 794.

IFX1

IFX1 [000...185]

This selects the effect type for insert effect 1.

Category/IFX Select menu

When you press the popup button, the Category/IFX Select menu will appear, letting you select effects by category. Use the tabs to select a category, and then select an effect within that category. Press the OK button to execute your selection, or press the Cancel button to cancel.

IFX1 On/Off [Off, On]



Switches the insert effect on/off.

If this is off, the input will simply be passed to the output. (When 000:No Effect is selected, there’s no difference between On and Off.)

The setting will alternate between on and off each time you press the button.

MIDI Separately from this setting, you can use MIDI CC #92 (on the global **MIDI Channel**) to turn all insert effects off. A value of 0 turns them off, and values of 1-127 restore the original setting.

Chain to [IFX2...IFX12]

You can chain up to twelve insert effects together in series, to create more complex effects. Set up the chain using this parameter, and then enable it using the **Chain** check box, below.

Effects must be chained in ascending numeric order. For example, IFX1 can be chained to any of IFX2 through IFX12, and IFX2 can be chained to IFX3 through IFX12.

You can chain two or more effects into the same downstream effect. For instance, both IFX1 and IFX2 can be chained to IFX6.

Effects can also join a chain in the middle. For instance, you can chain IFX3 to IFX4 to IFX9, and then chain IFX2 to IFX9 as well.

The **Pan (CC#8)**, **Bus Select**, **REC Bus**, and **Send1/2** settings apply only to the last effect in the chain. However, any effect in the chain can be sent to the FX Control buses.

Chain [Off, On]

This enables the chain, as set up by the **Chain to** parameter, above.

Pan (CC#8) (Post IFX Pan) [L000...C064...R127]

Specifies the panning immediately after the insert effect.

MIDI You can use CC#8 to control this.

Bus Sel. (Bus Select) [L/R, 1...8, 1/2...7/8, Off]

Specifies the bus to which the signal will be sent immediately after the insert effect.

L/R: The signal will be sent to the L/R bus, which passes through TFX 1 and 2 and then goes to the main L/R outputs. This is the default setting.

1...8: The signal will be sent, in mono, to the selected individual output.

1/2...7/8: The signal will be panned by the **Pan** (CC#8) setting, and sent in stereo to the selected pair of audio outputs.

Off: The signal will not be sent directly to the outputs. This setting is useful if you want to:

- Use **Send 1** or **2** to route the signal entirely through the master effects, without sending the dry signal to the outputs.
- Use the **FX Control Bus** to route the signal to an effects side-chain, such as a gate or vocoder, without being heard directly at the outputs.
- Use the **REC Bus** to record the signal, without routing the signal directly to the outputs.

FX Control Bus [Off, 1, 2]

This sends the post-IFX signal to the FX Control busses. For more information, see “8-1d: FX Control Bus” on page 128.

REC Bus [Off, 1, 2, 3, 4, 1/2, 3/4]

Sends the post-IFX signal to the REC busses. For more information, see “8-1e: REC Bus” on page 128. If you want to resample via the REC busses, set the sampling **Source Bus** (0-8d) to REC 1/2 or REC 3/4.

Send1 [000...127]

Send2 [000...127]

These adjust the level at which the post-IFX signal is sent to master effects 1 and 2. This is valid if **Bus Select** (8-5a) is set to L/R or Off.

Note: You can use the control surface to control Send1 and Send2. (See “8-1f: OSC MFX Send” on page 129)

MIDI You can use CC#93 to control the Send 1 level, and CC#91 to control the Send 2 level. The global MIDI channel specified by **MIDI Channel** (Global 1-1a) is used for these messages.

IFX2...12

Here you can specify each insert effect’s effect type, on/off status, chaining, and mixer settings following the insert effect. With the exception of **Chain to** and **Chain**, the parameters are the same as for IFX1. See “IFX1” on page 131.

IFX2: Chain to [IFX3...IFX12]

IFX3: Chain to [IFX4...IFX12]

IFX4: Chain to [IFX5...IFX12]

IFX5: Chain to [IFX6...IFX12]

IFX6: Chain to [IFX7...IFX12]

IFX7: Chain to [IFX8...IFX12]

IFX8: Chain to [IFX9...IFX12]

IFX9: Chain to [IFX10...IFX12]

IFX10: Chain to [IFX11...IFX12]

IFX11: Chain to [(IFX12)]

These specify the chain destination for each insert effect. If **Chain** is enabled, the insert effect will be connected in series to the IFX specified by the **Chain to** setting.

Chain [Off, On]

Specifies whether insert effects will be connected in series.

If the **Chain** check box is on, this insert effect will be connected in series to the insert effect selected by “Chain to.” This is not available for IFX12.

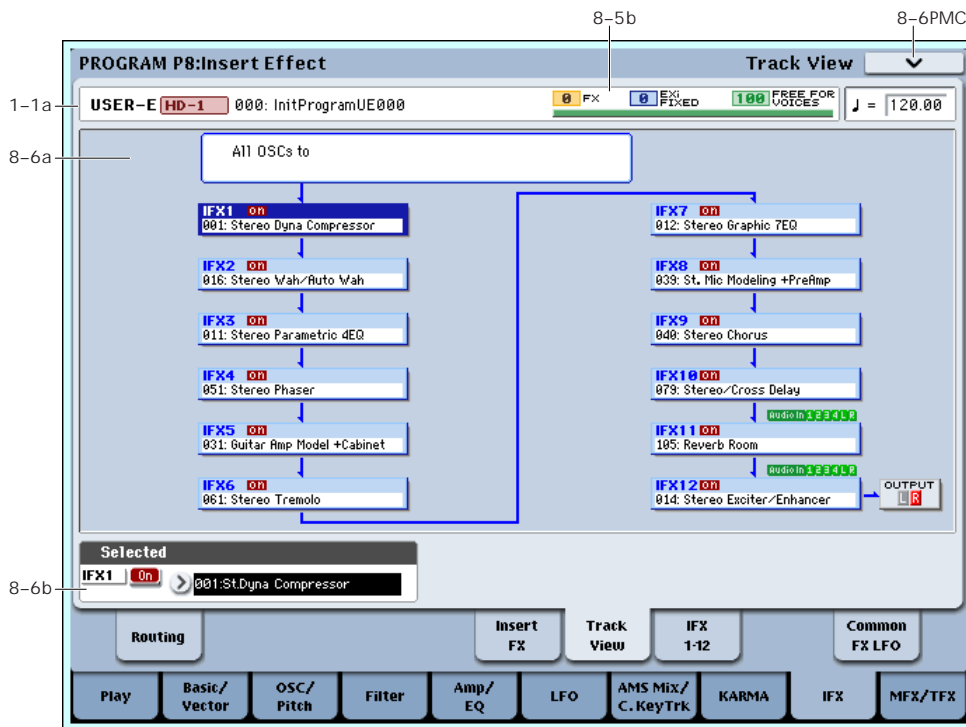
Tip: If you move from this page to the P8- IFX1-12 page, the IFX you choose here will be selected.

▼ **8-5: Page Menu Commands**

The number before each command shows its ENTER + number-key shortcut. For more information on these shortcuts, see “ENTER + 0-9: shortcuts for menu commands” on page 142.

- **0: Write Program.** For more information, see “Write Program” on page 142.
- **1: Exclusive Solo.** For more information, see “Exclusive Solo” on page 142.
- **2: Copy Insert Effect.** For more information, see “Copy Insert Effect” on page 153.
- **3: Swap Insert Effects.** For more information, see “Swap Insert Effect” on page 154.
- **4: Insert IFX Slot.** For more information, see “Insert IFX Slot” on page 154.
- **5: Cut IFX Slot.** For more information, see “Cut IFX Slot” on page 155.
- **6: Clean Up IFX Routings.** For more information, see “Clean Up IFX Routings” on page 156.

8-6: Track View



8-6a: Track View

This shows the oscillator 1, 2 output and insert effect routing.

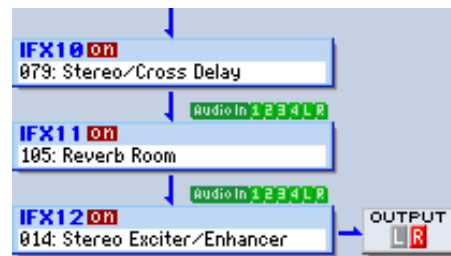
The selected slot is shown in dark blue. In the “Selected” area below, you can specify the “Effect Type” and “On/Off” status. The “Insert IFX Slot” and “Cut IFX Slot” page menu commands will apply to the slot you select here.

If you move from this page to the P8- IFX1-12 page, the IFX you choose here will be selected.

In the following diagram, the “Audio In” shown below IFX10 and IFX11 indicates the insert effects through which Audio Input 1-4 and S/P DIF L/R are passing.

In this example, you can see that Audio Input 1-4 and S/P DIF L/R are passing through IFX11 and IFX12.

“OUTPUT” shows the Bus Select setting that follows the insert effects. This tells you where the audio signal is being output.



The following diagram shows the IFX assigned to each key of a drum kit when **Oscillator Mode** is set to Drums for an HD-1 Program and Use DKit Setting is turned on.

In this example, you can see that IFX1, 2, 3, 4, and 5 are each used by a key in the drum kit (shown in light blue). If you press an IFX that is being used, that effect will be shown in the line below.



8-6b: Selected

Here you can specify the “Effect Type” and “On/Off” status of the insert effect slot selected by Track Select. (“8-6a: Track View,” above)

- 0: **Write Program.** For more information, see “Write

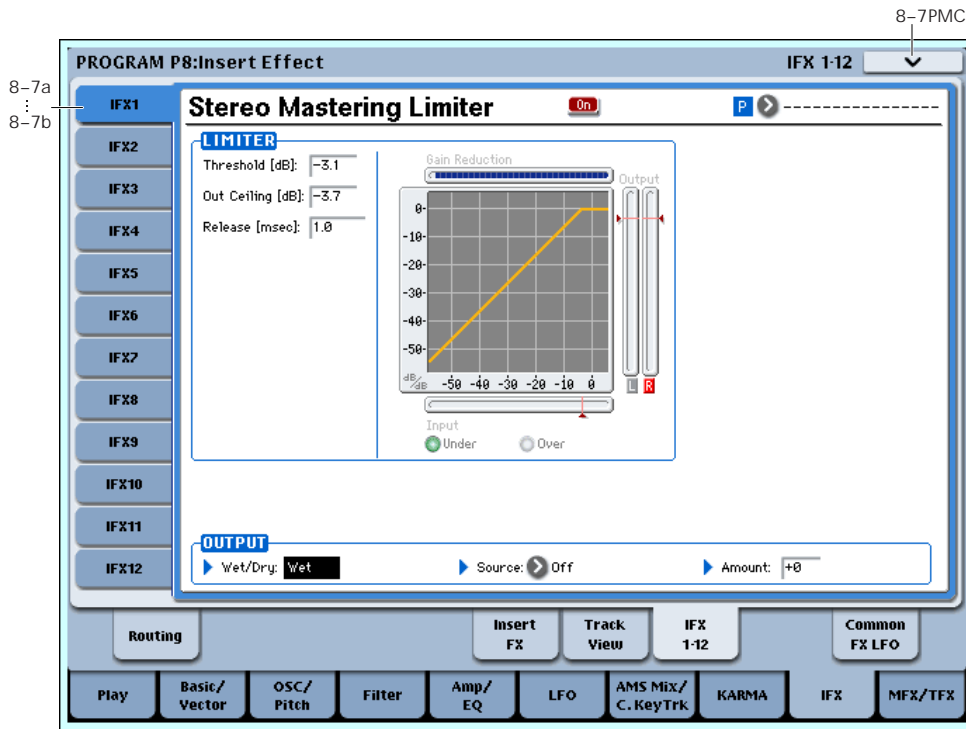
▼ 8-6: Page Menu Commands

The number before each command shows its ENTER + number-key shortcut. For more information on these shortcuts, see “ENTER + 0-9: shortcuts for menu commands” on page 142.

Program” on page 142.

- 1: **Exclusive Solo**. For more information, see “Exclusive Solo” on page 142.
- 2: **Copy Insert Effect**. For more information, see “Copy Insert Effect” on page 153.
- 3: **Swap Insert Effects**. For more information, see “Swap Insert Effect” on page 154.
- 4: **Insert IFX Slot**. For more information, see “Insert IFX Slot” on page 154.
- 5: **Cut IFX Slot**. For more information, see “Cut IFX Slot” on page 155.
- 6: **Clean Up IFX Routings**. For more information, see “Clean Up IFX Routings” on page 156.

8-7: IFX 1-12



This page lets you edit the detailed parameters of the twelve insert effect s. Use the tabs at left to select IFX1 through IFX12.

To select different effects types, use the Insert FX or Track View pages. For more information, see “8-5: Insert FX” on page 130 and “8-6: Track View” on page 133.

Effects Modulation: Dmod

Most effects have one or more parameters which can be modulated in realtime. In the OASYS, this is called Dynamic Modulation, or Dmod for short.

For a complete list of Dmod sources, see “Dynamic Modulation Source List” on page 1030.

MIDI Effect dynamic modulation (Dmod) is controlled on the global **MIDI Channel** (Global 1-1a). For more information, see “Dynamic modulation (Dmod) and Tempo Synchronization” on page 789.

8-7a: IFX1

Here you can edit the parameters of the insert effect you selected in the P8- Insert FX page. Use the tabs at the left to select IFX1-12.

IFX1 On/Off [Off, On]



This turns the insert effect on and off. It is linked with the on/off setting in the Insert FX page.

P (Effect Preset) [P00, P01... 15, U00...15, -----]



Effect Presets let you easily store and recall all of the settings for an individual effect. You can store up to 16 user presets for each effect type, in addition to 15 re-writable factory presets.

The same presets appear in all of the modes (Program, Combi, Sequence, and Sampling), and sets of presets can be saved to and loaded from disk.

Note that edits to effects parameters are automatically stored with the Program—you don’t need to store them as an Effect Preset. Presets just make it easier to re-use your favorite settings.

For instance, you can save an Effect Preset while working on a particular Program, and then later use the same Effect Preset in a different Program, Combi, or Song.

P00: Initial Set: These are the default settings that are recalled when you select an effect type in the Insert FX page. You can't save your own settings here.

P01...P15: These contain preset data that Korg plans to provide in the future. We recommend that you store your settings in U00-U15.

U00...U15: These are areas in which you can store your own settings.

-----: This shows that no Effect Preset has been selected. You'll see this if you've just selected an effect, written a Program, or selected a new Program. Selecting this setting from the menu will not have any effect.

Note: Programs save the effects parameter settings, but they don't save the number of the selected Effect Preset. If you select an Effect Preset, and then save the Program, the Effect Preset setting will revert to "-----."

Using Effect Presets

1. **Select an effect in the Insert FX page.**
2. **The P00: Initial Set settings will be recalled.**
"P (Effect Preset)" will indicate -----.
3. **Use "P (Effect Preset)" to select an effect preset: P00-P15 or U00-U15.**
The stored parameters will be recalled. Note that this will overwrite all parameters of the effect.
4. **Edit the recalled parameters as desired.**
5. **If you've come up with settings you like and want to save them as a new preset, use the Save to User Preset menu command.**

IFX1 Parameters

This tab shows the parameters for IFX1, as selected on the P8: Insert FX page.

For details on the specific parameters of each effect, please see "Insert Effects (IFX1...IFX12)" on page 794.

8-7b: IFX2...12

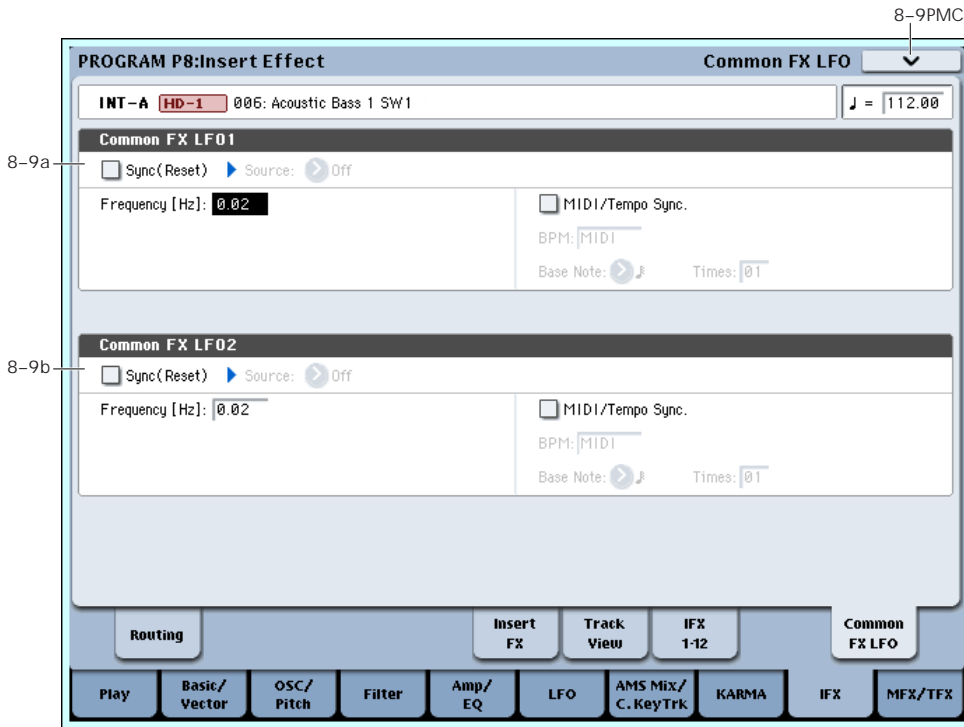
These tabs show the parameters for IFX2-12, as selected on the P8: Insert FX page. They have the same controls as described under "8-7a: IFX1," above.

▼ 8-7: Page Menu Commands

The number before each command shows its ENTER + number-key shortcut. For more information on these shortcuts, see "ENTER + 0-9: shortcuts for menu commands" on page 142.

- **0: Write Program.** For more information, see "Write Program" on page 142.
- **1: Exclusive Solo.** For more information, see "Exclusive Solo" on page 142.
- **2: Copy Insert Effect.** For more information, see "Copy Insert Effect" on page 153.
- **3: Swap Insert Effects.** For more information, see "Swap Insert Effect" on page 154.
- **4: Write FX Preset.** For more information, see "Write FX Preset" on page 158.

8–9: Common FX LFO



The two Common FX LFOs allow you to synchronize LFO-based modulation for multiple effects, such as phasers, flangers, filters, and so on.

The Common LFOs control only the frequency, MIDI synchronization, and reset options; each individual effect still has its own settings for the LFO waveform and phase.

Within the individual effects, you can choose whether to use one of the Common LFOs, or to use the individual effect's frequency, sync, and/or reset settings instead. This is done via the effect's **LFO Type** parameter; select **Individual** to use the effect's settings, or **Common 1** or **2** to use the Common LFOs.

MIDI Dmod (Dynamic Modulation) is controlled on the global MIDI channel specified in Global mode P1.

8–9a: Common FX LFO1

Sync (Reset) [Off, On]

This specifies whether the Common FX LFO will be reset.

If this is on, operating the **Source** (below) will reset the phase of the LFO.

Source (Dmod Source) [List of Dmod Sources]

If "Sync (Reset)" is on, this selects the Dmod source that will reset the Common LFO. For a complete list of Dmod sources, see "Dynamic Modulation Source List" on page 1030.

MIDI This will be off when the modulation source specified by **Source** has a value below 64, and on when the value is above 64. The LFO will be reset when this value rises from a level below 64 to a level higher than 64.

Frequency [0.02...20.00 Hz]

This specifies the frequency of the Common FX LFO. Higher values make the LFO faster.

MIDI/Tempo Sync [Off, On]

On (checked): The LFO will synchronize to the system tempo, as set by either the Tempo knob or MIDI Clock. The LFO speed will be controlled by the **Base Note** and **Times** parameters, below. All settings for **Frequency** and **Frequency Modulation** will be ignored.

Off (unchecked): The Frequency settings will determine the speed of the LFO, and the tempo settings will have no effect.

BPM [MIDI, 40.00...240.00]

Base Note [♪... ♩]

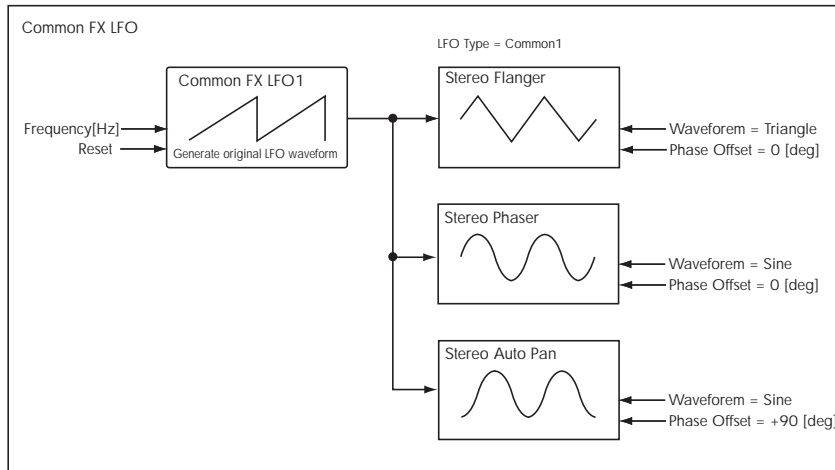
This sets a basic rhythmic value for the LFO speed, relative to the system tempo. The values range from a 32nd note to a whole note, including triplets. It applies only when **MIDI/Tempo Sync** is **On**.

Times [01...32]

This multiplies the length of the **Base Note**. For instance, if the **Base Note** is set to a sixteenth note, and Times is set to 3, the LFO will cycle over a dotted eighth note.

8–9b: Common FX LFO2

The parameters are identical to those for Common FX LFO1, as described under "8–9a: Common FX LFO1" on page 136.



▼ 8-9: Page Menu Commands

The number before each command shows its ENTER + number-key shortcut. For more information on these shortcuts, see "ENTER + 0-9: shortcuts for menu commands" on page 142.

- **0: Write Program.** For more information, see "Write Program" on page 142.
- **1: Exclusive Solo.** For more information, see "Exclusive Solo" on page 142.
- **2: Copy Insert Effect.** For more information, see "Copy Insert Effect" on page 153.
- **3: Swap Insert Effects.** For more information, see "Swap Insert Effect" on page 154.

Program P9: Master/Total Effect

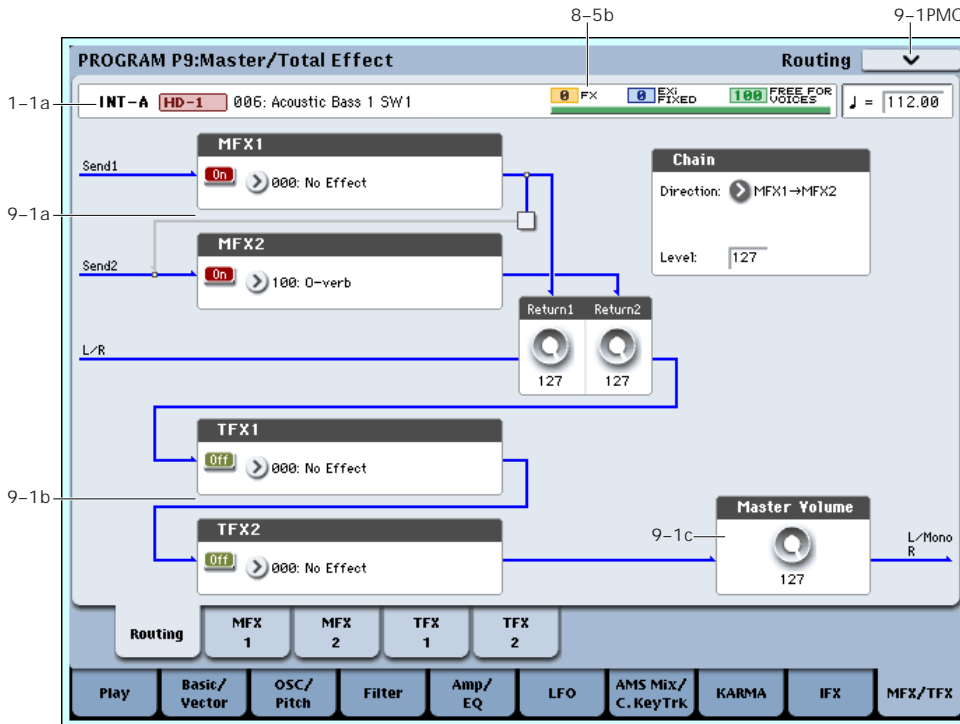
Here you can make settings for the master effects and total effects. For instance, you can:

- Route a sound to an master effects and total effects

- Make detailed settings for master effects and total effects

For more information, please see “Effect Guide” on page 787.

9-1: Routing



Here you can specify the type of master effects and total effects, and turn them on/off.

The master effects are sent to the L/R bus. The total effects are inserted into the L/R bus.

9-1a: MFX1, 2

The master effect does not output the direct sound (Dry). Adjust the “Return 1” and “Return 2” return levels to return the signal to the L/R bus and mix it with the L/R bus signal.

The master effects are stereo-in/out, but depending on the selected effect type, the output may be monaural. See “In/Out” on page 794.

MFX1

MFX1 [000...185]

This selects the effect type for master effect 1. You can use any of the available effects, without limitation. If you choose 000:No Effect, the output from the master effect is muted.

Category/MFX Select menu

When you press the popup button, the Category/MFX Select menu will appear, letting you select effects by category. Use the tabs to select a category, and then

select an effect within that category. Press the OK button to execute your selection, or press the Cancel button to cancel.

MFX1 On/Off [Off, On]



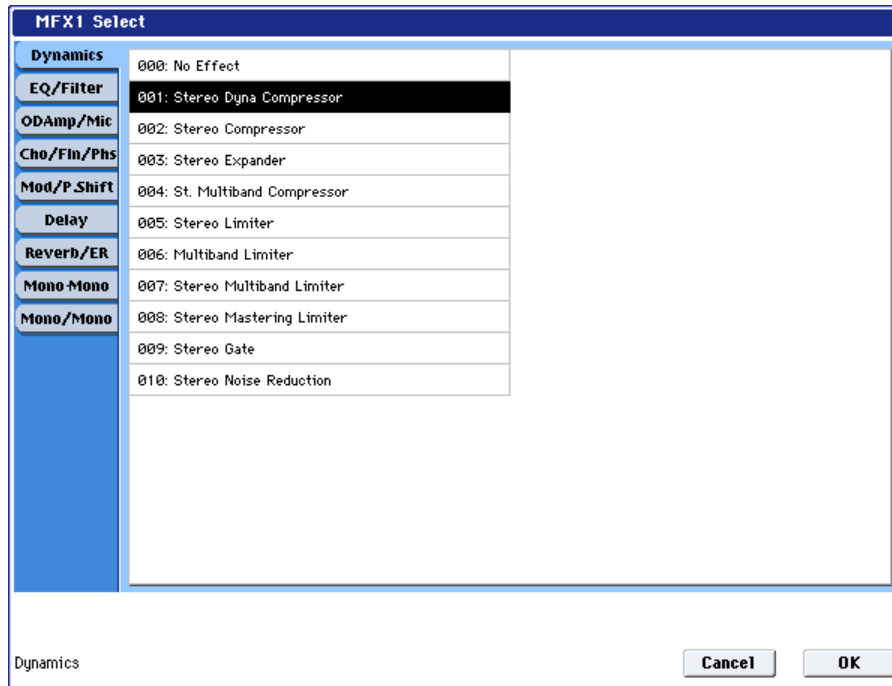
Switches the master effect 1 on/off. When off, the output will be muted. This will alternate between on and off each time it is pressed.

MIDI Separately from the settings here, you can use control change #94 to turn master effects 1 and 2 off. A value of 0 turns them off, and values of 1-127 restore the original setting. The global MIDI channel specified by **MIDI Channel** (Global 1-1a) is used for this message.

Return 1 [000...127]

This specifies the return level from the master effect to the L/R bus (after which it passes through TFX1 and 2, and is sent from L/MONO and R).

Category/MFX Select menu



MFX2

MFX2 [000...185]

MFX2 On/Off [Off, On]

Return 2 [000...127]

These parameters specify the effect type for master effect 2, its on/off status, and the return level from master effect 2 to the L/R bus. See "MFX1" on page 138.

Chain:

Chain On/Off [Off, On]

On (checked): Chain (series connection) will be turned on for MFX1 and MFX2.

Chain Direction [MFX1->MFX2, MFX2->MFX1]

Specifies the direction of the connection when MFX1 and MFX2 are chained.

MFX1->MFX2: Connect from MFX1 to MFX2.

MFX2->MFX1: Connect from MFX2 to MFX1.

Chain Level [000...127]

When chain is On, this sets the level at which the sound is sent from the first master effect to the next master effect.

9-1b: TFX1, 2

These are the parameters for total effect 1 and 2, which are placed at the final stage of the L/R bus. After passing through the total effects, the sound is output to AUDIO OUTPUT (MAIN OUT) L/MONO and R.

For the total effects, the direct sound (Dry) is always stereo-in/out. The input/output configuration of the effect sound (Wet) will depend on the selected effect type.

The total effects are stereo-in and stereo-out, but the output may be monaural depending on the type of effect you select. (See "In/Out" on page 794.)

TFX1

TFX1 [000...185]

This selects the effect type for total effect 1. You can use any of the available effects, without limitation.

Category/TFX Select menu

When you press the popup button, the Category/TFX Select menu will appear, letting you choose effect types by category. Use the tabs to select an effect category, and then choose an effect within that category. Press the OK button to execute your choice, or press the Cancel button to cancel.

TFX1 On/Off [Off, On]



This turns total effect 1 on/off. If this is off, the input will be passed directly through. The setting will alternate between on/off each time you press this.

MIDI Separately from this setting, you can use control change #95 to turn both total effects off. A value of 0 turns them off, and values of 1-127 restore the original setting. The global MIDI channel specified by **MIDI Channel** (Global 1-1a) is used for this message.

TFX2

TFX2 [000...185]

TFX2 On/Off [Off, On]

These parameters specify the effect type and on/off status for total effect 2. See "TFX1" on page 139.

9-1c: Master Volume

Master Volume [000...127]

This specifies the final level of the audio output that has passed through total effects 1 and 2, and output from AUDIO OUTPUT (MAIN OUT) L/MONO and R.

Note: You can control the master volume from the control surface. You can also control this setting from the P0- Control Surface page.

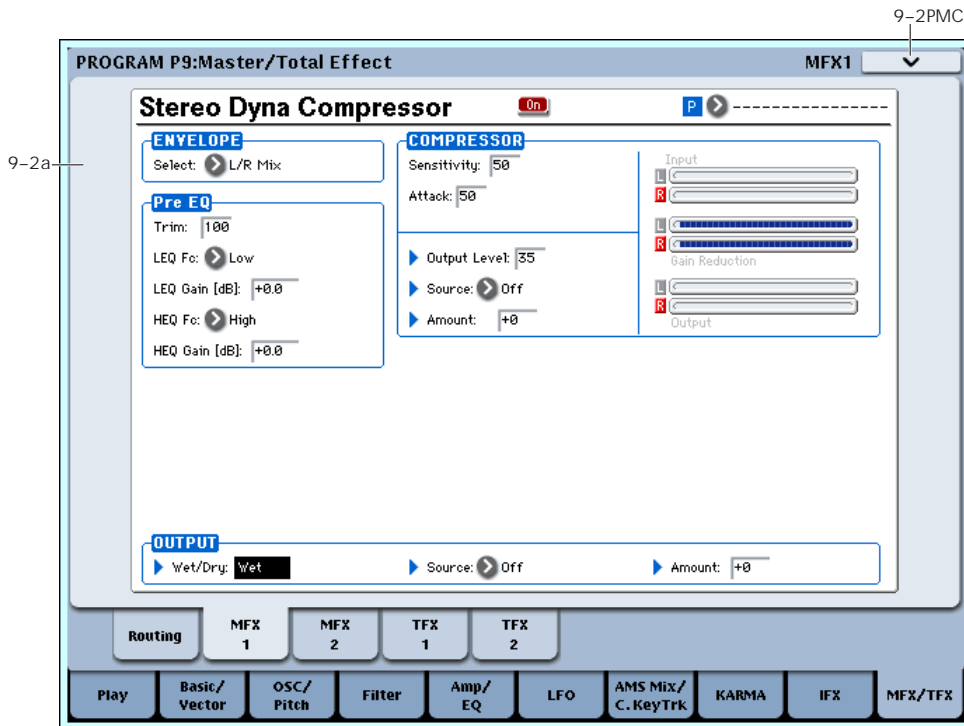
1. Press the CONTROL ASSIGN MIXER TIMBRE/TRACK, MIXER AUDIO or R.TIME KNOBS/KARMA switch to turn it on (lit).
2. Use the MIX VOLUMES MASTER slider to control the level.

▼ 9-1: Page Menu Commands

The number before each command shows its ENTER + number-key shortcut. For more information on these shortcuts, see “ENTER + 0-9: shortcuts for menu commands” on page 142.

- 0: **Write Program.** For more information, see “Write Program” on page 142.
- 1: **Exclusive Solo.** For more information, see “Exclusive Solo” on page 142.
- 2: **Copy MFX/TFX.** For more information, see “Copy MFX/TFX” on page 157.
- 3: **Swap MFX/TFX.** For more information, see “Swap MFX/TFX” on page 158.

9-2: MFX1



Effects Modulation: Dmod

Most effects have one or more parameters which can be modulated in realtime. In the OASYS, this is called Dynamic Modulation, or Dmod for short.

For a complete list of Dmod sources, see “Dynamic Modulation Source List” on page 1030.

MIDI Effect dynamic modulation (Dmod) is controlled on the global **MIDI Channel** (Global 1-1a). For more information, see “Dynamic modulation (Dmod) and Tempo Synchronization” on page 789.

9-2a: MFX1

Here you can edit the parameters of the effect you choose for MFX1 in the P9- Routing page.

MFX1 On/Off

[Off, On]



This turns master effect 1 on/off. It is linked with the on/off setting in the P9- Routing page.

P (Effect Preset) [P00, P01...15, U00...15, -----]



This selects the effect preset. For more information, please see “P (Effect Preset)” on page 134.

MFX1 Parameters

Here you can edit the parameters of the master effect selected in the P9- Routing page.

For details on the master effects, please see “Master Effects (MFX1, 2)” on page 807.

▼ 9-2: Page Menu Commands

The number before each command shows its ENTER + number-key shortcut. For more information on these shortcuts, see “ENTER + 0-9: shortcuts for menu commands” on page 142.

- 0: **Write Program**. For more information, see “Write Program” on page 142.
 - 1: **Exclusive Solo**. For more information, see “Exclusive Solo” on page 142.
 - 2: **Copy MFX/TFX**. For more information, see “Copy MFX/TFX” on page 157.
 - 3: **Swap MFX/TFX**. For more information, see “Swap MFX/TFX” on page 158.
 - 4: **Write FX Preset**. For more information, see “Write FX Preset” on page 158.
-

9-3: MFX2

9-4: TFX1

9-5: TFX2

These pages let you edit the parameters of Master Effect 2 and Total Effects 1 and 2. To select different effects types, use the Routing page, as described under “9-1: Routing” on page 138.

The parameters for MFX2, TFX1, and TFX2 are the same as for MFX1. For more information, see “9-2: MFX1” on page 140.

Program: Page Menu Commands

ENTER + 0-9: shortcuts for menu commands

Each page has a set of menu commands, which provide access to different utilities, commands, and options, depending on the page you're currently on. You can use the menu commands entirely from the touch-screen, by pressing the menu button in the upper right-hand corner of the screen and then selecting an option from the menu that appears.

Even though each page may have its own unique menu commands, the menus are standardized as much as possible. For instance, WRITE is almost always the first menu item in Program, Combination, and Sequence modes.

You can take advantage of this standardization by using a shortcut to access any of the first ten menu items:

1. Hold down the ENTER key.
2. Press a number (0-9) on the numeric keypad to select the desired menu command, starting with 0.

For instance, press 0 for the first menu command, 1 for the second, and so on.


If the menu command just toggles an option on and off (such as Exclusive Solo), then you're done. If the command calls up a dialog box, the dialog will appear on the LCD, and you can proceed just as if you'd selected the command from the touch-screen.

Write Program

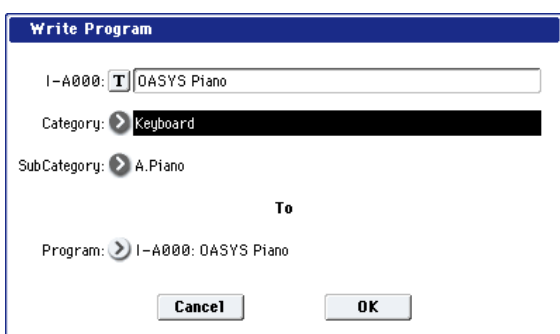
This command writes an edited Program into the OASYS internal memory. It is available on every page in Program mode.

Write Program lets you:

- Save your edits
- Rename the Program
- Assign the Program to a Category
- Mark the Program as a Favorite
- Copy the Program to a different Bank and number

 Be sure to **Write** any Program that you wish to keep. An edited Program cannot be recovered if you do not write it before turning off the power or selecting another Program.

1. Select "Write Program" to open the dialog box.



The upper line of the dialog shows the Bank, number, and Program name.

If you wish to modify the program name, press the text edit button to move to the text edit dialog box, and enter the desired program name.


2. In Category and Sub Category, specify the category of the program that you are writing.

The category can be used to find this Program when selecting a program in Program, Combination, or Sequencer modes.

Note: You can edit these category names in the Global Program Category page. For more information, see "3-1: Program Category" on page 720.

3. Press "To Program" to specify the destination Bank and number.

You can also use the BANK INT A-USER G switches to select a bank.

 **Important:** HD-1 Programs can only be written to HD-1 Banks, and EXi Programs can only be written to EXi Banks. For more information on the default Bank types, and on how to change them, please see "Program Bank Contents" on page 3, and "Changing the Bank Type for USER-A...G" on page 3.

4. To Write the Program, press the OK button. To cancel, press the Cancel button.

Saving edits to GM Programs

You can edit GM Programs, but you must then save them to a Bank other than INT-G; the GM Programs themselves cannot be over-written.

Shortcut: SEQUENCER REC/WRITE

You can also use the SEQUENCER REC/WRITE button to quickly update the current Program, using the existing name, bank, number, and category. To do so:

1. Press the SEQUENCER REC/WRITE button. The Update Program dialog will appear.
2. Press OK to write the program.

Exclusive Solo

This command is available on every page in Program mode.

The menu's **Exclusive Solo** parameter affects the way that Solo works. When **Exclusive Solo** is **Off** (unchecked), you can solo multiple Tracks and inputs at once.

When **Exclusive Solo** is **On** (checked), only one MIDI Track, HDR Track, or Audio Input can be soloed at a time. In this mode, pressing a Solo switch automatically disables any previous solos.

On most pages, you can also toggle **Exclusive Solo** by holding ENTER and pressing 1 on the numeric keypad.

For more information on Solo, please see:

- Program mode: "Solo" on page 21

- Combination mode: “Solo” on page 391
- Sequence mode: “Solo” on page 495


Auto Assign KARMA RTC Name

This command is available on the KARMA GE tab of the Play page, and the Name/Note Map tab of the KARMA page.

Auto Assign KARMA RTC Name will automatically assign appropriate names to the KARMA Sliders and Switches, based on the GE Real-Time parameters and Performance Real-Time parameters to which they are assigned. You can use this when creating new KARMA function assignments, or editing existing ones.

The names are selected from a list of 400 options, such as Rhythm Swing% and Rhythm Complexity.

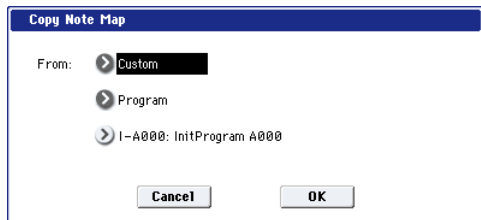
1. Choose “Auto Assign KARMA RTC Name” to open the dialog box.
2. To execute the command, press the OK button. To cancel without executing, press the Cancel button.

 Please be aware that even with un-edited, factory-preloaded Programs or Combinations, executing this command may assign names that are different from those currently specified.

Copy Note Map

This command copies settings from a preset table or from the custom note map of a specified program, combination, or song to the currently selected custom note map.

1. Choose “Copy Note Map” to open the dialog box.



2. Use the “From” field to specify the copy-source note map table.

Choose Custom if you want to copy from the custom note map used by a desired program, combination, or song.

Choose the desired table if you want to copy from a preset table.

Note: By default, the “Table” setting is selected in the Copy Note Map “From” field. If you want to copy a preset table, it’s a good idea to verify and select the table that you want to copy to the custom note map before you choose this command.

3. If you’ve specified Custom, select the copy-source mode, bank, and number. You can also select the bank by pressing the BANK SELECT [A]–[G] switches.
4. Press the OK button to execute the Copy Note Map command, or press the Cancel button if you decide not to execute.

When you press the OK button, the selected table will be copied to the custom note map.

Optimize RAM

Optimize RAM is available on the Audio In/Sampling tab of the Play page.

In some cases, especially if you’ve been loading and deleting different Samples and Multisamples, the internal memory can become fragmented.

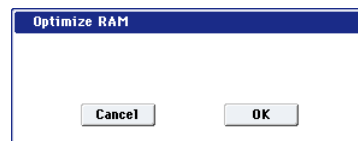
“Fragmented” means that there are chunks of data scattered throughout the physical RAM, like toy blocks scattered across a floor. While the memory isn’t completely full, some of it can’t be used - just like it’s difficult to walk across a messy floor.

The **Optimize RAM** command cleans up the floor, so to speak. It collects all of the data into a single, continuous area of memory, so that the remaining free space can be used more efficiently.

If you run out of memory, try using this command; it may free up some extra space.

You can check the remaining amount of RAM in Sampling mode, on the main Recording page, under “Free Sample Memory/Locations.” For more information, please see “RAM” on page 630.

1. Select “Optimize RAM” to open the dialog box.



2. Press the OK button to execute the command, or press the Cancel button to cancel without executing.

Auto Optimize RAM

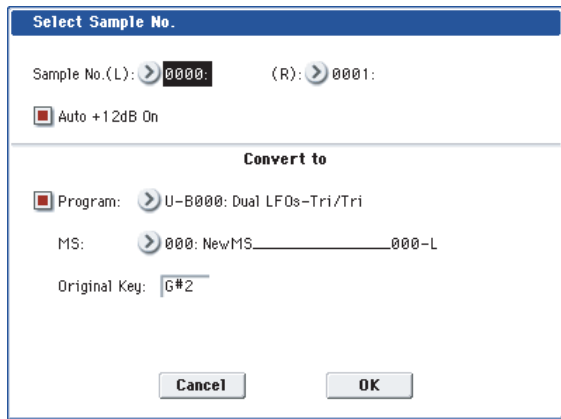
If **Auto Optimize RAM** (Global 0–1d) is enabled, you don’t need to use the **Optimize RAM** command; instead, RAM will be optimized automatically.

Select Sample No.

Select Sample No. is available on the Audio In/Sampling tab of the Play page, when the sampling **Save To** parameter is set to RAM.

This specifies the sample number into which the sampled data will be written. You can also specify whether the sample will automatically be converted to a program after sampling.

1. Choose **Select Sample No.** to open the dialog box.



2. In “Sample No.,” specify the writing-destination sample number.

By default, this will be the lowest-numbered vacant sample number. If you select “----:----No Assign----” or a sample number that already contains data, the data will automatically be sampled into the lowest vacant sample number. If you are sampling in stereo, “Mode” (0–8c), specify “Sample No.(L)” and “Sample No.(R).”

3. Set Auto +12 dB On.

On (checked): +12 dB (Sampling 2–1d) will automatically be turned on for samples you record. Samples for which +12 dB is on will play back approximately +12 dB louder than if this setting were off.

When you resample a performance in Program, Combination, or Sequencer modes, you should normally set **Recording Level** to about 0.0 (dB), so that it will be as high as possible without clipping.

When you resample, the sound will be recorded at the optimum level for sampled data, but the playback level at playback will not be as loud as it was during the resampling process (if +12 dB (Sampling 2–1d) is off). In such cases, you can check the **Auto +12 dB On** check box when you resample, so that +12 dB will automatically be on, making the sample play back at the same level as when it was resampled.

In these modes, the power-on defaults are **Recording Level** set to 0.00 (dB) and **Auto +12 dB On** turned on. If you resample a performance in one of these modes with these settings, the sample will play back at the same level at which it was resampled.

The **Auto +12 dB On** setting is made independently for Program, Combination, Sequencer, and Sampling modes.

4. “Convert to” specifies whether the sample will automatically be converted into a program as soon as it has been sampled. This is convenient when you want to hear the sound immediately after sampling.

If you check the **Program** check box, the sample will automatically be converted into a program.

At the right, set **Program** and **MS** to specify the program number and multisample number for the converted program.

Set **Original Key** (Sampling 0–1b) to specify the location of the original key. The multisample will create an **Index** (Sampling 0–1b) with this key as the **Top Key** (Sampling 0–1b). The **Original Key** will increment by one after sampling, and the next higher note will be assigned the next time you sample.

5. Press the OK button to apply the settings you made, or press the Cancel button to return to the state prior to accessing this dialog box.

Select Directory

Select Directory is available on the Audio In/Sampling tab of the Play page, when the sampling **Save To** parameter is set to DISK.

When sampling to disk, this lets you set the disk, directory, and file name for the resulting WAVE file.

This dialog also lets you audition WAVE files directly from the disk; you can use this as a shortcut, instead of using the similar function in DISK mode.

Specifying the save destination for a WAVE file

1. Select the **Select Directory** command to open the dialog box.
2. Use the popup button located at the left of Drive select to select the writing-destination drive for sampling.
3. Use the **Open** and **Up** buttons to move to the desired directory.
4. In **Name**, specify a name for the WAVE file that will be written during sampling.

If you check **Take No.**, the file will be saved with a two-digit **Take No.** added to the end of the filename. This number will automatically increment each time you sample. This is convenient when you are sampling repeatedly, since each sample will be saved with its own filename.

If **Take No.** is not checked, you can input up to eight characters in “Name.” If **Take No.** is checked, you can input up to six characters.

5. Press the Done button to complete the settings.

Playing back a WAVE file

1. Select the **Select Directory** command to open the dialog box.
2. Use **Drive Select** and the **Open** and **Up** buttons to select the drive and directory, and select the **WAVE file (48 kHz) that you want to play.**
3. Press the **SAMPLING START/STOP** switch or **Play** button.

The selected WAVE file will be played.

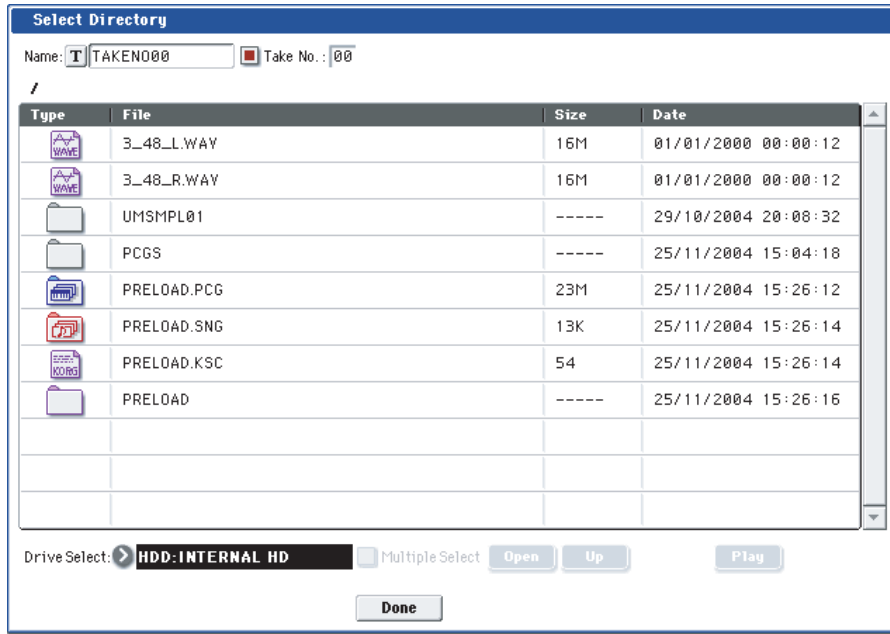
4. Press the **SAMPLING START/STOP** switch or **Stop** button once again to stop playback.

If the WAVE file is mono, the same sound will be output to L/R.

Auto Sampling Setup

Auto Sampling Setup is available on the Audio In/Sampling tab of the Play page.

Select Directory



This command automatically configures the Program mode sampling-related parameters, making it easy for you to sample an external audio source or to resample your performance as you play a Program. You can also use this command to initialize the sampling settings.

After using **Auto Sampling Setup**, you can further adjust any of the settings to suit your needs as described in the “*Note*” paragraphs of each section.

When you execute this command, the applicable parameters will be set automatically. You cannot use the **COMPARE** button to recall the previous settings.

1. Select **Auto Sampling Setup** to open the dialog box.
2. Press a radio button to select the type of settings you want to make.

Initialize: Initializes the sampling-related parameters to their default state.

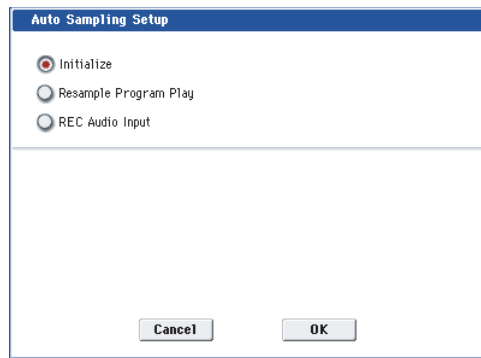
Resample Program Play: Sets the sampling-related parameters to allow you to play a Program and resample your performance.

REC Audio Input: Sets the sampling-related parameters so that you can sample an external audio source. With these settings, you can play a Program while sampling, but only the external input will be recorded.

3. These settings will depend on the choice you make in step 2.

Initialize

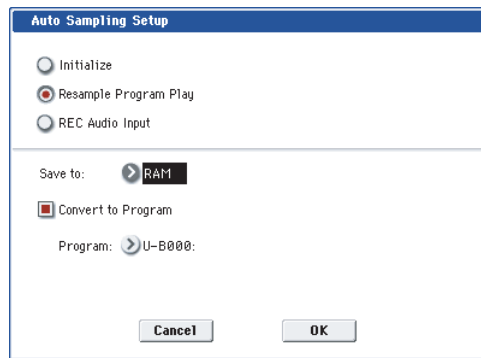
If you selected Initialize:



Press the OK button to execute the Initialize operation, or press the Cancel button if you decide not to execute. For more information, see “Automatically-set parameters and their values” on page 147.

Resample Program Play

If you selected Resample Program Play:



1. Use “Save to” to select either RAM or DISK as the destination to which the resampled data will be written.

If you choose RAM, the sampled data will be written into RAM. If you choose DISK, the sampled data will be saved to disk as a WAVE file.

- If you selected RAM for "Save to," you can also specify whether the sample will be automatically converted to a program after resampling. If you want to convert the sample, check the "Convert to Program" option, and use "Program" to specify the desired convert-destination program.
- Press the OK button to execute Resample Program Play. If you decide not to execute, press the Cancel button. (See "Automatically-set parameters and their values" on page 147)

Note a: Resample) To resample, execute Resample Program Play. Then press SAMPLING REC and then SAMPLING START/STOP, and play the program from the keyboard etc. Since "Trigger" (0-8c) is set to Note On, sampling will begin at the first note-on. When you've finished playing, press the SAMPLING START/STOP switch to stop resampling.

Note b: Check the sampled data) Verify that your performance was resampled correctly. If you executed with "Save to" RAM and "Convert to Program" checked, select the program you specified as the convert-destination and play the C2 note of the keyboard to hear the sample. If you didn't check "Convert to Program," use Sampling mode to select the sample and listen to it.

If you selected "Save to: DISK," use the page menu command "0-8C: Select Directory" to hear the results.

Specify the writing destination

When saving the sample to disk, you can use the menu command **Select Directory** to specify the disk and folder to which the sample will be stored. For more information, please see "Select Directory" on page 144.

Note d: Sampling trigger) You can use the "Trigger" (0-8c) setting to change the way in which sampling will be started.

Note e: Sampling multiple sources simultaneously) If you want to simultaneously sample both an external audio source from AUDIO INPUT together with your own playing on a program, go to the Sampling page, and set the Input 1-4 setting "Bus (IFX/Indiv.) Select" to L/R, and the **Source Bus** to L/R.

Note f: If you execute Auto Sampling Setup with "Save to" RAM and the "Convert to Program" option checked, and you continue sampling, each successive sample will be automatically assigned to C2, C#2, D2, ... to create a multisample. A new multisample will be created the next time you execute **Auto Sampling Setup** and start sampling.

REC Audio Input



If you selected REC Audio Input:

- Use "Source Audio" to select the external audio input source.

Analog1/2: Selects the analog audio source connected to the AUDIO INPUT 1 and AUDIO INPUT 2 jacks.

Analog3/4: Selects the analog audio source connected to the AUDIO INPUT 3 and AUDIO INPUT 4 jacks.

S/P DIF: Selects the digital audio source connected to the S/P DIF jack.

- Use "Mono-L/Mono-R/Stereo" to specify whether the input source is mono or stereo.

Mono-L: Settings will be made for sampling to L-MONO from Input 1 (if you've selected Analog 1/2) or from Input 3 (if you've selected Analog 3/4).

Mono-R: Settings will be made for sampling to R-MONO from Input 2 (if you've selected Analog 1/2) or from Input 4 (if you've selected Analog 3/4).

Stereo: Settings will be made for sampling Input 1/2 or 3/4 in stereo.

- Use "Save to" to specify the writing-destination for the sampled data. RAM will write the data into RAM memory. DISK will create a WAVE file of the sampled data, and save it to disk.
- If you've selected "Save to" RAM, you can specify whether the sample will automatically be converted to a program. If you want the sample to be converted to a program, check "Convert to Program" and use the "Program" field to specify the convert-destination program.

5) If you want to apply an insert effect to the external audio input source while you sample, use "IFX" to select the insert effect you want to use. Turn this off if you don't want to use an insert effect.

6) Press the OK button to execute REC Audio Input. If you decide not to execute, press the Cancel button. (See "Automatically-set parameters and their values" on page 147)

Note: To sample, execute REC Audio Input, then press SAMPLING REC, and then START/STOP to begin sampling. (This is because "Trigger" is set to Sampling START SW.) When you're finished, press the SAMPLING START/STOP switch to stop sampling.

If you want to sample while monitoring the performance generated by the KARMA function, check "Latch" and start sampling while the KARMA function is playing.

Note: If you've set "Source Audio" to S/P DIF, use **System Clock** (Global 0-2a) to change the system clock.

Note: If you want to apply an insert effect to the input source while you sample, make the following settings. In the Program P0- Sampling page Input 1-4, S/P DIF L/R, use "Bus (IFX/Indiv.) Select" to choose IFX1-IFX12, choose 1/2 as the **REC Bus** following the insert effect you're using, and set **Source Bus** to REC1/2.

For additional information, refer to Note b)-f) in "If you selected Resample Program Play."

Automatically-set parameters and their values

Parameter	1. Initialize	2.REC Audio Input	3.Auto Resample through IFX	
Input (Input Source) :	Analog, S/P DIF*1	(Source Audio)*2	Analog, S/P DIF*1	
Input1 :	Level	127		
	Pan	L000		
	Bus Select	Off	(IFX)*3	Off
	Send1	000		
	Send2	000		
Input2 :	Level	127		
	Pan	R127		
	Bus Select	Off	(IFX)*3	Off
	Send1	000		
	Send2	000		
Recording Setup :	Source Bus	L/R		
	Trigger	Sampling START SW		
	Metronome Precount	Off	-	-
	Resample	Manual	Manual	Auto
REC Sample Setup :	Save to	RAM	(Save to)	(Save to)
	Sample Mode	L-MONO	(Source Audio)*4	Stereo
	Sample Time: RAM	Maximum	-	-
	Sample Time: DISK	4min 59.999sec	-	-
	Recording Level [dB]	+0.0	+0.0	-12.0
REC Sample Preference :	Auto +12dB On	Off	Off	On
Bus Select (P8 Routing) :	All OSCs to	L/R	L/R	(IFX)

- : Not set automatically
 Values enclosed in parentheses () are automatically set according to the settings you make in the dialog box.

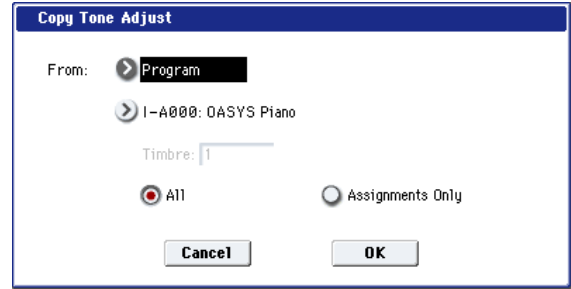
- *1: Settings for Analog, S/P DIF (“Input 1” and “Input 2”) are made automatically.
- *2: The input source setting (“Input 1” and “Input 2”) you specified for “Source Audio” in the dialog box will be set automatically.
- *3: If “Source Audio” is Mono-L this will be L-Mono, if Mono-R this will be R-Mono, and if Stereo this will be Stereo.
- *4: When “Save to: RAM,” and “Convert to Program” is checked.

Copy Tone Adjust

Copy Tone Adjust is available on the Control Surface page when CONTROL ASSIGN is set to TONE ADJUST.

This command replaces the current Tone Adjust settings with those of any other Program, Combination Timbre, or Song Track.

1. Select “Copy Tone Adjust” to open the dialog box.



2. Use “From” to select the copy-source mode, bank, and number.

You can use the front-panel BANK keys to select the desired bank.

3. In the Timbre field (if you’ve selected a Combination) or Track field (if you’ve selected a Song), select the Timbre or Track to copy from.

4. Select either All or Assignments Only to specify the Tone Adjust parameters you want to copy.

All: This copies both the Tone Adjust parameter assignments and values.

Assignments Only: This copies only the Tone Adjust parameter assignments, without the values.

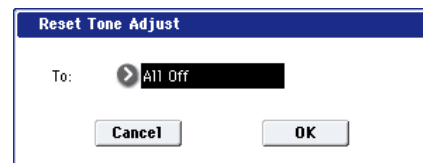
5. Press the OK button to execute the Copy Tone Adjust command, or press the Cancel button if you decide to cancel.

Reset Tone Adjust

Reset Tone Adjust is available on the Control Surface page when CONTROL ASSIGN is set to TONE ADJUST.

This command resets the Tone Adjust settings for all of the Knobs, Switches, and Sliders to their default values.

1. Select “Reset Tone Adjust” to open the dialog box.



2. Use the “To” field to specify how the Knob 1–8, SW1–16, Slider 1–8, and Master Slider parameters will be reset.

All Off: All will be reset to Off.

Default Setting: The parameters will be reset to the default values for the applicable type of program (HD-1, AL-1, CX-3).

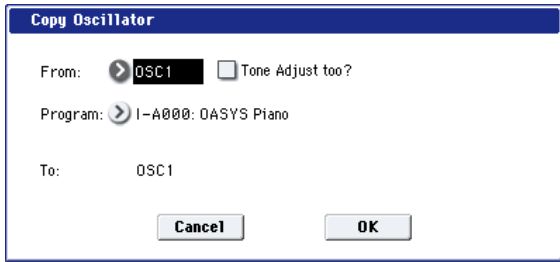
3. To execute the Reset Tone Adjust command, press the OK button. To exit without resetting the controls, press the Cancel button.

Copy Oscillator

Copy Oscillator is available on all of the tabs under the Basic/Vector, OSC/Pitch, Filter, Amp/EQ, and AMS Mix/Common Key Track pages.

This command is used to copy the settings from one oscillator to another.

1. Select "Copy Oscillator" to open the dialog box.



2. Use the "From" field to select the oscillator that you want to copy.
3. Use "Program" to select the bank and number of the copy-source program. You can press a BANK SELECT switch to select the desired bank.
Note: If you're editing an HD-1 Program, you can't select EXi Programs, and vice-versa.
4. If you check "Tone Adjust too," the Tone Adjust settings will temporarily be turned off, and from the copy-source Tone Adjust settings, the Common portion and the assignments and current values of the corresponding OSC portion will be copied.
If "Tone Adjust too" is unchecked, the Tone Adjust settings will be maintained.
5. In "To," specify the copy destination oscillator.
6. To execute the Copy Oscillator command, press the OK button. To cancel, press the Cancel button.

Swap Oscillator

Swap Oscillator is available on all of the tabs under the Basic/Vector, OSC/Pitch, Filter, Amp/EQ, and AMS Mix/Common Key Track pages.

This command exchanges the settings of oscillators 1 and 2.

1. Select "Swap Oscillator" to open the dialog box.
2. To execute the Swap Oscillator command, press the OK button. To cancel, press the Cancel button.

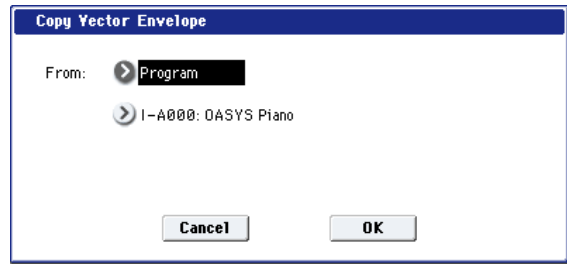
This can be selected only if Oscillator Mode (1-1a) is Double.

Copy Vector Envelope

Copy Vector Envelope is available on the Vector Envelope tab of the Basic/Vector page.

This command copies vector envelope settings from the specified program, combination/timbre, or song.

1. Select "Copy Vector Envelope" to open the dialog box.



2. Use the "From" field to select the mode, bank, and number of the desired copy-source. You can press a BANK key to select the desired bank.

This command copies the parameters of the P1-Vector Envelope page of the corresponding mode.

Note: In order to replicate the way in which the relative volume of oscillators is controlled by the vector and vector envelope of the program selected for a combination timbre or a MIDI song track, turn on the Enable Program Vector Volume check box in the Vector Control Volume page. To replicate the CC control effects, turn on the Enable Program Vector CC check box in the Vector Control CC page.

Use this command when you want to copy the Position or Time/Tempo of a vector envelope in order to create an envelope that produces the same movement.

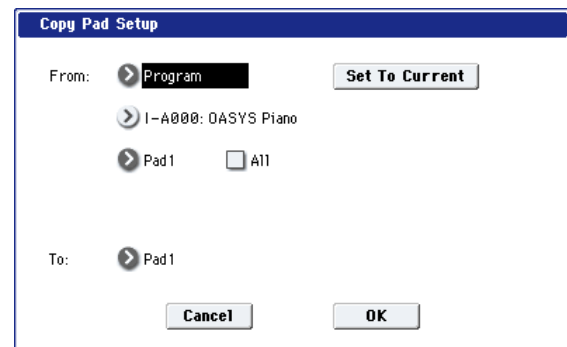
3. Press the OK button to execute the command, or press the Cancel button to cancel.

Copy Pad Setup

Copy Pad Setup is available on the Pads tab of the Basic/Vector page.

This command copies the pad settings of the specified Program, Combination, or Song.

1. Select Copy Pad Setup to open the dialog box.



2. Use the "From" field to select the mode, bank, and number of the desired copy-source. You can also select Banks via the front-panel BANK SELECT buttons.

If you press the Set To Current button, the currently selected mode, bank, number and pad (edit cell) will automatically be assigned to the From field. This is useful when you're trying out other pad settings and want to temporarily copy previously-edited pad settings to another vacant pad.

3. Select the copy-source pad number. If you want to copy all settings for pads 1–8, check the All option.
4. Use the “To” field to specify the copy-destination pad.
Note: Executing this command will copy the note number and velocity value. The MIDI channel is not copied.
5. Press the OK button to execute the Copy Pad Setup command, or press the Cancel button to cancel.

Sample Parameters

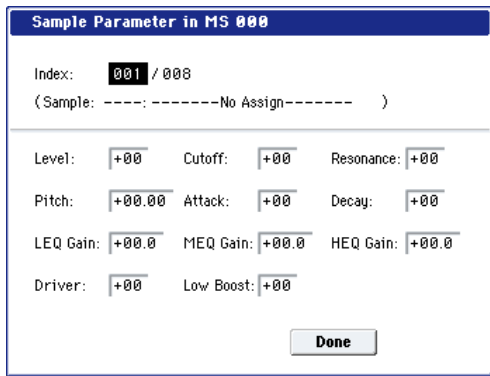
Sample Parameters is available on the OSC 1/2 Basic pages.

This command lets you adjust various parameters for the individual samples within a RAM multisample, including volume level, cutoff, resonance, pitch, EG attack and decay, drive and low boost, and EQ gains.

The Sample Parameters command is available only if you’ve selected a RAM Multisample; it is not available for ROM Multisamples, Wave Sequences, or Drum Kits.

When you’ve finished editing the parameters, press the Done button. Please note that Compare is not available for edits made in this dialog box.

Note: The Sample Parameters settings apply everywhere that the Multisample is used, and not just to the current Program. If another Program uses the same Multisample, it will also be affected by any changes that you make here.



Index [001...128]

An Index is a key zone in a Multisample, including a single Sample and all of its associated parameters. This is the currently selected Index.

The number following “/” is the total number of indexes in the current Multisample.

Sample [000]

This is the number and name of the Index’s Sample.

Level [-99...+00...+99]

This adjusts the volume of the Sample, relative to the Oscillator’s settings. **Negative (-)** values will decrease the levels, and **positive (+)** values will increase the levels. A setting of +99 will double the volume. This is

the same as the index **Level** parameter in Sampling mode; edits here will affect the values shown in Sampling mode, and vice-versa.

Each Sample also has a **+12dB** setting, as configured in Sampling mode; if this is on, the Sample will play back approximately 12dB louder.

Cutoff [-99...+00...+99]

This adds to, or subtracts from, the Oscillator’s filter cutoff settings.

Resonance [-99...+00...+99]

This adds to, or subtracts from, the Oscillator’s filter resonance settings.

Pitch [-64.00...+00.00...+63.00]

This adjusts the playback pitch in one-cent steps. A setting of **+12.00** raises the pitch one octave, and a setting of **-12.00** lowers the pitch one octave. This is the same as the index **Pitch** parameter in Sampling mode; edits here will affect the values shown in Sampling mode, and vice-versa.

Attack [-99...+00...+99]

This adds to, or subtracts from, the attack times of the filter EG and amp EG.

Decay [-99...+00...+99]

This adds to, or subtracts from, the attack times of the filter EG and amp EG.

Driver [-99...+00...+99]

This adds to, or subtracts from, the Oscillator’s Driver setting. If the Driver circuit is bypassed, this will have no effect.

Low Boost [-99...+00...+99]

This adds to, or subtracts from, the Oscillator’s Low Boost setting. If the Driver circuit is bypassed, this will have no effect.

LEQ Gain [-36dB...+00...+36dB]

This adds to, or subtracts from, the Program’s Low EQ gain setting. If the EQ is bypassed, this will have no effect.

MEQ Gain [-36dB...+00...+36dB]

This adds to, or subtracts from, the Program’s Mid EQ gain setting. If the EQ is bypassed, this will have no effect.

HEQ Gain [-36dB...+00...+36dB]

This adds to, or subtracts from, the Program’s High EQ gain setting. If the EQ is bypassed, this will have no effect.

Sync Both EGs

Sync Both EGs is available on the Filter 1/2 EG and Amp 1/2 EG pages.

This option allows you to edit the EGs of Oscillator 1 and Oscillator 2 together. When it is checked, editing the Filter EG of either Oscillator 1 or 2 will change both Filter EGs simultaneously. Similarly, editing the Amp EG of either Oscillator will change both Amp EGs.

This option is available only when the **Oscillator Mode** is set to **Double**.

1. Select “Sync Both EGs.”

The LCD screen will indicate “Sync Both EGs,” and the two EGs will be synchronized.



2. If you no longer want the EGs to be synchronized, select “Sync Both EGs” once again.

The indication will disappear from the LCD screen.

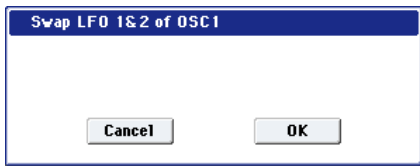
Swap LFO 1&2

Swap LFO 1 & 2 is available on all of the LFO pages, except for the Common LFO tab.

This command copies the settings of LFO1 to LFO2, and vice-versa.

Note: If LFO2 is being used to modulate LFO1, this command will erase that modulation routing (since the LFOs cannot modulate themselves).

After opening the dialog box, press the OK button to swap the LFO settings, or press the Cancel button to close the dialog box without making any changes.



Copy KARMA Module

Copy KARMA Module is available on all of the KARMA pages, as well as the KARMA GE tab of the Play page.

This command copies the settings of the KARMA Module used by a specified program, combination, or song.

1. Select “Copy KARMA Module” to open the dialog box.

2. In “From,” select the copy source mode, bank, and number.

You can use the front panel BANK SELECT switches to select the bank.

3. If you selected a combination or song as the copy-source, select the module from which you want to copy.

4. As appropriate for the content that you want to copy, turn “GE RTP Control Setting & Scenes” On (checked).

For more information, see “Settings copied by “Copy KARMA Module,”” below.

5. If you want to copy performance realtime parameters, Dynamic MIDI, and front panel settings, turn “Perf. RTP & Panel Settings” On (checked).

6. If you want to copy the note and velocity settings of pads 1–8, turn “Pads” on.

7. Press the OK button to execute the Copy KARMA Module command, or press the Cancel button if you decide to cancel.

Settings copied by “Copy KARMA Module”

When copying from a program

If “GE RTP Control Setting & Scenes” and “Perf. RTP & Panel Settings” are Off (checked), the following content is copied.

- The GE selected by the copy-source KARMA module.
- Settings of the KARMA module parameters (7–3: Module Parameter-Trigger, 7–4: Module Parameter-Control).
- 7–5: GE RTP page “MIN,” “MAX,” and “VALUE” settings.

If you turn “GE RTP Control Setting & Scenes” On (checked)

In addition to the content copied when “GE RTP Control Setting & Scenes” is Off (unchecked), the following content is copied.

- 7–5: GE RTP page “ASSIGN” and “POLARITY” settings.
- The scene selected in the master buffer, the KARMA CONTROLS slider and KARMA SWITCH settings of each scene (0–6d: Realtime Controls and 0–9f: R.Time Knobs/KARMA settings).
- 7–8: Name/Note Map controller name settings.

If you turn “Perf. RTP & Panel Setting” On (checked)

In addition to the content copied when “Perf. RTP & Panel Settings” is Off (unchecked), the following content is copied.

- “Tempo” setting.
- “Time Signature” setting.
- KARMA ON/OFF switch setting.
- KARMA LATCH switch setting.
- 7–6: Perf Real– Time Parameters page settings.
- 7–7: Dynamic MIDI page settings.

When copying from a combination or song

If “GE RTP Control Setting & Scenes” and “Perf. RTP & Panel Settings” are Off (unchecked) when you copy from a combination or song, the following content is copied.

- The GE selected for the copy-destination KARMA module (including the GE realtime parameters).
- KARMA module parameters (7–3: Module Parameter-Trigger, 7–4: Module Parameter-Control).
- 7–5: GE RTP page “MIN,” “MAX,” and “VALUE” settings.

If you turn “GE RTP Control Setting & Scenes” On (checked)


In addition to the content copied when “GE RTP Control Setting & Scenes” is Off (unchecked), the following content is copied.

- 7-5: GE RTP page “ASSIGN” and “POLARITY” settings.
- The KARMA CONTROLS slider and KARMA SWITCH settings of each scene in the copy-source buffer, and the currently selected scene.
- 7-8: Names/Note Map controller name settings.

If you turn “Perf. RTP & Panel Setting” On (checked)

In addition to the content copied when “Perf. RTP & Panel Settings” is Off (unchecked), the following content is copied.


- “Tempo” setting.
- “Time Signature” setting.
- KARMA ON/OFF switch setting.
- KARMA LATCH switch setting.
- KARMA Module Control switch setting.
- 7-6: Perf Real- Time Parameters page settings.
- 7-7: Dynamic MIDI Page settings.

 The “Input Channel” and “Output Channel” (Combination/Sequencer P7-1) settings of a combination or song are not copied.

Initialize KARMA Module

Initialize KARMA Module is available on all of the KARMA pages, as well as the KARMA GE tab of the Play page.

This command sets the KARMA Module’s parameters to their default values.

 The GE selection will not be initialized. The GE parameter “Values” will be set to the default values that are preset for the selected GE.

1. Select “Initialize KARMA Module” to open the dialog box.
2. As appropriate for the settings you want to initialize, you can turn on (check) the “GE RTP Control settings & Scenes” and/or “Pref. RTP & Panel Setting” options.


For more information, see “Settings initialized by Initialize KARMA Module,” below.

3. To initialize the settings, press the OK button. To cancel without initializing, press the Cancel button.

Settings initialized by Initialize KARMA Module

If you initialize with the “GE RTP Control Settings & Scenes” and “Pref. RTP & Panel Setting” options turned Off (unchecked), the following parameters will be initialized.

- 7-1-4 module parameters.
- 7-5: GE Real- Time Parameters page “MIN,” “MAX,” and “VALUE” (they will return to the values preset by the GE).

 The GE selection will not be initialized.

If you initialize with “GE RTP Control Settings & Scenes” turned On (checked)

In addition to the parameters initialized with the Off (unchecked) setting, the following parameters will also be initialized.

- 7-5: GE Real- Time Parameters page “ASSIGN” (→Off) and “POLARITY” (→+).
- KARMA CONTROLS slider and KARMA SWITCH settings in each scene (→064/0).
- KARMA CONTROLS slider and KARMA SWITCH names (→no name).

If you initialize with “Perf. RTP & Panel Settings” turned On (checked)

In addition to the parameters initialized with the Off (unchecked) setting, the following parameters will also be initialized.

- 7-6: Perf Real- Time Parameters page parameters.
- 7-7: Dynamic MIDI page parameters.

Copy Scene

Copy Scene is available on all of the KARMA pages, as well as the KARMA GE tab of the Play page. It’s also available on the Control Surface page, when **CONTROL ASSIGN** is set to **Real-Time Knobs/KARMA**.

This command copies settings for the KARMA Scenes. You can use this command when you want to make settings for a scene based on the other scene settings you edited, or vice versa.

1. Choose “Copy Scene” to open the dialog box.
2. In “From:” select the scene that you wish copy.
3. In “To:” select the copy destination scene.
4. To execute the copy, press the OK button. To cancel without executing, press the Cancel button.

Swap Scene

Swap Scene is available on all of the KARMA pages, as well as the KARMA GE tab of the Play page. It’s also available on the Control Surface page, when **CONTROL ASSIGN** is set to **Real-Time Knobs/KARMA**.

This command swaps (exchanges) the settings of two KARMA Scenes.

1. Choose “Swap Scene” to open the dialog box.
2. In “Source1” and “Source2”, select two KARMA Scenes. that you wish to swap.
3. To execute the swap, press the OK button. To cancel without executing, press the Cancel button.

Capture Random Seed

Capture Random Seed is available on all of the KARMA pages, as well as the KARMA GE tab of the Play page.

The **Start Seed** is the source of the randomness of the phrase generated by the KARMA Module. For more information, see “Start Seed” on page 119.

When you are listening to the randomly changing phrases generated each time a KARMA Module is triggered, and you hear a phrase that you would like to reproduce consistently each time you trigger that GE, you can execute this command to capture the seed that resulted in that phrase.

For more information, see “Checking the Freeze Randomize function, and performing “Capture Random Seed”” on page 152.

1. Select “Capture Random Seed” to open the dialog box.



2. If you are in a mode that can use more than one KARMA Module (Combination or Sequencer modes), use “To:” to select the module for which you want to capture the seed value.

If you select A–D, the seed value will be captured for that KARMA Module. If you select All, the seed values will be captured for all four KARMA Modules.

In Program mode, this is fixed at A.

3. To execute the Capture Random Seed, press the OK button. To cancel without executing, press the Cancel button.

⚠ If the “Start Seed” parameter (p.122) of the KARMA Module for which you execute Capture Random Seed is assigned as a Perf Real-Time Parameter (p.116), a message of “Could not execute Capture Random Seed because the selected Start Seed is assigned as an RTParm” will be displayed, and Capture Random Seed will not be executed. (Press the OK button to close the message.)

If you set the “To:” field of the dialog box to ALL (Combination, Sequencer mode) to execute Capture Random Seed for all KARMA Modules, Capture Random Seed will be executed only for the KARMA Modules whose “Start Seed” parameter is not assigned as an Perf Real-Time Parameter. If the “Start Seed” parameter of any KARMA Module is assigned as a Perf Real-Time Parameter, Capture Random Seed will not be executed for those KARMA Modules.

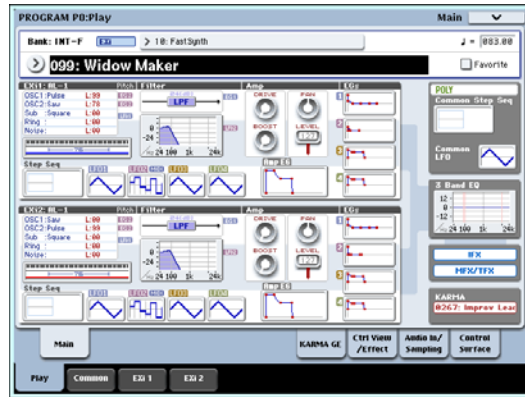
Checking the Freeze Randomize function, and performing “Capture Random Seed”

By using the “Capture Random Seed,” “Start Seed” (7–8b), and “Freeze Loop Length” (7–8b) settings, you can loop a randomly changing phrase as desired, or generate the same phrase each time you trigger the GE.

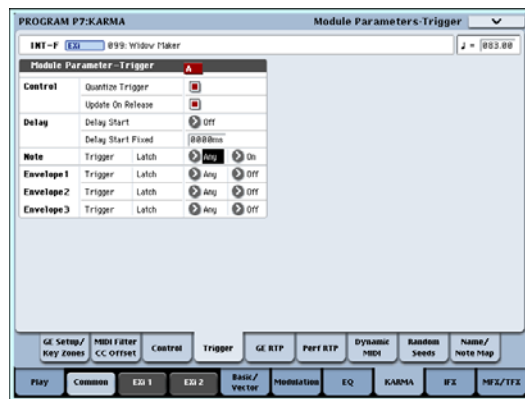
Procedure

An example of the procedure in Program mode is shown below.

1. In Program mode, select NT-F099: Widow Maker.



2. Turn the front panel KARMA ON/OFF switch on.
3. Press the Common button to access the 7–4: Module Parameters- Trigger page, and set “Note Trigger” to Any.



4. Turn the front panel KARMA LATCH switch on.
5. Use a pad or the keyboard to trigger GE “0267: Improv Lead” for the KARMA Module.
The phrase generated by this GE will always change randomly (each time you trigger it, or each time the phrase is repeated).
6. Select the Program P7–8: Random Seeds page.



7. Set “Start Seed” to 1 (+0000000001).
Retrigger the Chord trigger. Each time it will play the same randomized phrase; however, if you let it continue, it will always make new randomizations as it goes along.
8. Set “Freeze Loop Length” to 2 (2 bars).
Now, every 2 bars, it will loop and repeat the exact same series of randomizations that is specified by “Start Seed” 1. However, this particular GE has a

Phase Pattern of 8 steps (bars), so it may not sound always as if it is restarting every 2 bars, because of the internal settings of the Phase Pattern. It will repeat the same randomizations, but not necessarily restart the riff from the beginning. However, this can also be useful for getting the same rhythm and note movements, with a longer evolving phrase.

9. Set “Retrigger Each Time” to On (checked).

Now, every 2 bars, the Phase Pattern is restarted also, in conjunction with the Freeze Loop length, and the phrase becomes a simple 2 bar loop.

10. Set “Start Seed” back to 0: Random.

Retrigger the phrase by pressing a pad or playing the keyboard. A completely new randomized phrase will be generated each time you trigger, but every 2 bars it will loop and repeat until you trigger it again.

11. Now set “Retrigger Each Time” back to Off (unchecked).

Once again, even though the randomizations are being repeated every 2 bars, the 8 step GE Phase Pattern allows longer evolving phrases to be created.

12. Set the “Freeze Loop Length” parameter.

If you set this to 1–32, the phrase will loop for the specified number of measures. For this example, set this to 2 and set the “Retrigger Each Time” to On (checked). With this setting, the random phrase will freeze to a two-measure phrase. You can use this to loop a phrase during a live performance.

13. In the same way as in step 2, use the pad or keyboard to trigger the KARMA Module.

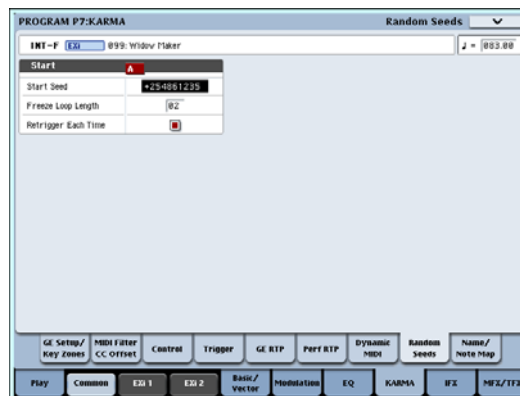
14. When you hear a phrase you want to be played each time you trigger the GE, execute “Capture Random Seed.” Press the Page Menu button and choose “Capture Random Seed” from the page menu.



15. When the dialog box appears, press the OK button.

The “Start Seed” parameter will automatically be set to the internal value needed to reproduce the phrase.

Example: Capture Random Seed has set “Start Seed” to a value of +0254861235



Note: “Seed” is the source data from which the randomizations are created. The “Seed” of the phrase being looped is automatically set internally within the KARMA Module as the “Start Seed.” The “Start Seed” is used each time the GE is triggered. This means that each time you trigger the GE, a specific “Seed” is always used to generate the phrase.

16. Press the KARMA ON/OFF switch to temporarily turn off the KARMA function. Then press the KARMA ON/OFF switch once again to turn the KARMA function back on.

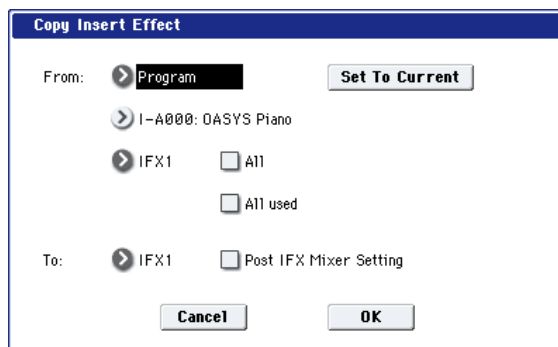
17. In the same way as in step 2, use the pad or keyboard to trigger the KARMA Module.

The phrase that was looped in step 11 will be reproduced each time the module is triggered. You can now save the Program and recall this phrase at any time.

Copy Insert Effect

Copy Insert Effect is available on all of the IFX pages. This command copies effects settings from within the current Program, from other Programs, Combinations, or Songs, or from the current Sampling mode settings. To execute the Copy Insert Effect command, press the OK button. To cancel, press the Cancel button.

⚠ If you’re copying from a master effect, the result will not be identical due to differences in the routing and level settings of the master effects.



From (Mode) [Program, Combination, Song, Sampling Mode]

This selects whether you'll copy from a Program, a Combination, a Song, or the current Sampling Mode settings.

From (Bank and Number) [Bank and Number]

For Programs and Combi, this selects the Bank and Number from which to copy. When this parameter is selected, you can also use the front-panel BANK buttons to select Banks.

Set to Current [button]

Pressing the **Set To Current** button sets the **From** fields to the currently selected mode, bank, number, and IFX slot.

This can be useful, for instance, for backing up the current IFX settings to a vacant IFX slot. You can then try out other effects settings, and still be able to return to the previous settings if necessary.

(Effects slot select) [IFX 1...12, MFX 1&2, TFX 1&2]

Select which of the effects you wish to copy.

You can also copy from a master effect and total effect.

All [check-box]

When this is enabled, the settings of all insert effects (the contents of the Insert FX page and the effect parameters of IFX1-12, but not **Ctrl Ch**) will be copied.

All Used [check-box]

When this is enabled, only the insert effects (IFX1-12) that are actually used by the copy-source will be copied.

In the copy-destination, the effect settings will be copied into vacant slots (i.e., slots with 000: No Effect, unless they exist within a chain) starting with the insert effect specified by the **To** field.

To [IFX 1...12]

This selects the insert effect copy destination.

Post IFX Mixer Settings [check-box]

When this is checked, the **Pan**, **Bus Sel.**, **Ctrl Bus**, **REC Bus**, and **Sends 1** and **2** settings that follow the copy source insert effect will also be copied.

When this is not checked, only the effect type and its parameters will be copied.

Copying 000: No Effect

Copying a single effect set to "000: No Effect" will not work: no data will be copied.

If either **All** or **All used** is selected, and "000: No Effect" exists within a chain, it will be copied. However, if the entire chain consists of "000: No Effect," nothing will be copied.

Swap Insert Effect

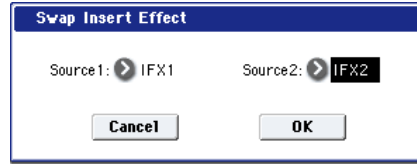
Swap Insert Effect is available on all of the IFX pages.

This command exchanges the effects, and their internal parameters, between two IFX slots.

All of the parameters shown on the IFX 1-12 pages will be copied.

Other IFX slot parameters will not be affected, including **Pan**, **Sends 1** and **2**, **Chain**, **REC Bus**, and **FX Control Bus**.

1. Select "Swap Insert Effect" to open the dialog box.



2. In "Source 1" and "Source 2," select each of the insert effects that you wish to swap.
3. To execute the Swap Insert Effect command, press the OK button. To cancel, press the Cancel button.

Insert IFX Slot

Insert IFX Slot is available on the Routing and Insert FX tabs of the IFX page.

This command inserts an IFX slot.

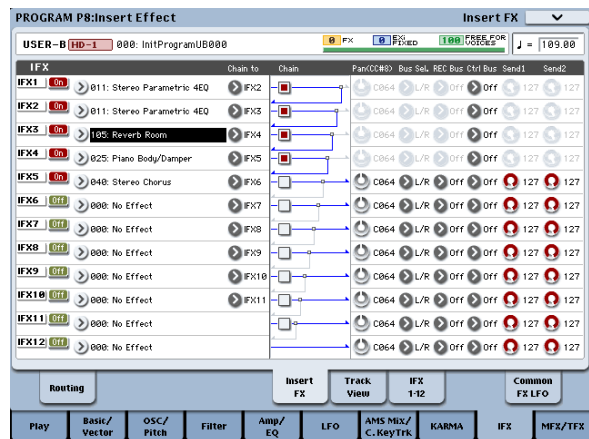
Slots located after the inserted location will be relocated downward if a vacant slot exists. At this time, **Chain**, **Pan (CC#8)**, **REC Bus**, **FX Control Bus**, **Send 1/2**, and **Ctrl Ch** (only for Combi and SEQ) will also be relocated.

This command also provides an Auto Routing option that automatically adjusts related parameters in order to preserve the previously-existing routing.

This command is convenient when you want to add an effect within a chain of insert effects.

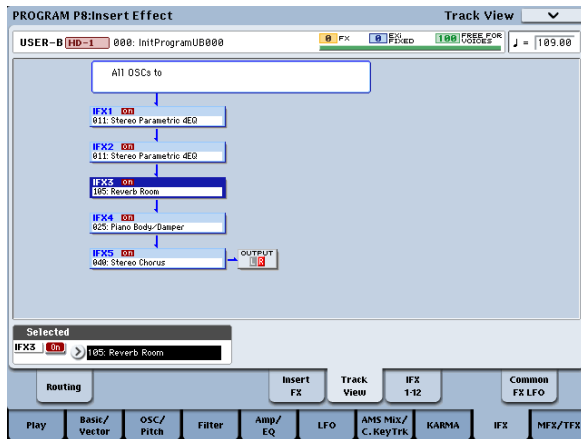
1. In the **Insert FX** page, select the IFX slot in front of which you want to insert an effect.

In this example, IFX1→IFX2→IFX3→IFX4→IFX5 are chained, and we are going to insert a slot in front of IFX3 so that we can add another IFX.



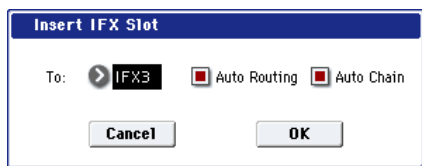
2. Alternatively, you can insert an effect slot from within the **Track View** page.

Select the insert effect slot in front of which you want to insert an effect.



Note: In Combi or Seq modes, this Track View page is a convenient way to check the IFX that are chained for each timbre or track, and the Insert FX command can be used in this page as well to edit the effect settings of each timbre or track. When you do so, the routing will be adjusted automatically so that the settings of other timbres or tracks will remain the same.

3. Select "Insert IFX Slot" to open the dialog box.



4. Use the "To" field to specify the IFX number at which you want to insert a slot. (The IFX you selected in step 1 or 2 will be shown here as the default.)

Specify the "Auto Routing" and "Auto Chain" options. Normally you will leave these on.

Auto Routing: This automatically adjusts the following parameters in order to preserve the currently-existing routing.

- Routing: Bus Select
- Routing- Page Menu: DKit Patch (Combi/SEQ)

Auto Routing always enabled on the Track View page

You can't change the **Auto Routing** setting if you've executed the Insert IFX Slot command from the Track View page. The command will always be executed with this option On.

Drum Kits not supported by Auto Routing

Drum Kits can store separate **Bus Select** settings for each key. Because these settings are stored in the Drum Kit, and not the Program, the **Auto Routing** option can't correct them.

Drum Kit Programs will use these separate **Bus Select** settings if the IFX Routing page's **Use DKit Setting** parameter is turned **On**.

In this case, you have two options. Either:

- Use **Auto Routing**, and then manually adjust the **Bus Select** settings for each key of the Drum Kit to match the new IFX slot arrangement.

or:

- Don't use the **Insert IFX Slot** command. Instead, remove the unwanted IFX slot by changing the **Chain to** settings, or by using the **Copy IFX** or **Swap IFX** commands.

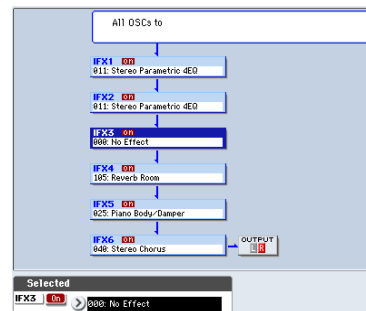
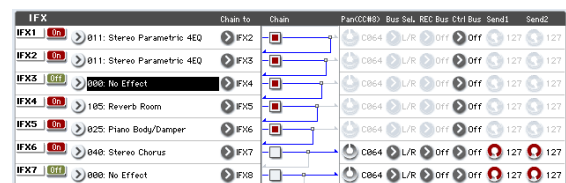
Auto Chain: on: If the IFX you've inserted is located within a chain, the **Chain** setting will automatically be turned on for the inserted IFX so that it will be chained with the preceding and following IFX.

If the IFX you've inserted is not inside a chain, **Auto Chain** does nothing.

5. Press the **OK** button to execute the **Insert IFX Slot** command, or press the **Cancel** button to cancel.

If there are not enough IFX units to insert, pressing the **OK** button will simply exit the command without doing anything.

In this example, 000: No Effect will be inserted into IFX3 when you execute the command. The effects that were at IFX3–IFX5 will be relocated to IFX4–6, resulting in a chain consisting of IFX1–IFX6.



6. For the newly inserted slot, turn the **On/Off** setting **On**. Then select and edit the desired effect.

Cut IFX Slot

Cut IFX Slot is available on the Routing and Insert FX tabs of the IFX page.

This command removes an IFX slot, and moves the other IFX upwards to fill in the gap—convenient when you want to remove an effect that you're not using.

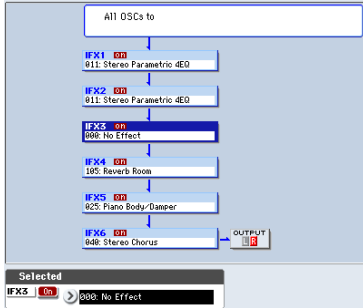
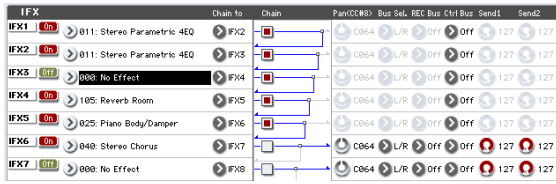
When the IFX are moved upwards, all of their related settings are copied as well. This includes **Chain**, **Pan**, **REC Bus**, **FX Control Bus**, **Sends 1 and 2**, and (for Combis and Songs only) **Ctrl Ch**.

This command also provides an **Auto Routing** option that automatically adjusts related parameters in order to preserve the previously-existing routing.

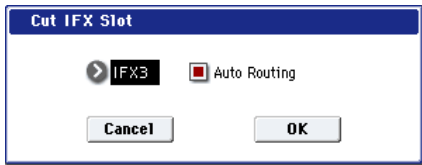
1. In the **Insert FX** page, select the insert effect slot that you want to remove.

In this example, IFX1→IFX2→IFX3→IFX4→IFX5 are chained, and we are going to remove the IFX3 slot.

You can also perform this operation from within the Track View page. Select the insert effect slot that you want to remove.



2. Select “Cut IFX Slot” to open the dialog box.




3. Specify the number of the IFX you want to remove.

(The IFX you selected in step 1 or 2 will be shown here as the default.)

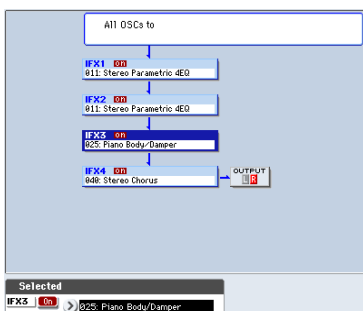
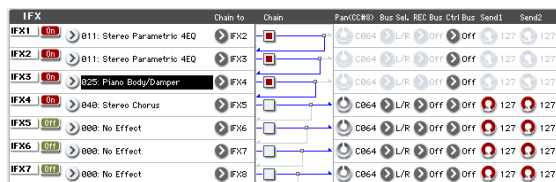
4. Specify the “Auto Routing” option. Normally you will leave this on.

Auto Routing: This automatically adjusts the following parameters in order to preserve the currently-existing routing.

- Routing: Bus Select
- Routing- Page Menu: DKit Patch (Combi/SEQ)

 You can't change the Auto Routing option if you've executed the “Cut IFX Slot” command from the Track View page. The command will always be executed with this option On.

5. Press the OK button to execute the Cut IFX Slot command, or press the Cancel button to cancel.



Drum Kits not supported by Auto Routing

Drum Kits can store separate **Bus Select** settings for each key. Because these settings are stored in the Drum Kit, and not the Program, the **Auto Routing** option can't correct them.

Drum Kit Programs will use these separate **Bus Select** settings if the IFX Routing page's **Use DKit Setting** parameter is turned **On**.

In this case, you have two options. Either:

- Use **Auto Routing**, and then manually adjust the **Bus Select** settings for each key of the Drum Kit to match the new IFX slot arrangement.

or:

- Don't use the **Cut IFX Slot** command. Instead, remove the unwanted IFX slot by changing the **Chain** to settings, or by using the **Copy IFX** or **Swap IFX** commands.

Clean Up IFX Routings

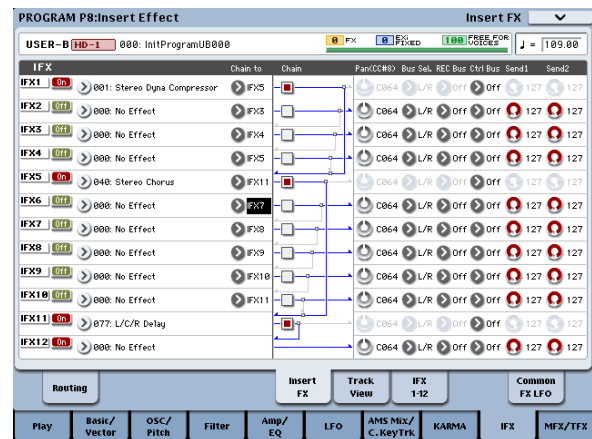
Clean Up IFX Routings is available on the Insert FX and Track View tabs of the IFX page.

This command automatically rearranges unused IFX slots so that they are consecutive. It also rearranges effects in a discontinuous chain so that they are consecutive. Related parameters are automatically adjusted in order to preserve the existing routings.

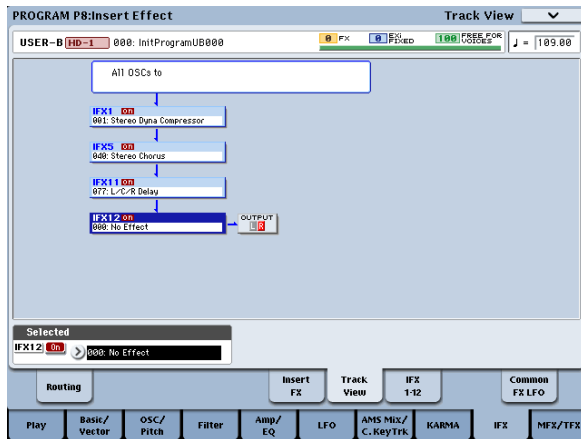
If editing an IFX chain results in unused slots, or if the connections in a chain have become disorganized, you can execute this command to clean up the routing.

1. Access the Insert FX page.

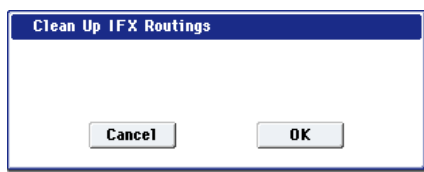
In this example, IFX1→IFX5→IFX11→IFX12 are chained, and the remaining slots are all vacant.



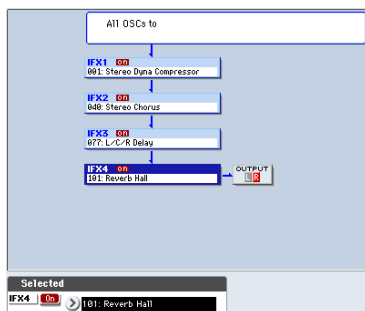
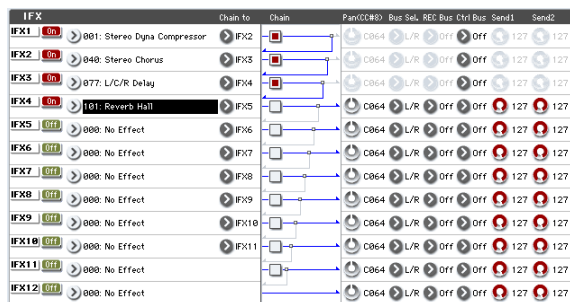
2. Alternatively, you can execute this command from the Track View page.



3. Select “Clean Up IFX Routings” to open the dialog box.



4. Press the OK button to execute the Clean Up IFX Routings command, or press the Cancel button if you decide to cancel.



In this example, the discontinuous chain IFX1→IFX5→IFX11→IFX12 has been reorganized into IFX1→IFX2→IFX3→IFX4, and the vacant slots (000: No Effect, unless located within a chain) have been rearranged consecutively.

At this time, the following parameters are automatically adjusted to maintain the existing routings.

- Routing: Bus Select
- Routing- Page Menu: DKit Patch (Combi/Seq)

If the program uses a drum kit, and the Routing page “Use DKit Setting” is on, you may have to change the **Bus Select** setting for each key of the drum kit in order to reproduce the previous routing status.

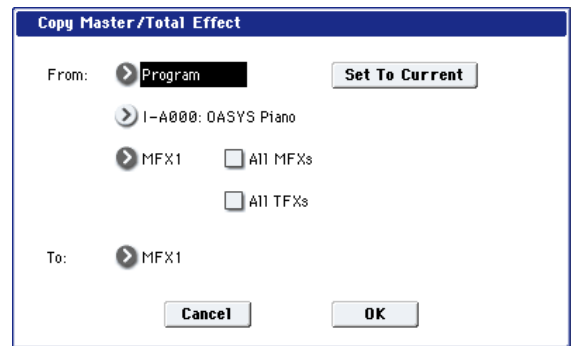
In such cases, don’t use the “Clean Up IFX Routings” command. Instead, rearrange the IFX slots by making the appropriate **Chain to** settings or by using the “Copy Insert Effect” or “Swap Insert Effect” commands.

Copy MFX/TFX

Copy MFX/TFX is available on all of the MFX/TFX pages.

This command lets you copy any desired effect settings from Program, Combination, Song, or Sampling mode.

1. Select “Copy MFX/TFX” to open the dialog box.



2. In “From,” select the copy source mode, bank, and number.

You can also use the BANK SELECT switches to select the desired bank.

If you press the “Set To Current” button, the currently selected mode, bank, number, and MFX/TFX (edit cell) will automatically be assigned to the “From” field. This is useful when you’re trying out other effect settings and want to temporarily copy previously-edited MFX/TFX settings to another vacant effect slot.

3. Select the effect that you want to copy.

You can copy from an insert effect by selecting IFX1–12.

If you copy from an insert effect, the result may not be exactly the same, due to differences in routing and level settings.

If you select MFX1 or MFX2, the **Return** level will be copied at the same time.

You can copy settings from a total effect by selecting TFX1 or TFX2.

If you check **All MFXs**, all master effect settings will be copied.

If you check **All TFXs**, all total effect settings will be copied. Master Volume settings will not be copied.

4. In “To,” specify the copy destination master effects or total effects.

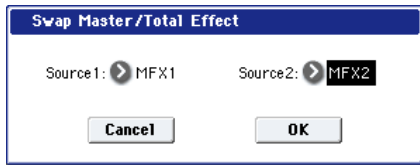
5. To execute the Copy Master/Total Effect command, press the OK button. To cancel, press the Cancel button.

Swap MFX/TFX

Swap MFX/TFX is available on all of the MFX/TFX pages.

This command swaps (exchanges) settings between MFX1, MFX2, TFX1, and TFX2.

1. Select "Swap MFX/TFX" to open the dialog box.

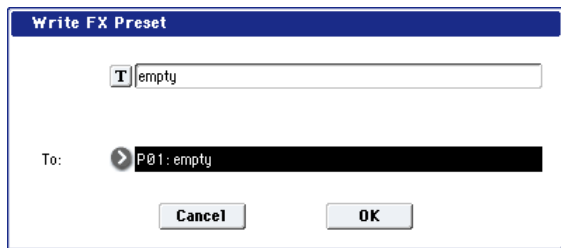


2. Use "Source 1" and "Source 2" to select the master effect(s) or total effect(s) that you want to swap.
3. To execute the Swap Master/Total Effect command, press the OK button. To cancel, press the Cancel button.

Write FX Preset

Write FX Preset is available on all of the effects parameter editing pages, including IFX 1-12, MFX 1 and 2, and TFX 1 and 2.

1. Select "Write FX Preset" to open the dialog box.



2. Press the text edit button to open the text edit dialog box, and input a name for the effect preset.
3. Use the "To" field to select the writing destination. We recommend that you use U00-U15.
4. Press the OK button to write the user preset, or press the Cancel button if you decide to cancel.

Note: In Disk mode you can save or load effect preset settings on external media.

Program mode: EXi

EXi Program P0: Play

This is the main page of Program mode for EXi Programs. Among other things, you can:

- Select Programs
- Jump directly to the main editing pages
- Make basic edits to KARMA
- Set up the audio input s and resampling options
- Use the control surface

EXi Common parameters

EXi, or Expansion Instruments, extend the capabilities of OASYS by adding new synthesis technologies. Out of the box, OASYS comes with three EXi: the AL-1 analog modeling synthesizer, the CX-3 modeled tonewheel organ, and the STR-1 Plucked String. OASYS also currently includes three optional EXi: the MS-20EX and PolysixEX analog modeling synths, and the MOD-7 Waveshaping VPM synthesizer.w

You can combine any two EXi within an EXi Program. Each EXi may have its own, very different parameters, which you can access via the EXi1 and EXi2 buttons at the bottom of the screen.

All EXi Programs also include a standard palette of capabilities, including effects, KARMA, key tracking, and the Common LFO and Common Step Sequencer. These standard parameters are available in the pages under the Common button, and are described in this chapter.

Auto Song Setup

The Auto Song Setup feature copies the current Program or Combination into a Song, and then puts the OASYS in record-ready mode.

If inspiration for a phrase or song strikes you while you're playing, you can use this function to start recording immediately. To do so:

1. **Hold down the ENTER key and press the SEQUENCER REC/WRITE key.**

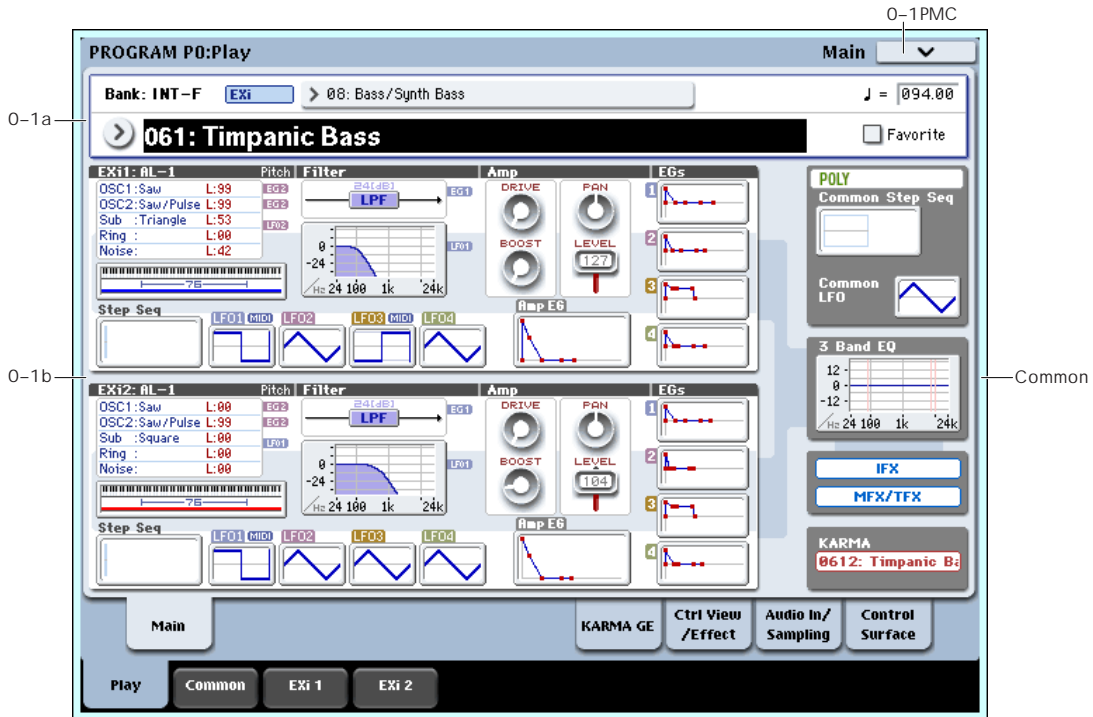
The Setup to Record dialog box will open and ask "Are you sure?"

2. **Press OK.**

You will automatically enter Sequencer mode, and will be in the record-ready state.

3. **Press the START/STOP key to start the sequencer and begin recording.**

0-1: Main



0-1a: Bank, Program, and Category Select

Bank [INT-F, USER-A...G]

This is the bank of the current Program. EXi Programs can be stored in bank INT-F, or in any of the USER banks, as long as their type is set to EXi. (For more information on setting the USER bank type, see “Changing the Bank Type for USER-A...G” on page 3.)

You can select Banks either via the on-screen menu, or by using the front-panel Bank buttons.

Program Select [000...127, Name]

This is name and number of the current Program. When this parameter is selected, you can select Programs using the Inc Δ and Dec ∇ buttons, numeric buttons 0-9, or the Value dial.

You can also use the pop-up Program and Category menus to select Programs from the LCD. For more details, please see “Program Select” on page 160

Note: On this page only, the VALUE slider functions as a modulation source - which means that you can't use it to select Programs.

Favorite [Off, On]

This button marks the Program as a “favorite,” which makes it easy to find in the Bank/Program Select and Category/Program Select dialogs.

Note that you must write the Program in order to save changes to this setting.

Tempo [040.00...240.00, EXT]

This is the tempo for the current Program, which applies to KARMA, tempo-synced LFOs, Step Sequencers, tempo-synced effects, and so on.

EXT means that the tempo will sync to external MIDI clocks. You'll see this if the Global MIDI page **MIDI Clock** parameter is set to **External MIDI**, or if it's set to **Auto** and the OASYS is currently receiving MIDI clocks. For more information, please see “MIDI Clock (MIDI Clock Source)” on page 710.

040.00...240.00 allow you to set a specific tempo in BPM, with 1/100 BPM accuracy. In addition to using the standard data entry controls, you can also just turn the TEMPO knob, or by playing a few quarter-notes on the TAP TEMPO button.

0-1b: Overview and Page Jump

This section shows an overview of the most important settings for the Program's two EXi instruments, along with some of the important Common parameters. The specific parameters will vary, depending on which EXi are being used. Parameters that you may see include oscillator settings, filter settings, EGs, LFOs, step sequencers, drawbar settings, and so on. See the individual EXi documentation for details.

The graphics give you a quick way to check all of these settings at a glance. They also let you jump instantly to any of the displayed parameters. Just touch one of the graphics, and you'll jump to the page containing its parameters. For instance, if you touch the Filter EG graphic, you'll go to the Filter EG page.

Common

The graphics along the right side of the screen show the most important Common parameters, which are shared by both EXi in the Program. This section will always show the same parameters, regardless of which EXi are being used.

Common Voice Assign Mode

This shows the voice assign mode of the Program—either POLY or MONO.

Press this area to jump to the Program Basic page.

Common Step Sequencer

This shows a graphic overview of the Common Step Sequencer.

Press this area to jump to the Common Step Sequencer page.

Common LFO Graphic

This shows the waveform of the Common LFO.

Press this area to jump to the Common LFO page.

3 Band EQ Graphic

This shows the mid-sweepable 3-band EQ.

Press this area to jump to the EQ page.

IFX, MFX/TFX

Press the IFX area to jump to the IFX Routing page.

Press the MFX/TFX area to jump to the MFX Routing page.

KARMA GE Name

This shows the name of the selected KARMA GE.

Press this area to jump to the GE Setup/Key Zones page.

▼ 0–1: Page Menu Commands

The number before each command shows its ENTER + number-key shortcut. For more information on these shortcuts, see “ENTER + 0-9: shortcuts for menu commands” on page 142.

- **0: Write Program.** For more information, see “Write Program” on page 142.
- **1: Exclusive Solo.** For more information, see “Exclusive Solo” on page 142.

0–6: KARMA GE

This page lets you make basic adjustments to KARMA. It works exactly like the similar page for HD-1 Programs; for more information, see “0–6: KARMA GE” on page 7.

For more detailed editing of KARMA parameters, see “Program P7: KARMA” on page 100.

0–7: Controller View/Effects

This page shows the functions assigned to the physical controllers, including the vector joystick, SW1 and 2, and knobs 5–8. It also includes an overview of all of the effects, and lets you adjust the Wet/Dry Balances separately for the IFX, MFX, and TFX.

It works exactly like the similar page for HD-1 Programs; for more information, see “0–7: Controller View/Effect” on page 11.

0–8: Audio Input/Sampling

This page lets you adjust the volume, pan, effects sends, and bussing for the audio inputs, including analog inputs 1-4 and S/P DIF L/R. It also controls the sampling-related settings for Program mode.

It works exactly like the similar page for HD-1 Programs; for more information, see “0–8: Audio Input/Sampling” on page 12.

0–9: Control Surface

The Control Surface is the set of 9 sliders, 8 knobs, and 16 switches to the left of the LCD display. It looks like a mixer, but it can do other things as well, including editing sounds, controlling KARMA, and sending MIDI messages to external devices.

This page shows you the current values for each of the sliders, knobs, and buttons, along with information about what they are controlling. For instance, you can:

- Adjust the volume and pan for EXi instruments 1 and 2

- Control the Program’s EQ settings and Master Effects Send levels
- Modulate sounds and effects using the Real Time Knobs
- Control KARMA, and select KARMA scenes, using the sliders and switches
- Edit sounds using Tone Adjust
- Assign sliders, knobs, and switches to different Tone Adjust parameters

Other than the exceptions noted below, it works almost exactly like the similar page for HD-1 Programs, substituting EXi 1/2 for OSC 1/2. For more information, see “0-9: Control Surface” on page 18.

0-9e: RT/KARMA (Real Time Knobs/KARMA) AMSOURCE

Realtime Knobs 1-4 have dedicated functions: Cutoff, Resonance, Filter EG Intensity, and Filter Release. EXi instruments will support these functions as much as possible, depending upon their architecture.

For instance, the AL-1 and STR-1 support all of these controls. The CX-3, on the other hand, has no filters or EGs, and so it does not support them at all. For details on other EXi, please see their documentation.

0-9f: Tone Adjust

The first group of Tone Adjust parameters are the Common set, which affect both EXi 1 and EXi 2. For more details, and a complete list of the parameters, please see “Common Tone Adjust Parameters” on page 28.

Some EXi instruments may not support all of the Common Tone Adjust parameters. For details, please see the individual EXi manuals.

After the Common parameters, the items in the list will vary depending on the EXi being used. For more information, please see:

“AL-1: Tone Adjust,” on page 214.

“CX-3: Tone Adjust,” on page 236.

“STR-1: Tone Adjust,” on page 282.

“MS-20EX: Tone Adjust,” on page 309.

“PolysixEX: Tone Adjust,” on page 325.

“MOD-7: Tone Adjust” on page 375.

Other EXi instruments will have their own set of parameters, as described in their documentation.

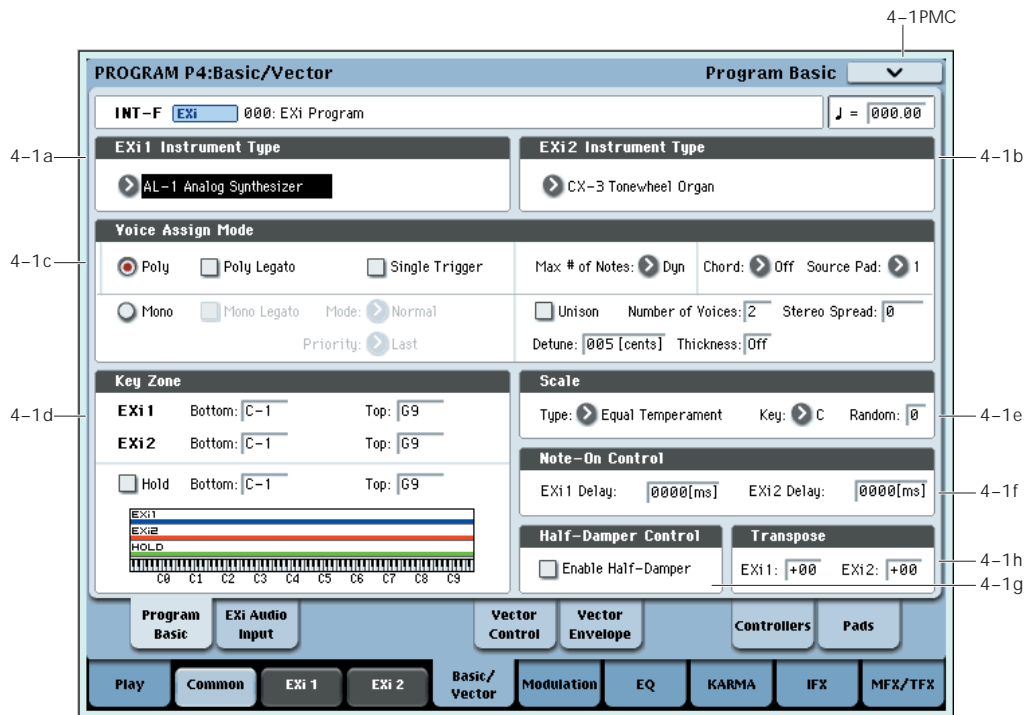
For these non-Common parameters, you have independent controls for both EXi 1 and EXi 2—even if they both use the same EXi. For instance, if both EXi are set to use the AL-1, they can still have separate Tone Adjust settings for their LFOs, oscillators, and so on.

EXi Program P4: Basic/Vector

These pages control the basic elements of the Program, along with the Vector synthesis features. For instance, you can:

- Select the EXi instruments which form the basis of the Program's sound
- Set up Vector fades between EXi 1 and EXi 2
- Set up Vector CCs to modulate Program and Effects parameters
- Program the Vector Envelope to move the Vector position automatically

4-1: Program Basic



This page contains all of the basic settings for the Program. Among other things, you can:

- Select the EXi instruments which form the basis of the Program's sound
- Set the Program to play polyphonically or monophonically
- Create a keyboard split between EXi 1 and EXi 2
- Select the Program's scale

4-1a: EXi 1

EXi 1 Instrument Type [List of installed EXi]

This is the most basic setting for the EXi Program. EXi instruments are complete synthesizers, in and of themselves; they may create or process sounds in completely different ways, and allow you to adjust completely different parameters.

For instance, one EXi might be a virtual analog synthesizer, and another might be a physically modeled tone-wheel organ.

This menu displays all of the EXi's installed on the system.

You can select either one or two EXi's for the Program. Unlike HD-1 Programs, there is no setting for Single or Double. If there are two EXi's, it doesn't matter which EXi is in which slot. You can even select only a single EXi, but place it in the second slot.

4-1b: EXi 2

EXi 2 Instrument Type [List of installed EXi]

This is the second EXi slot for the Program.

4-1c: Voice Assign Mode

Voice Assign options may vary with different EXi

As much as possible, different EXi instruments will support all of the voice assign options. However, there may be some cases in which a particular EXi does not support a specific voice assign parameter.

Additionally, when a Program uses two different EXi instruments, some of the voice assign options will only take affect if they are supported by both EXi. These include:

- The main Mode selection (Poly or Mono)
- Poly Legato
- Single Trigger

- Mono Legato
- Mono mode (Normal or Use Legato Offset)
- Unison

[Voice Assign Mode] [Poly, Mono]

These radio buttons select the basic voice allocation mode. Depending on which mode you select, various other options will appear, such as **Poly Legato (Poly mode only)** and **Unison (Mono mode only)**.

Poly: The program will play polyphonically, allowing you to play chords.

Mono: The program will play monophonically, producing only one note at a time.

Poly


Poly Legato [Off, On]

Poly Legato is available when the **Voice Assign Mode** is set to **Poly**. This option applies only to EXi which include sample playback.

Legato means to play notes so that they are smooth and connected; the next note is played before the last note is released. This is the opposite of playing detached.

On (checked): When you play with legato phrasing, only the first notes in the phrase (within the first 30ms) will use the normal Multisample Start Point, as set by the Start Point Offset parameter. The rest of the notes will use the Legato Start Point.

Off (unchecked): Notes will always use the setting of the Start Point Offset, regardless of whether you play legato or detached.

 With some Multisamples, Poly Legato may not have any effect.

Single Trigger [Off, On]

Single Trigger is available when the **Voice Assign Mode** is set to **Poly**.

On (checked): When you play the same note repeatedly, the previous note will be silenced before the next note is sounded, so that the two do not overlap.

Off (unchecked): When you play the same note repeatedly, the notes will overlap.

Mono

Mono Legato [Off, On]

This is available when the **Voice Assign Mode** is set to **Mono**.

Legato means to play notes so that they are smooth and connected; the next note is played before the last note is released. This is the opposite of playing detached.

When Mono Legato is On, the first note in a legato phrase will sound normally, and then subsequent notes will have a smoother sound, for more gentle transitions between the notes.

The **Mode** parameter, below, switches between two different Mono Legato effects, each of which achieves this smoothness in a different way. See the description of that parameter for more details.


On (checked): When you play with legato phrasing, the notes within a legato phrase will sound smoother, according to the setting of the **Mode** parameter, below.

Off (unchecked): Legato phrasing will produce the same sound as detached playing.

Mode [Normal, Use Legato Offset]

This parameter is available only when **Mono Legato** is On.

Normal: When you play legato, the envelopes and LFOs (and samples, if the EXi supports samples) will not be reset. Instead, only the pitch of the oscillator will change. This setting is particularly effective for wind instruments and analog synth sounds.

 When used with EXi which support samples, the pitch may occasionally be incorrect, depending on which multisample you play, and where on the keyboard you play.

Use Legato Offset: This applies only to EXi which support samples. When you play legato, all but the first note will use the Multisample's Legato Start Point, instead of the one set by the Start Offset parameter. This will be most effective for Multisamples with specifically designed Legato Offset points; for some Multisamples, it may have no effect.

Envelopes and LFOs will still be reset, as they are with detached playing.

Priority [Low, High, Last]

Priority is available when the **Voice Assign Mode** is set to **Mono**.

This parameter determines what happens when more than one note is being held down.

Low: The lowest note will sound. Many vintage, monophonic analog synths work this way

High: The highest note will sound.

Last: The most recently played note will sound.

Max # of Notes

Max # of Notes [Dynamic, 1...16]

Dynamic is the default. With this setting, you can play as many notes as the system allows.

1-16 lets you limit the maximum number of notes played by the Program. You can use this to:

- Model the voice-leading of vintage synthesizers, such as the Polysix
- Control the resources required by individual Programs in Combination and Sequencer modes

Max # of Notes applies only when the main **Voice Assign Mode** is set to **Poly**. If **Mono** is selected, this is grayed out.

This setting does not limit the **Unison Number of Voices** parameter. For instance, if **Max # of Notes** is set to **6**, and **Unison Number of Voices** is set to **3**, you can play up to 6 notes, each with 3 Unison voices.

If there are two EXi in the Program, the **Max # of Notes** applies equally to both. For instance, if **Max # of Notes** is set to **4**, you can play up to 4 notes on each EXi.

Chord

Chord [Off, Bsc, Adv]

Off disables the Chord function.

Bsc (Basic) re-creates the chord mode of the KOR6 Polysix. Each time you play a new chord, it will cut off the previous chord. This option ignores the Voice Assign settings.

Adv (Advanced) uses the Program's Voice Assign settings, as if each note in the chord was a transposed set of oscillators layered within the Program.

Poly, Poly Legato, Single Trigger, Mono, Mono Legato, Legato Offset, Mono Priority, and Mono and Poly Unison all apply.

You can achieve the same effect as **Bsc**, above, by setting **Chord** to **Advanced**, **Voice Assign** to **Mono**, **Priority** to **Last Note**, and **Legato** to **Off**.

For more information, see "Using Chord mode" on page 54 of the Operation Guide.

Source Pad [1...8]

Chord mode uses the chords assigned to the Pads. This selects which of the Pads to use. You can also choose chords using the Pads themselves; for more information, see "Selecting chords" on page 55 of the Operation Guide.

Unison

Unison [On, Off]

Unison can be used in both **Mono** and **Poly** modes.

On (checked): When Unison is on, the Program uses two or more stacked, detuned voices to create a thick sound.

Use the **Number of Voices** and **Detune** parameters to set the number of voices and amount of detuning, and the **Thickness** parameter to control the character of the detuning.

Off (unchecked): The Program plays normally. If **Unison** is **Off**, then all of its associated parameters are grayed out.

Number of voices [2...16]

This controls the number of detuned voices that will be played for each note when using **Unison**. It applies only when **Unison** is **On**.

Stereo Spread [0...100]

Stereo Spread lets you create a wider stereo field when using **Unison**. It applies only when **Unison** is **On**.

This feature separates the different Unison voices into two groups. One group is panned to the left, and the other to the right. At **0**, both groups will be in the center; at **100**, the two groups will be hard-panned left and right, respectively; at intermediate values, they will be panned to intermediate left and right positions.

If there is an odd number of voices, one voice will be panned to the center.

If the voices are true stereo, **Stereo Spread** "steers" the stereo image of each voice, similar to MIDI Pan (CC#10) and the Control Surface Pan knobs. In this

case, intermediate settings of **Stereo Spread** may be the most effective, since they will still preserve some of the original stereo image.

Unison detuning is spread as evenly as possible across the left and right channels. The lowest voice will be on the left, and the highest on the right; the next-lowest on the left, and the next-highest on the right, etc., as below:

-14 cents: L

+14 cents: R

-10 cents: L

+10 cents: R etc.

Depending on the **Thickness** setting, the detuning may lean slightly to one side.

Detune [00...200 cents]

Detune is available when **Unison** is **On**.

This parameter sets the tuning spread for the Unison voices, in cents (1/100 of a semitone). The **Thickness** parameter, below, controls how the voices are distributed across the detune amount. When **Thickness** is **Off**, the voices are distributed evenly, centered around the basic pitch.

For instance, let's say that the **Number of voices** parameter is set to **3**, **Detune** is set to **24**, and **Thickness** is **Off**:

Voice one will be detuned down by 12 cents, voice two will not be detuned, and voice three will be detuned up by 12 cents.

Voice	Detune
1	-12
2	0
3	+12

As another example, let's say that **Detune** is still set to **24** and **Thickness** is still **Off**, but **Number of voices** is set to **4**:

Voice one will still be detuned down by 12 cents, voice two will be detuned down by 4 cents, voice three will be detuned up by 4 cents, and voice 4 will be detuned up by 12 cents.

Voice	Detune
1	-12
2	-4
3	+4
4	+12

Thickness [Off, 01...09]

Thickness is available when **Unison** is **On**.

This parameter controls the character of the detuning for the unison voices.

Off: Unison voices will be evenly distributed across the Detune range, as shown above.

01-09: Unison voices will be detuned in an asymmetric way, increasing the complexity of the detune, and changing the way in which the different pitches beat against one another. This creates an effect similar to vintage analog synthesizers, in which oscillators were frequently slightly out of tune. Higher numbers increase the effect.

4-1d: Key Zone

You can create keyboard splits by setting top and bottom keys for EXi 1 and 2. Also, you can control the keyboard range over which the **Hold** parameter takes effect.

Setting Key Zones from the keyboard

In addition to using the standard data entry controls, you can also set all keyboard zones parameters directly from the keyboard. Just do the following:

1. **Select the key zone parameter you'd like to edit.**
2. **Press and hold the ENTER button.**
3. **Play a note on the keyboard to set the parameter.**
4. **Release the ENTER button.**

You can use this shortcut for all key and velocity parameters in the OASYS.

EXi 1 Bottom [C-1...G9]

This sets the lowest key on which EXi 1 will play.

EXi 1 Top [C-1...G9]

This sets the highest key on which EXi 1 will play.

EXi 2 Bottom [C-1...G9]

This sets the lowest key on which EXi 2 will play.

EXi 2 Top [C-1...G9]

This sets the highest key on which EXi 2 will play.

Hold [On, Off]

Hold is like permanently pressing down on the sustain pedal. In other words, notes continue to sound as if you were holding down the key - even after you lift your fingers from the keyboard.

Unless the **Sustain Level** is set to 0 in Amp EG 1 (and Amp EG 2 in a Double Program), the sound will continue to play forever—or, for EXi which support samples, it will play for the entire length of the sample(s).

On (checked): The **Hold** function is enabled for the range set by the **Hold Bottom** and **Hold Top** parameters, below.

Off (unchecked): Notes will play normally. This is the default setting.

Hold Bottom [C-1...G9]

This sets the lowest key affected by the Hold function.

Hold Top [C-1...G9]

This sets the highest key affected by the Hold function.

4-1e: Scale

Type [Equal Temperament...User Octave Scale15]

Selects the basic scale for the Program.


Note that for many of the scales, the setting of the **Key** parameter, below, is very important.

For a complete list of the available scales, please see “1-1g: Scale” on page 37.

Key (Scale Key) [C...B]

Selects the key of the specified scale.

This setting does not apply to the **Equal Temperament**, **Stretch**, and **User All Notes** scales.

-  If you're using a scale other than Equal Temperament, the combination of the selected scale and the **Key** setting may skew the tuning of the note. For example, A above middle C might become 442 Hz, instead of the normal 440 Hz. You can use the Global Mode's **Master Tune** parameter to correct this, if necessary.

Random [0...7]

This parameter creates random variations in pitch for each note. At the default value of 0, pitch will be completely stable; higher values create more randomization.

This parameter is handy for simulating instruments that have natural pitch instabilities, such as analog synths, tape-mechanism organs or acoustic instruments.

4-1f: Note-On Control

EXi 1 Delay [0ms...5000ms, KeyOff]

Use this to create a delay between the time that you press a key, and the time that EXi 1's note actually sounds.

This is most useful in Double Programs, for delaying one EXi in relation to the other.

KeyOff is a special setting. Instead of delaying the sound by a particular amount of time, the sound will play as soon as you release the key.

You can use this to create the “click” heard when a harpsichord note is released, for instance.

In general, when you use the **KeyOff** setting, it's also best to set the Amp EG **Sustain Level** to 0 (assuming the EXi includes an Amp EG).

EXi 2 Delay [0ms...5000ms, KeyOff]

This controls the note-on delay for EXi 2. For more information, see “EXi 1 Delay” on page 166.

4-1g: Half-Damper Control

A half-damper pedal is a special type of continuous foot pedal, such as the Korg DS-1H. In comparison to a standard footswitch, half-damper pedals offer more subtle control of sustain, which can be especially useful for piano sounds.

The OASYS will automatically sense when a half-damper is connected to the rear-panel DAMPER input. For proper operation, you will also need to calibrate the pedal, using the Calibrate Half-Damper command in the Global page menu.

The off and full-on positions of the half-damper work just like a standard footswitch. In conjunction with the **Enable Half-Damper** parameter, below, intermediate positions allow a graduated control of sustain, similar to the damper pedal of an acoustic piano.

Enable Half-Damper [On, Off]

When this is **On** (checked), Half-Damper pedals, normal sustain pedals, and MIDI CC# 64 will all modulate the Amp EG, as described below.

When this is **Off** (un-checked), the pedals and MIDI CC#64 will still hold notes as usual, but will not modulate the Amp EG.

Half-Damper Pedal and Release Time

The amount of modulation depends on whether the Amp EG **Sustain Level** is set to **0** (as is the case with most acoustic piano sounds), or set to **1** or more. The modulation is continuous, from 1x (no change) to 55 times longer; the table below shows a selection of representative points.

Half-Damper modulation of Amp EG Release Time

CC#64 Value	Multiply Amp EG Release Time by...	
	If Sustain = 0	If Sustain = 1 or more
0	1x	1x
32	2.1x	2.1x
64	3.2x	3.2x
80	5.9x	
96	22.3x	
127	55x	

4-1h: Transpose

These parameters make it easy to transpose one or both EXi. To keep the timbre the same for a given pitch, other key-related parameters are transposed as well, such as key tracking and note-number AMS.

For instance:

1. Set a key track break-point to C2.
2. Set the transpose to +2.

Now, the key track break-point will still display as C2, but will be transposed up to D2.

These transpositions are cumulative with Timbre/Track transpose in Combinations and Songs.

Note: The EXi 1/2 key zones directly represent the physical keyboard, and are not affected by these transpose settings. For more information, see "4-1d: Key Zone" on page 166.

EXi 1 [-60...+60]

This transposes EXi1, in semitones. The default is 0.

EXi 2 [-60...+60]

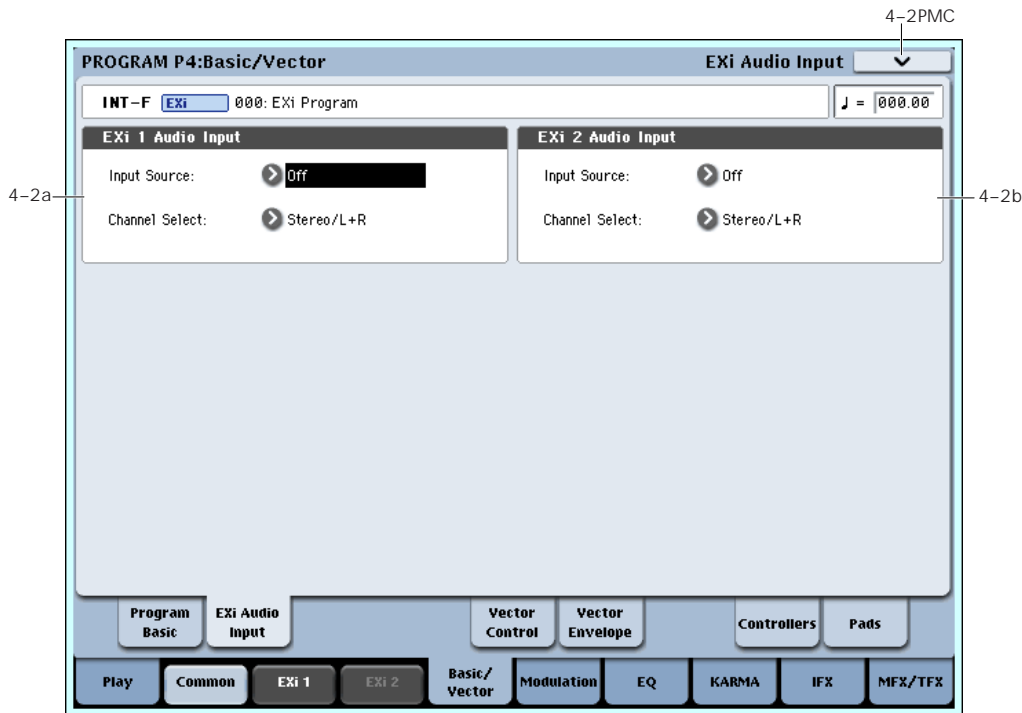
This transposes EXi1, in semitones. The default is 0.

▼ 4-1: Page Menu Commands

The number before each command shows its ENTER + number-key shortcut. For more information on these shortcuts, see "ENTER + 0-9: shortcuts for menu commands" on page 142.

- **0: Write Program.** For more information, see "Write Program" on page 142.
- **1: Exclusive Solo.** For more information, see "Exclusive Solo" on page 142.
- **2: Copy EXi Oscillator.** For more information, see "Copy EXi Oscillator" on page 174.

4-2: EXi Audio Input



These parameters let you route audio into EXi instruments which support audio input, such as the STR-1. You can use this to create feedback loops, or to process live or recorded audio through the EXi's synthesis engine.

EXi which do not support audio input will ignore these settings.

For more information on using audio inputs with the STR-1, see "4-8c: Feedback" on page 261.

You can override these settings, if desired, in Combination and Sequencer modes. For more information, see "2-6: EXi Audio Input" on page 422 (Combi mode), and "2-6: EXi Audio Input" on page 530 (Sequencer mode).

4-2a: EXi 1

Input Source [Off, Audio Input 1/2...3/4, S/P DIF Input L/R, L/R Output, Indiv. Output 1/2...7/8, REC 1/2, 3/4, FX Control 1, 2, IFX 1...12, MFX 1, 2, TFX 1, 2]

This selects the input source for EXi1. You can use this to create a feedback loop, if desired.

Off disables the input.

Audio Input 1/2...3/4 and **S/P DIF Input L/R** use the live audio from the selected input.

L/R Output and **Indiv. Output 1/2...7/8** use the audio as it is heard from the selected output (like connecting a cable from the output back to the input).

REC 1/2...3/4 and **FX Control 1, 2** use the audio from the selected bus.

IFX 1...12, **MFX 1, 2**, and **TFX 1, 2** use the output of the selected effect.

Channel Select [Stereo/L+R, Left, Right]

Stereo/L+R: This selection routes a stereo signal to EXi with stereo inputs, and an L+R summation to EXi with mono inputs.

Left, Right: This uses only a mono signal from the selected channel.

4-2b: EXi 2

EXi 2 has the same controls as EXi 1, above.

4-5: Vector Control

Vector Synthesis lets you control Program and Effects parameters by moving the Vector Joystick, by using the programmable Vector Envelope, or by the combination of the two.

This page works exactly like the similar page for HD-1 Programs, substituting EXi 1/2 for OSC 1/2. For more information, see "1-5: Vector Control" on page 39.

▼ 4-5: Page Menu Commands

The number before each command shows its ENTER + number-key shortcut. For more information on these shortcuts, see "ENTER + 0-9: shortcuts for menu commands" on page 142.

- 0: **Write Program.** For more information, see "Write Program" on page 142.

- 1: **Exclusive Solo**. For more information, see “Exclusive Solo” on page 142.
- 2: **Copy EXi Oscillator**. For more information, see “Copy EXi Oscillator” on page 174.

4-6: Vector Envelope

The Vector Envelope works together with the Vector Joystick to control the Vector position. It's also special because it's the only programmable modulation source which lets you modulate both Program and Effects parameters.

The Vector Envelope is different from the other envelopes in several ways:

- Each point has two “levels” - one for the X axis, and one for the Y axis.
- The envelope times can be based on seconds and milliseconds, or synced to tempo.
- Each point has a hold time, as well as a transition time to the next point.
- The envelope can loop between two points, for either a specified number of repeats, or as long as you hold the note.

This page works exactly like the similar page for HD-1 Programs, substituting EXi 1/2 for OSC 1/2. For more information, see “1-6: Vector Envelope” on page 43.

▼ 4-6: Page Menu Commands

The number before each command shows its ENTER + number-key shortcut. For more information on these shortcuts, see “ENTER + 0-9: shortcuts for menu commands” on page 142.

- 0: **Write Program**. For more information, see “Write Program” on page 142.
- 1: **Exclusive Solo**. For more information, see “Exclusive Solo” on page 142.
- 2: **Copy EXi Oscillator**. For more information, see “Copy EXi Oscillator” on page 174.

4-8: Set Up Controllers

This page lets you set up the functionality of SW1/2 and Real-Time Knobs 5-8. It works exactly like the similar page for HD-1 Programs; for more information, see “1-8: Set Up Controllers” on page 46.

▼ 4-8: Page Menu Commands

The number before each command shows its ENTER + number-key shortcut. For more information on these shortcuts, see “ENTER + 0-9: shortcuts for menu commands” on page 142.

- 0: **Write Program**. For more information, see “Write Program” on page 142.
- 1: **Exclusive Solo**. For more information, see “Exclusive Solo” on page 142.
- 2: **Copy EXi Oscillator**. For more information, see “Copy EXi Oscillator” on page 174.

4-9: Set Up Pads

This page lets you view and edit the note assignments for the 8 drum pads. It works exactly like the similar page for HD-1 Programs; for more information, see “1-9: Set Up Pads” on page 47.

▼ 4-9: Page Menu Commands

The number before each command shows its ENTER + number-key shortcut. For more information on these shortcuts, see “ENTER + 0-9: shortcuts for menu commands” on page 142.

- 0: **Write Program**. For more information, see “Write Program” on page 142.
- 1: **Exclusive Solo**. For more information, see “Exclusive Solo” on page 142.
- 2: **Copy EXi Oscillator**. For more information, see “Copy EXi Oscillator” on page 174.
- 3: **Copy Pad Setup**. For more information, see “Copy Pad Setup” on page 148.

EXi Program P5: Modulation

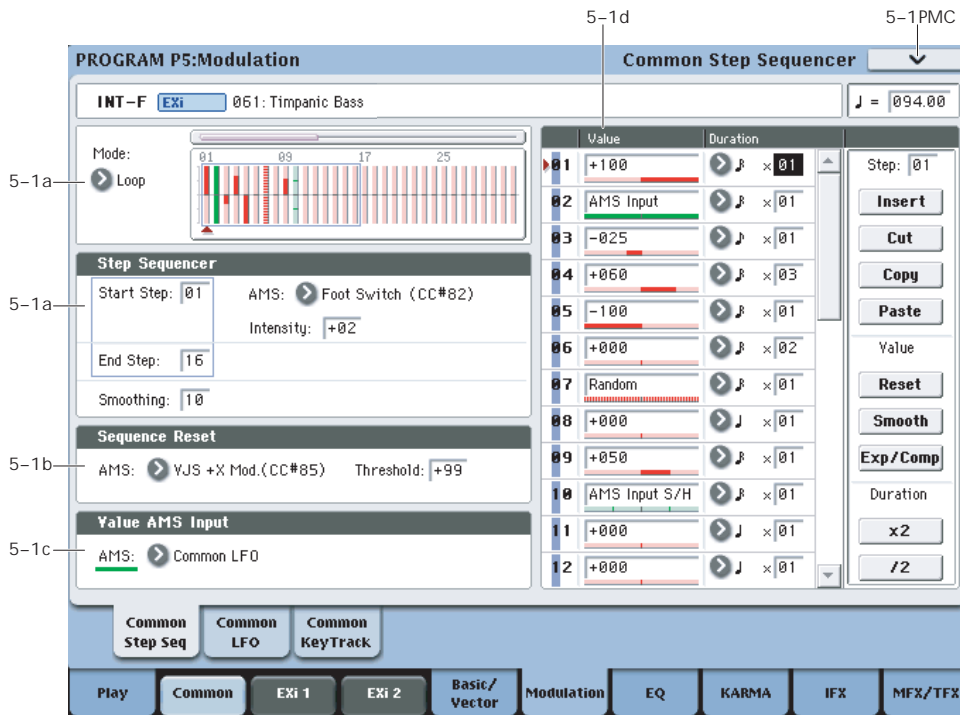
The entire Program shares several modulation sources, including:

- A single Common LFO, shared by all the voices - similar to the global LFO on some vintage analog synths
- A single Common Step sequencer, shared by all the voices

- Two Common Key Tracking generators, which are set up for the entire Program, but then calculated individually for each voice

These pages let you set up these Program-wide modulation sources.

5-1: Common Step Seq AMSource



Overview

The Common Step Sequencer creates complex, rhythmic patterns, which can then be used as an AMS source. For instance, you can modulate a filter to create sample-and-hold effects, modulate pitch to create melodic patterns, or modulate amplitude to create pulsing, triggered-gate effects.

The sequence can have up to 32 steps, each with its own level and duration. It can loop, or play only once. You can also:

- Re-start the Step Sequencer via AMS
- Modulate the Start Step via AMS
- Use individual steps to either gate or do sample-and-hold on a continuous AMS source, such as an LFO
- Assign individual steps to create a random level
- Use Smoothing to create gentle, curving shapes

Differences from per-voice Step Sequencers

There is only a single Common Step Sequencer shared by the entire Program. It starts running as soon as you select the Program, and only resets when you tell it to

do so explicitly via the **Sequencer Reset** parameter. This is different from the per-voice Step Sequencer's **Key Sync Off** setting, which resets whenever all notes are released.

(However, you can create a similar behavior, if you like; see the **Sequencer Reset** parameter for more information.)

The Common Step Sequencer's persistence can be handy if you want to create a constant rhythm, and then play "underneath" that rhythm without re-triggering it. For instance, you can use a MIDI controller in your sequencer to reset the Common Step Sequencer every few bars, regardless of what notes are being played.

Creating melodic patterns with the Step Sequencer

You can use the Step Sequencer to modulate synthesis parameters, such as filter cutoff- and you can also use it to create melodic patterns. To do so:

1. Assign the Step Sequencer as an AMS source for Pitch.
2. Set the AMS intensity to +25.
3. In the Step Sequencer, set the step values as desired. Each increment of 4 equals a semitone.

For example, to play an ascending chromatic scale, set the step values to 0, +4, +8, +12, +16, and so on. One octave up is +48, and two octaves up is +96.

5-1a: Step Sequencer

Mode [Loop, One Shot]

Loop makes the Step Sequence loop continuously between the **Start Step** and the **End Step**.

One Shot makes the Step Sequence play once from the **Start Step** to the **End Step**, and then hold at the **End Step**. You can still reset the Step Sequencer from AMS to make it play again.

Start Step [1...32]

This sets the step on which the sequence will start. The **Start Step** is important for the **Mode** parameter, above. You can also modulate it via AMS.

AMS [AMS Sources]

This selects an AMS source to modulate the **Start Step**. For a list of AMS sources, see "Alternate Modulation Source (AMS) List" on page 1021.

Intensity [-32...+32]

This controls the depth and direction of the **Start Step** modulation.

End Step [01...32]

This sets the last step in the sequence. Once the sequence reaches the **End Step**, it will either hold there until the note goes away (if **Mode** is set to **One Shot**), or loop back to the **Start Step** (if **Mode** is set to **Loop**).

Smoothing

These controls filter the Step Sequencer's output signal, creating more gentle transitions between values. You can use this to round off the hard edges of the Step Sequencer's output, or to create envelope-like effects.

You have separate control of the amount of smoothing during the attack (when the signal is increasing) and decay (when it's decreasing).

Attack [00...99]

This controls the attack time of the smoother, or how long it takes to reach a new, *higher* value.

Higher **Attack** settings mean longer times.

Depending on how quickly the Step Sequencer value is changing, high **Attack** settings may mean that a new value is never quite reached.

Decay [00...99]

This controls the decay time of the smoother, or how long it takes the smoother to reach a new, *lower* value.

Higher **Decay** settings mean longer times.

Using Smoothing to create envelope-like shapes

Since you have separate control over the attack and decay times, you can use Smoothing to create envelope-like pulses. To do so, you'll need to alternate **Step Values** so that a positive value is followed by a

value of zero. (You could use negative values, as well, but that would make the action of the **Attack** and **Decay** controls more complicated.)

To hear the effect clearly, let's use an AL-1, and assign the Step Sequencer to modulate Filter Cutoff:

1. In a single EXi Program, set EXi1 to AL-1.
2. Set the Filter Type to Lowpass, and the Routing to 24dB (4-pole).
3. Set the Filter Cutoff to 00.
4. On the Filter Mod page, set Filter A's AMS to Common Step Sequencer, and set the Intensity to 90.

You could also use the per-voice Step Sequencer, but for this example we'll use the Common one.

5. In the Common Step Sequencer, set the End Step to 4.
6. Set the Mode to Loop.
7. Set Step 1's Value to +100.
8. For both Step 2 and Step 4, set the Value to 0.
9. Set Step 3's Value to +80.
10. Set the Durations of all four Steps to a 32nd-note.
11. Turn the front-panel Tempo knob to the center, at about 120 bpm.

If the tempo is really fast, you'd need to use longer Step Durations.

12. Set the Smoothing Attack to 0.

13. Adjust the Smoothing Decay to 80.

Now, the Step Sequencer will create a series of 16th-note pulses, like simple envelopes. With the settings above, they "envelopes" will have an instant attack, and a moderate decay/release time.

For more space between the pulses, try this:

14. For both Step 2 and Step 4, set the Duration "x" (Multiply Base Note by...) to 3.

This creates a series of 8th-note pulses, with a longer time between each pulse.

15. Adjust the Decay between 0 and 99, and listen to the difference that it makes.

You can also create smoother, LFO-like effects. Try this:

16. Set the Decay to 80, and then vary the Attack time.

With longer **Attack** times, the pulses become softer in character.

Using Smoothing to make step transitions more gentle

Without smoothing, the Step Sequencer's output has very sharp transitions between values. Often, this may be just what you're looking for. In some cases, however, these transitions may cause audio artifacts, such as low-frequency bumps. This will depend on the parameter being modulated, and the intensity of the modulation.

If this happens, you can use smoothing to make the transitions more gentle, and reduce or eliminate the artifacts. To do so:

1. Adjust the smoothing until it's just high enough that the artifacts are no longer heard. Start with the Decay, and then use Attack if necessary.

When using positive Step Sequencer values and positive modulation, you'll generally only need to adjust the Decay; otherwise, you may need to adjust the Attack as well.

The trick is to set the smoothing high enough so that the artifacts go away, but low enough that the sound of the Step Sequencer isn't altered significantly.

5-1b: Sequencer Reset

AMS [AMS Sources]

This selects an AMS source to reset the sequence to the **Start Step**.

To create an effect similar to the per-voice Step Sequencer's **Key Sync Off** setting, set this to **Gate 1+ Damper**.

Threshold [-99...+99]

This sets the AMS level which will make the Step Sequencer reset. Among other things, you can use this to adjust the exact point in an LFO's phase at which the sequencer will be reset, effectively controlling its "groove" against other rhythmic effects.

When the threshold is **positive**, the Step Sequencer triggers when passing through the threshold moving upwards. When the threshold is **negative**, the Step Sequencer triggers when passing through the threshold moving downwards.

Note: with some LFO shapes, and with faster LFO speeds, the LFO may not always reach the extreme values of +99 or -99. In this case, setting the **Threshold** to these values may cause inconsistent behavior, or may mean that the Step Sequencer doesn't reset at all. If this happens, reduce the **Threshold** until the Step Sequencer triggers consistently.

5-1c: Value AMS Input

AMS [AMS Sources]

This is the AMS source used for steps set to **AMS Input** or **AMS Input S/H**.

5-1d: Step Parameters

Each of the 32 steps has its own settings for Value and Duration.

Value 1-32 [-100...+100, Random, AMS Input, AMS Input S/H]

-100 through +100 generate specific levels, just as you'd expect.

Random yields a different, random value every time the step is played.

AMS Input uses the signal from the **Value AMS Input** source, above. This can change continuously over the duration of the step. For instance, if you used an LFO as the **Value AMS Input**, you'd hear the LFO move over the duration of the step.

AMS Input S/H grabs the level of the **Value AMS Input** source at the start of the step, and then maintains that single value for the duration of the step.

Duration (Base Note) 1-32 [♪...]

This sets the basic length of the step, relative to the system tempo. The values range from a 32nd note to a whole note, including triplets.

x (Multiply Base Note by...) 1-32 [01...32]

This multiplies the length of the Base Note. For instance, if the Base Note is set to a sixteenth note, and Times is set to 3, the step's duration will be a dotted eighth note.

Command buttons

Step

Step [01...32]

Selects the step that you want to edit.

Insert

Inserts the cut or copied step at the current step.

Cut

Cuts the current step. Subsequent steps will be moved forward. If desired, you can then paste or insert the cut step into another location.

Copy

Copies the current step. You can then paste or insert the copied step into another location.

Paste

Pastes the cut or copied step onto the current step, replacing it.

Value

Reset

Resets the "Value" of each step to 000.

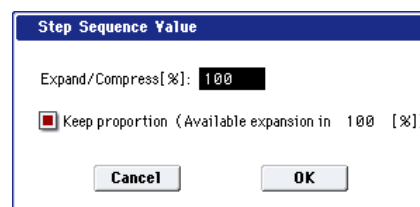
Smooth

Automatically adjusts the "Value" of each step so that they are smoothly connected.

Exp/Comp

When you press the Exp/Comp button, the Step Sequence Value dialog box will appear. The value of each step will be expanded or compressed by the percentage (%) you specify.

Step Sequence Value dialog box



Expand/Compress [%] [0...100]

If this is at 100%, the current value of each step will be used without change. If you check "Keep Proportion," the % value will be limited so that the expansion/compression will maintain the relationships between the current step settings.

Duration

x2

This doubles the duration of the steps or the “x (Multiply Base Note by...)” value. For example, it would turn eighth notes into quarter notes, and quarter notes into half notes.

/2

This halves the duration of the steps or the “x (Multiply Base Note by...)” value. For example, it would turn quarter notes into eighth notes, and eighth notes into sixteenth notes.

▼ 5–1: Page Menu Commands

The number before each command shows its ENTER + number-key shortcut. For more information on these shortcuts, see “ENTER + 0-9: shortcuts for menu commands” on page 142.

- 0: **Write Program**. For more information, see “Write Program” on page 142.
- 1: **Exclusive Solo**. For more information, see “Exclusive Solo” on page 142.
- 2: **Copy Step Sequencer**. For more information, see “Copy Step Sequencer” on page 174.

5–2: Common LFO AMSource

This is a single, free-running LFO, global for all voices in the Program—like the modulation LFOs in some vintage analog synths. It’s always available as a modulation source for both EXi1 and EXi2, regardless of which EXi instruments are being used.

This page works exactly like the similar page for HD-1 Programs. For more information, see “5–9: Common LFO” on page 88.

5–3: Common Keyboard Track

The Program includes two Common keyboard tracking generators, in addition to any keyboard tracking within the individual EXi instruments. You can use these Common keytracks as AMS sources for modulating most AMS destinations.

The Common Key Track parameters are shared by the entire Program, but the actual AMS values are calculated individually for each voice.

They work almost exactly like the Common Key Track generators for HD-1 Programs; for more information, see “6–9: Common Keyboard Track” on page 97.

There is one difference between the two, however: EXi keyboard tracking is affected by Portamento, so that it changes smoothly during glides.

EXi Program P6: EQ

This page is very simple, but very useful: it lets you control the Program’s EQ settings. It works exactly like the similar page for HD-1 Programs; for more information, see “4–9: EQ” on page 82.

EXi Program P7: KARMA

This pages let you control the Program’s KARMA settings. They work exactly like the similar pages for HD-1 Programs; for more information, see “Program P7: KARMA” on page 100.

EXi Program P8: Insert Effect

This pages let you control the Program’s twelve Insert Effects (IFX). They work exactly like the similar pages for HD-1 Programs; for more information, see “Program P8: Insert Effect” on page 127.

EXi Program P9: Master/Total Effect

This pages let you control the Program’s two Master Effects (MFX) and two Total Effects (TFX). They work exactly like the similar pages for HD-1 Programs; for more information, see “Program P9: Master/Total

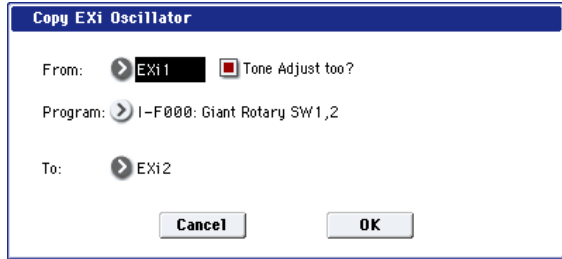
Effect” on page 138.

EXi Program: Page Menu Commands

Copy EXi Oscillator

This command copies the oscillator settings of a EXi program.

1. Select "Copy EXi Oscillator" to open the dialog box.



2. Use the "From" field to select whether to copy from EXi 1 or EXi 2.
3. Use the "Program" field to select the bank and number of the source Program. You can also use the BANK SELECT switches to select a bank.

Note: You can't select HD-1 Programs here.

If "Tone Adjust too" is checked, the Tone Adjust settings will be copied along with the rest of the EXi parameters.

If this is not checked, and the destination (To) had previously used the same EXi Instrument Type as the source (From), then the Tone Adjust settings of the destination will be preserved.

If the EXi Instrument Types were different, all Tone Adjust settings of the destination will be initialized.

4. Use the "To" field to select the copy-destination oscillator.
5. Press the OK button to execute the Copy Oscillator operation, or press the Cancel button if you decide not to execute.

step sequencer. Only EXi which actually contain per-voice step sequencers will appear in the EXi 1/2 selection.

3. Use the "Program" field to select the bank and number of the copy-source program.

You can also use the BANK SELECT switches to select a bank.

Note: You can't select HD-1 programs.

4. Press the OK button to execute the Copy Step Sequencer command, or press the Cancel button if you decide not to execute.

Some AMS settings are not copied

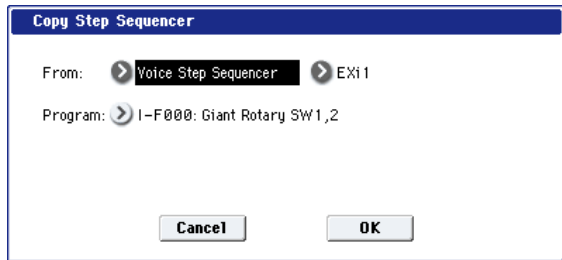
The following AMS-related parameters are not copied:

- Start Step AMS and Intensity
- Sequence Reset AMS and Threshold
- Value AMS Input AMS selection

Copy Step Sequencer

This command copies the step sequencer settings of the desired EXi program.

1. Select "Copy Step Sequencer" to open the dialog box.



2. Use the "From" field to select either Common Step Sequencer or Voice Step Sequencer as the step sequencer you want to copy.

Voice Step Sequencer lets you copy from the per-voice step sequencer within an EXi, such as the AL-1. You can choose to copy from either EXi 1 or EXi 2. Some EXi, such as the CX-3, don't have a per-voice

EXi: AL-1 Analog Synthesizer

AL-1 Overview

The AL-1 is Korg's most full-featured virtual analog synthesizer to date. It's played from within EXi Programs, so you can layer it with any other EXi—or layer two AL-1s together. Its features include:

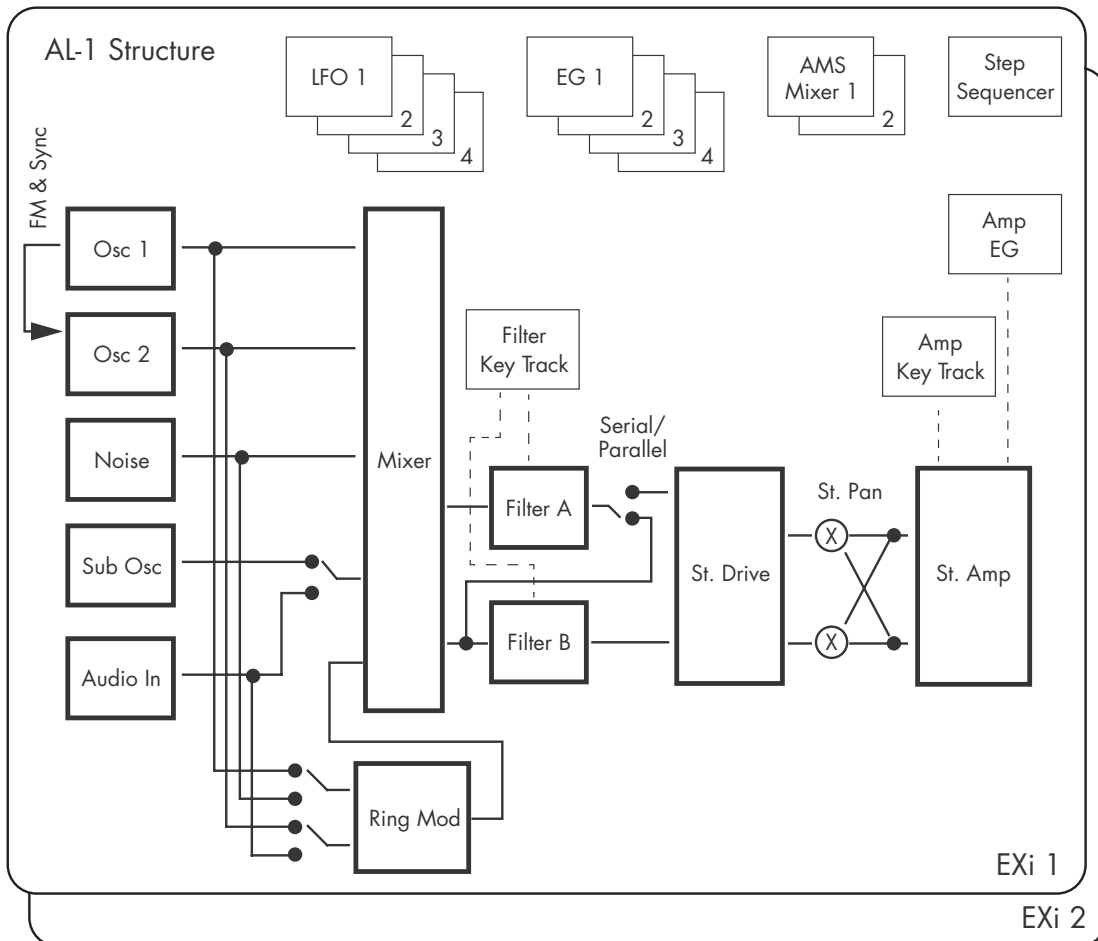
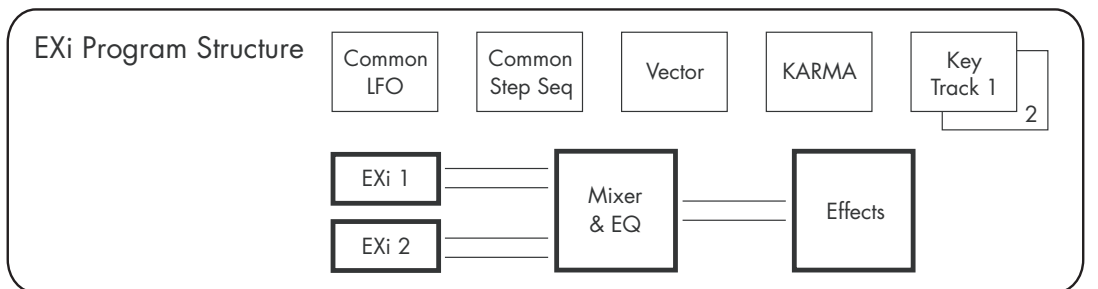
- Two ultra-low-aliasing oscillators, based on new, proprietary technology
- Sub oscillator, colored noise generator, and live audio input; FM, sync, and ring modulation
- Dual multi-mode resonant filters, including Korg's new Multi Filter
- Drive and Low Boost, for adding per-voice grit, girth and distortion
- Four per-voice LFOs, five re-triggerable envelopes, and a per-voice step sequencer

- Two key tracking generators and two modulation mixers
- Access to all standard EXi Program features, including the Common LFO, Common Step Sequencer, Key Track 1 & 2, KARMA, EQ, and effects

Unsupported EXi Common parameters

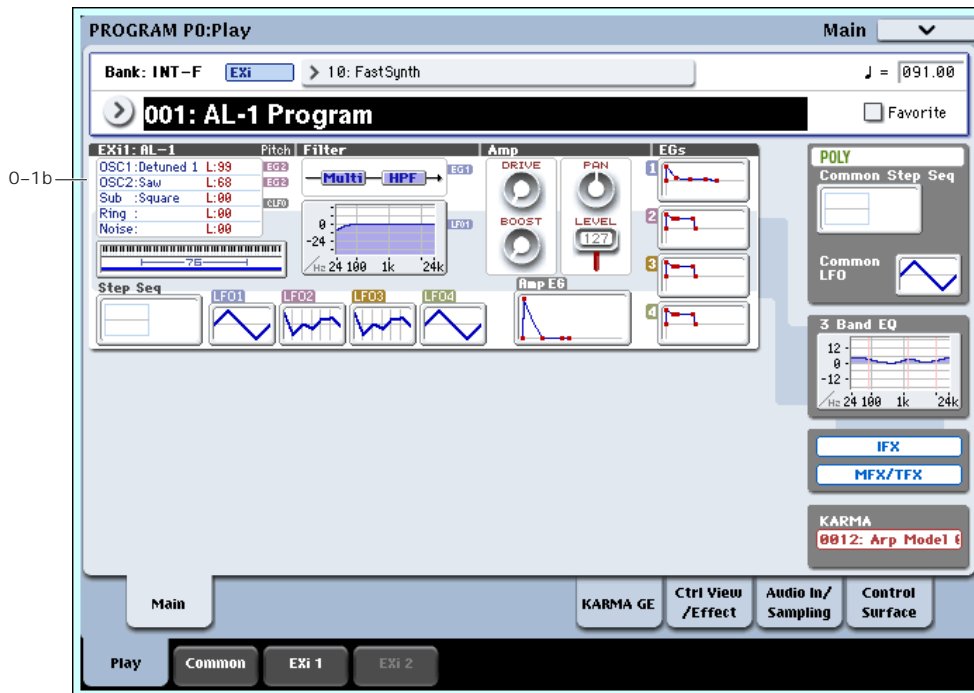
The AL-1 supports all of the EXi Common parameters, except for two of the voice allocation options: **Poly Legato** and **Mono Mode** (Normal/Use Legato Offset). Both of these options are designed for sample playback, and so they don't apply to the AL-1.

All of the other voice allocation options are fully supported, including Mono, Mono Legato, Unison, etc.



EXi Program P0: Play

0-1: Main



This is the main page of Program mode. For a full description of this page and all of its functions, please see “EXi Program P0: Play” on page 159. This section describes only the overview display, which differs for each individual EXi.

0-1b: Overview and Page Jump

This part of the page shows an overview of the most important settings for the Program’s two EXi instruments. The specific parameters will vary, depending on which EXi are being used. The specific parameters for the AL-1 are described below.

The graphics give you a quick way to check all of these settings at a glance. They also let you jump instantly to any of the displayed parameters. Just touch one of the graphics, and you’ll jump to the page containing its parameters. For instance, if you touch the Filter EG graphic, you’ll go to the Filter EG page.

Tip: Pressing EXIT several times will always bring you back to this page.

Oscillators

This shows the waveforms selected for OSC1, OSC2, and the Sub Oscillator. It also shows the level and balance settings for the three Oscillators, plus the Ring Modulator and Noise Generator. Levels are shown in red, and balance settings in green.

Press this area to jump to the OSC Basic page. For more information, see “4-1: OSC Basic” on page 178.

Common Key Zone

This shows the key zones for EXi1 and EXi2, as set on the Common section’s Program Basic page, in relation to the entire MIDI note range. The range of the 76-note or 88-note keyboard is also shown, as appropriate.

Press this area to jump to the Program Basic page.

Pitch

This shows the Pitch EG Select and Pitch LFO Select settings for OSC1 and OSC2.

Touch an EG icon to jump to the Pitch EG/Mod page, or touch an LFO icon to jump to the Pitch Common page.

Filter

Filter Routing, Type, and Frequency Graphic

This shows the filter routing, filter type(s), and a graphic representation of the filter frequency response, including cutoff and resonance.

Press this area to jump to the Filter Basic page.

Amp

Driver, Low Boost, Pan, Amp Level

This shows the Amp section’s **Driver**, **Low Boost**, **Pan**, and **Amp Level** values.

If the Driver section’s **Bypass** is on, **Driver** and **Low Boost** are not shown.

Press this area to jump to the Amp/Driver page.

EGs, LFOs, and Step Sequencer

Step Sequencer Graphic

This shows a graphic overview of the per-voice step sequencer.

Press this area to jump to the Step Sequencer page.

EG 1...4, Amp EG Graphics

These show the shapes of the five EGs. Touch any of them to jump directly to the corresponding edit page.

LFO 1, 2, 3, 4 Graphic

These show the waveforms and shapes of the four LFOs. Touch any of them to jump directly to the corresponding edit page.

Common

The graphics along the right side of the screen show the most important Common parameters, which are shared by both EXi in the Program. This section will always show the same parameters, regardless of which EXi are being used.

Common Voice Assign Mode

This shows the voice assign mode of the Program—either POLY or MONO.

Press this area to jump to the Program Basic page.

Common Step Sequencer

This shows a graphic overview of the Common Step Sequencer.

Press this area to jump to the Common Step Sequencer page.

Common LFO Graphic

This shows the waveform of the Common LFO.

Press this area to jump to the Common LFO page.

3 Band EQ Graphic

This shows the mid-sweepable 3-band EQ.

Press this area to jump to the EQ page.

IFX, MFX/TFX

Press the IFX area to jump to the IFX Routing page.

Press the MFX/TFX area to jump to the MFX Routing page.

KARMA GE Name

This shows the name of the selected KARMA GE.

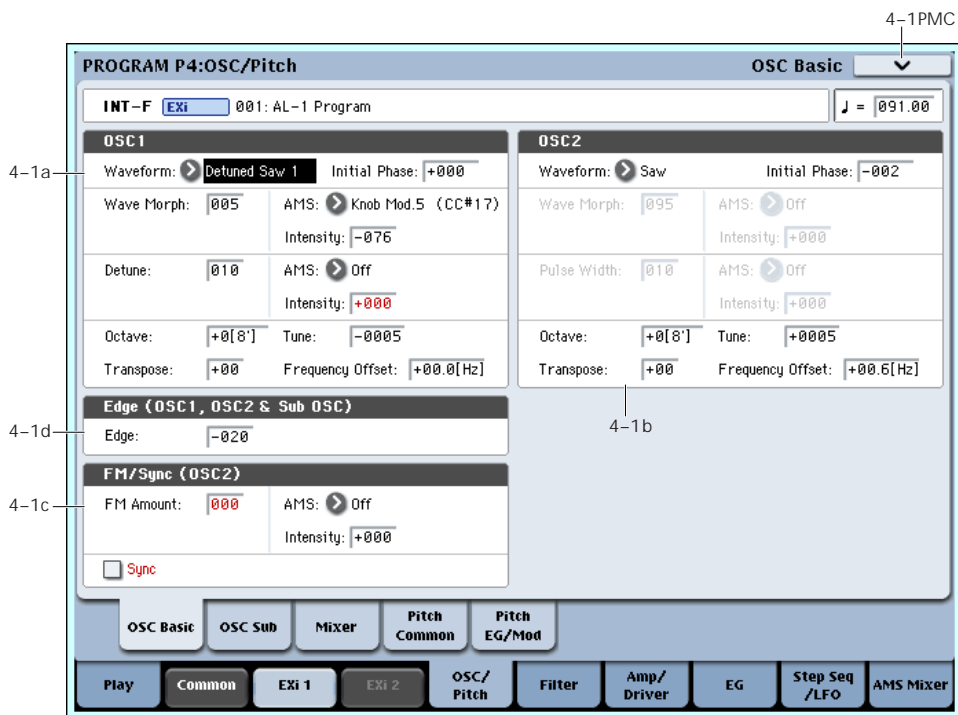
Press this area to jump to the GE Setup/Key Zones page.

Program P4: OSC Pitch

These pages control the most basic elements of AL-1's sounds: the waveforms that the oscillators play, and the pitch at which it plays them. For instance, you can:

- Select the waveforms for Oscillator 1, Oscillator 2, and the Sub-Oscillator.
- Set the basic pitch of the sound, including the octave, fine tuning, and so on.
- Control pitch modulation from a wide variety of sources, such as JSX, the ribbon, LFOs, and EGs.

4-1: OSC Basic



Modeling vintage analog synths

OASYS and the AL-1 provide a range of features for modeling vintage analog synths. Instead of simply providing fixed presets to choose between, there are separate parameters for individual synth characteristics—which means that you can mix and match as desired, for an even broader timbral palette.

For more information on modeling specific aspects of vintage synths, see the references below.

- Oscillator timbre: see “Edge” on page 180
- Oscillator pitch: see “Randomizing frequency for an analog feel” on page 180
- Unison pitch: see “Thickness” on page 165
- Oscillator interaction: see “Initial Phase” on page 179
- Basic filter characteristics: see “Filter Routing” on page 189
- Filter timbre: see “Resonance Bass” on page 190
- Monophonic voice assignment: see “Priority” on page 164
- Portamento: see “Mode” on page 185

4-1a: Oscillator 1

Waveform

Waveform [Saw, Pulse, Saw/Pulse, Double Saw, Detuned Saw 1, Detuned Saw 2, Triangle, Square/Triangle]

This selects the waveform for Oscillator 1, and will also affect the behavior of the **Wave Morph** and **Pulse Width/Phase/Detune** parameters, below.

Saw produces a sawtooth wave—the traditional buzzy analog synth sound.

Pulse produces a square wave with variable pulse width, as controlled by the **Pulse Width** parameter below.

Saw/Pulse creates both of the waveforms at the same time. You can crossfade between the two using the **Wave Morph** parameter, below.

Double Saw produces two sawtooth waveforms simultaneously. You can adjust the phase of the second sawtooth using the aptly-named **Phase** parameter, below, and adjust its volume with the **Wave Morph** parameter.

Detuned Saw 1 produces two detuned sawtooth waveforms simultaneously. **Detune** controls the amount of detuning, and **Wave Morph** adjusts the volume of the second sawtooth.

Detuned Saw 2 is similar to **Detuned Saw 1**, except that the second sawtooth is 180 degrees out of phase. This produces a timbre similar to pulse width modulation, with the **Detune** parameter controlling both detune and the speed of the PWM effect.

Triangle produces a pure tone with relatively few overtones.

Square/Triangle simultaneously creates a square wave (in which the pulse width is fixed at 50%) and a triangle wave. **Wave Morph** crossfades between the two.

Initial Phase [-180...+180, Random]

This controls the initial phase of Oscillator 1, in 1-degree increments.

Random: with each note-on, the waveform will start from a random point along the waveform, to simulate the varying phase relationships between oscillators in analog synthesizers.

Wave Morph [000...100]

The function of this parameter changes depending on the **Waveform** selection, above.

When **Waveform** is set to either **Saw/Pulse** or **Square/Triangle**, **Wave Morph** crossfades between the two waveforms. At 0, you'll hear only the first waveform; at 100, you'll hear only the second waveform; and at 50, you'll hear an equal mix of both.

When **Waveform** is set to **Double Saw**, **Detuned Saw 1**, or **Detuned Saw 2**, **Wave Morph** controls the volume of the second Sawtooth wave.

Wave Morph is not available when the **Waveform** is set to Saw, Pulse, or Triangle.

AMS [List of AMS Sources]

This selects an AMS source to control **Wave Morph**. For a list of AMS sources, see "Alternate Modulation Source (AMS) List" on page 1021.

AMS Intensity [-100...+100]

This controls the depth and direction of the AMS modulation for **Wave Morph**.

Pulse Width/Phase/Detune [000...100]

The name and function of this parameter changes depending on the **Waveform** selection, above.

When the **Waveform** is set to Pulse or Saw/Pulse, this is named **Pulse Width**, and controls the width of the Pulse waveform. For details, see "More on Pulse Width," below.

When **Waveform** is set to **Double Saw**, it is named **Phase**, and controls the phase relationship between the two Sawtooth waves.

When **Waveform** is set to **Detuned Saw 1** or **2**, this is named **Detune**, and controls the detune amount between the two Saws. The adjustments are in half-cent increments, so that 0 = 0 cents, 50 = 25 cents, and 100 = 50 cents. Saw 1 is tuned up, and Saw 2 is tuned down, so that the tonal center is maintained.

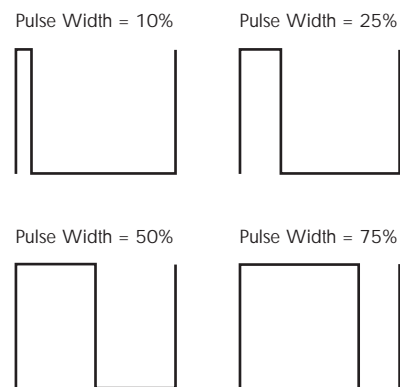
More on Pulse Width

Pulse waveforms are simple, rectangular shapes. The Pulse Width sets the percentage of the waveform spent in the "up" position. A few examples are shown in the diagram below. Note that a square wave is just a pulse wave with the width set to 50%.

The width controls the timbre of the oscillator, from pure and hollow at 50% (a square wave) to thin and reedy at the extremes.

At settings of 0 and 100—or when the Pulse Width is modulated to these values via AMS—the Pulse wave will be silent, since these eliminate the "pulse" altogether.

Pulse waveform at different widths



The real magic of the pulse wave comes when you modulate the width, using the AMS source and intensity below. Try using a medium-speed triangle LFO, or a sweeping EG.

AMS [List of AMS Sources]

This selects an AMS source to control **Pulse Width/Phase/Detune**. For a list of AMS sources, see "Alternate Modulation Source (AMS) List" on page 1021.

AMS Intensity [-100...+100]

This controls the depth and direction of the AMS modulation for **Width/Phase/Detune**.

Waveform Type and Modulatable Parameters

Waveform Type	Morph	Pulse Width/Phase/Detune
Saw	n/a	n/a
Pulse	n/a	Pulse Width
Saw/Pulse	Xfade between saw and pulse	Pulse Width
Double Saw	Volume of 2nd saw	Phase
Detuned Saw 1	Volume of 2nd saw	Detune
Detuned Saw 2	Volume of 2nd saw	Detune and PWM effect
Triangle	n/a	n/a
Square/Triangle	Xfade between square & triangle	n/a

Frequency

Note: The Sub-Oscillator's frequency is always exactly one octave below that of Oscillator 1. This means that adjusting any of the controls in this section, including **Octave**, **Transpose**, **Tune**, and **Frequency Offset**, will affect the Sub-Oscillator as well as Oscillator 1.

Octave [-2[32'], -1[16'], +0[8'], +1[4'], +2[2']]

This sets the basic pitch of Oscillator 1, in octaves. The default is +0[8'].

Transpose [-12...+12]

This adjusts the pitch in semitones, over a range of ± 1 octave.

Tune [-1200...+1200]

This adjusts the pitch in cents, over a range of ± 1 octave. A cent is 1/100 of a semitone.

Frequency Offset [-10.0Hz ... +10.0Hz]

This adjusts the pitch by increments of 0.1 Hz.

Frequency Offset is different from **Tune** in that, when used to detune the two oscillators, it can create a constant beat frequency across the range of the keyboard.

Randomizing frequency for an analog feel

You can use various methods to randomize the oscillator frequency, in order to simulate the instability of analog oscillators:

- Simulate analog drift by modulating pitch with one of the **Continuous Random** LFO waveforms.
- Use **Tune** or **Frequency Offset** to detune the oscillators a tiny bit.
- Set the **Scale Random** parameter (in the Common section, Basic/Vector page, EXi Basic tab) to 1, 2, or 3 to create small amounts of random pitch variation at note-on.

4-1b: Oscillator 2

Oscillator 2 is very similar to Oscillator 1, as described above. The only differences are:

- Oscillator 2 does not include the **Triangle** or **Square/Triangle** waveforms.
- Oscillator 2's pitch does not affect the Sub-Oscillator.
- When Sync is enabled, Oscillator 2's **Initial Phase** setting affects only the very beginning of the sound, before Oscillator 1 completes its first cycle. After that, Oscillator 2's phase is controlled by Oscillator 1.

4-1c: FM/Sync

FM Amount [000...100]

Oscillator 1 is the modulator, and Oscillator 2 is the carrier. In other words, FM affects the timbre of Oscillator 2, and does not affect the timbre of Oscillator 1.

You can create stable, periodic waveforms by setting **FM Amount** to any multiple of 6, such as 6, 12, 18, 24, etc. At other settings, the signal will "roll around" in interesting ways.

This feature is similar to a classic five-voice analog synthesizer's "Osc B to Freq A" function, except that the depth can be up to eight times greater—16 octaves instead of 2.

To create a cool sync-like sound with FM:

1. Set Oscillator 1's Waveform to Pulse.
2. Assign an AMS source, such as an EG or LFO, to modulate Oscillator 1's Pulse Width.
3. Set Oscillator 2's Waveform to Pulse.
4. Set Oscillator 2's Pulse Width to 50.
5. Set the FM amount to 24.

Note also that FM, Sync, and Ring Mod can all be used simultaneously.

AMS [List of AMS Sources]

This selects an AMS source to control the **FM Amount**. For a list of AMS sources, see "Alternate Modulation Source (AMS) List" on page 1021.

Intensity [-100...+100]

This controls the depth and direction of the **FM Amount** AMS modulation.

Sync [Off, On]

When **Sync** is **On**, Oscillator 1 controls the pitch of Oscillator 2, and changing or modulating Oscillator 2's frequency changes its timbre, instead of its pitch.

Every time that Oscillator 1 begins a new cycle (the instant that it passes through zero going from negative to positive), Oscillator 2 snaps back to the start of its waveform.

Note that FM, Sync, and Ring Mod can all be used simultaneously.

To create the classic sync sweep sound:

1. Turn Sync On.
2. Assign an EG as the AMS source for Oscillator 2 Pitch.
3. Now, the EG is controlling the sync sound.
4. Set the EG and Pitch AMS Intensity parameters to create the desired sync sweep.

4-1d: Edge (OSC 1, OSC 2 & Sub OSC)

Edge [-100...+100]

This controls the high-frequency character of Oscillator 1, Oscillator 2, and the Sub Oscillator.

Set it to 0 for a timbre similar to vintage American analog synths, and to higher values for "edgier" tones.

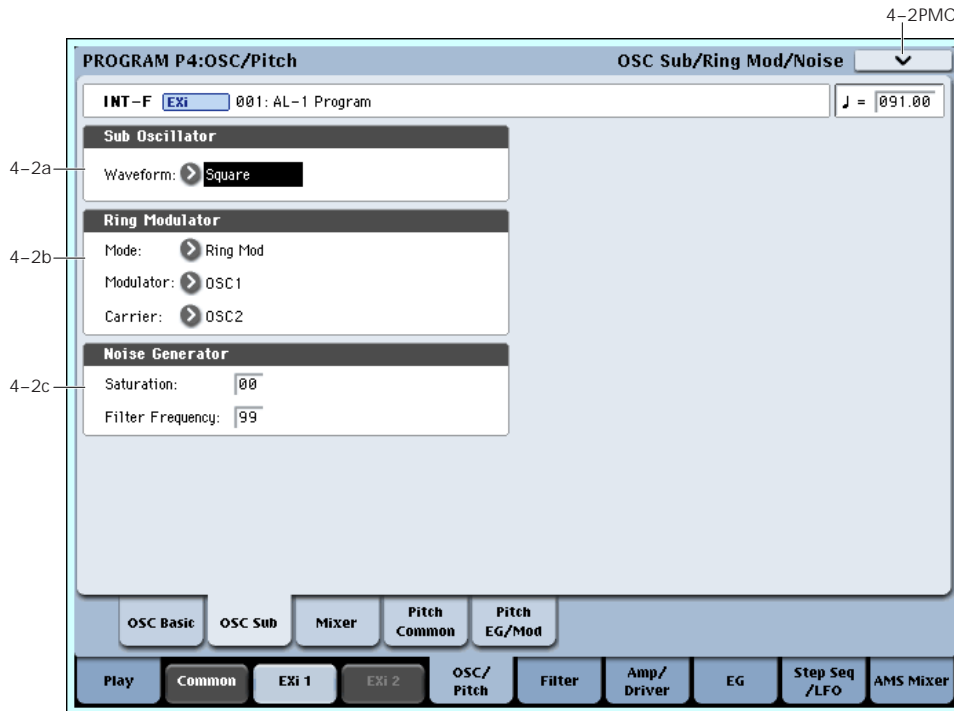
Negative values result in warmer, darker tones, to create an oscillator timbre similar to the MS-20.

▼ 4-1: Page Menu Commands

The number before each command shows its ENTER + number-key shortcut. For more information on these shortcuts, see “ENTER + 0-9: shortcuts for menu commands” on page 142.

- 0: **Write Program**. For more information, see “Write Program” on page 142.
- 1: **Exclusive Solo**. For more information, see “Exclusive Solo” on page 142.

4-2: Sub/Noise/Ring Mod



4-2a: Sub Oscillator

The Sub Oscillator plays exactly one octave below Oscillator 1. All Oscillator 1 pitch mod effects the Sub Oscillator as well.

Waveform [Square, Triangle]

This selects the basic waveform of the Sub-Oscillator. The **Triangle** waveform’s amplitude is three times that of the square, to compensate for the difference in perceived loudness. This means that similar Level settings at the mixer result in similar amounts of “boom.”

Note that this is different from Oscillator 1’s **Triangle** wave. In Oscillator 1, the **Triangle** amplitude is the same as that of the other waveforms, resulting in a lower perceived volume (just like on classic analog synths).

4-2b: Ring Modulator

The Ring Modulator has its own input to the Mixer section. The default volume is 0, so to hear it, you’ll need to turn it up!

When the frequencies of the **Carrier** and the **Modulator** are the same, the Ring Modulator produces steady, constant waveforms. When the two are detuned, it produces more movement and overtones.

Note that FM, Sync, and Ring Mod can all be used simultaneously.

- ⚠ Even though the oscillators themselves have extremely low aliasing, Ring Mod can produce aliasing - especially at higher frequencies.

Mode [Ring Mod, AM, Rectify, Clip]

This selects between four different variations of ring modulation.

Ring Mod produces the traditional ring modulation effect.

AM includes both the traditional ring modulation effect and the dry signal of the Carrier input.

Rectify means that any negative parts of the Modulator’s waveform are flipped around to be positive instead. If the **Modulator** is a square wave, this mode sounds pretty much like just listening to the **Carrier** alone.

Clipped means that the Modulator input is clipped to positive values before going into the Ring Mod; any negative parts of the waveform are chopped off and thrown away.

Modulator [OSC 1, Noise]

This selects the modulator source for the Ring Modulator. **Rectify** and **Clip**, above, both affect the **Modulator** signal.

Carrier

[OSC 2, Ext Input]

Selects the carrier source for the ring modulator.

Ext Input uses the audio input selected under Sub OSC/Audio Input, on the Mixer page. For more information, see “4–3c: Sub OSC/Audio Input” on page 183.

4–2c: Noise Generator

The noise generator includes **Saturation**, for creating unique and chaotic noise effects, and a dedicated 1-pole filter to control noise color.

For standard white noise, set the **Saturation** to 0, and the **Filter Frequency** to 99.

For colored noise (such as pink noise), set the **Saturation** to 0, and reduce the **Filter Frequency** as desired.

To create “speckled noise” such as rocket sounds and thunder, set **Saturation** to 99, and **Filter Frequency** to 10.

To create key contact noise (such as you might find on vintage analog synths), create speckled noise as described above, and then use a fast EG to control its volume in the mixer.

Saturation [0...99]

This control clips the noise signal, for added crunch. Subtle variations in saturation are more noticeable with very low **Filter Frequency** settings (see below), allowing you to create organic, rumbling timbres.

Filter Frequency [0...99]

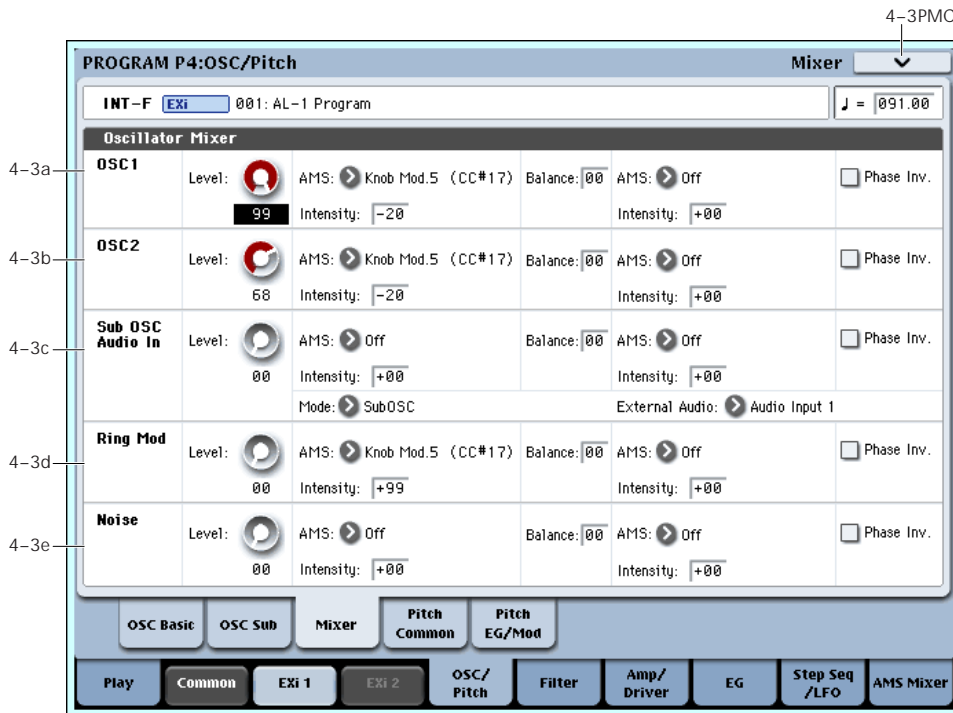
This is a simple, 1-pole lowpass filter for controlling the “color” of the noise.

▼ 4–2: Page Menu Commands

The number before each command shows its ENTER + number-key shortcut. For more information on these shortcuts, see “ENTER + 0-9: shortcuts for menu commands” on page 142.

- **0: Write Program.** For more information, see “Write Program” on page 142.
- **1: Exclusive Solo.** For more information, see “Exclusive Solo” on page 142.

4–3: Mixer



The Mixer page controls the volume levels for the five main parts of the Oscillator, and also controls the routing to the filter section. For instance, you can:

- Control the volume levels for Oscillator 1, Oscillator 2, the Sub Oscillator (or an Audio Input), the Ring Modulator, and the Noise Generator.
- Modulate these volume levels via AMS.
- When the **Filter Routing** is set to either **Serial** or **Parallel**, you can route each of the five Oscillator

elements through Filter A, Filter B, or a combination of the two - and then modulate that routing via AMS.

- Select an audio input to route through the filters, driver, ring modulator, and effects.

4–3a: Oscillator 1

Level [0...99]

This controls the volume level for Oscillator 1.

AMS [List of AMS Sources]

This selects an AMS source to control the **Oscillator 1 Level**. For a list of AMS sources, see “Alternate Modulation Source (AMS) List” on page 1021.

Intensity [-99...+99]

This controls the depth and direction of the **Oscillator 1 Level** AMS modulation.

Balance [0...99]

This controls the filter routing for Oscillator 1. It applies only when the **Filter Routing** is set to either **Serial** or **Parallel**; otherwise, it is grayed out.

0 is the default, and means that Oscillator 1 goes into Filter A. If the **Filter Routing** is set to **Serial**, it will also pass through Filter B.

99 means that Oscillator 1 goes into Filter B.

In between, the oscillator will go to a combination of both filters. By modulating the **Balance** via AMS, you can crossfade between routing through Filter A and Filter B. For more information, see “Interaction between the filters and the mixer,” on page 188.

AMS [List of AMS Sources]

This selects an AMS source to control the **Oscillator 1 Balance**. For a list of AMS sources, see “Alternate Modulation Source (AMS) List” on page 1021.

Intensity [-99...+99]

This controls the depth and direction of the **Oscillator 1 Balance** AMS modulation.

Phase Invert [Off, On]

This inverts the phase of Oscillator 1.

4-3b: Oscillator 2

Oscillator 2 has the same mixer parameters as described under “4-3a: Oscillator 1,” above.

4-3c: Sub OSC/Audio Input

In addition to the Level, Balance, AMS, and Phase Invert parameters described under “4-3a: Oscillator 1,” above, this section has controls for using an external audio input.

Mode [Sub OSC, External Audio Input]

This selects whether the mixer input will be used for the Sub Oscillator, or the audio input selected below.

External Audio [Audio Inputs 1...4, S/P DIF L, S/P DIF R]

This selects the audio input used for both this mixer channel and the Ring Modulator.

The Ring Modulator can use the selected audio input even if **Mode**, above, is set to **Sub OSC**.

4-3d: Ring Mod

The Ring Modulator has the same mixer parameters as described under “4-3a: Oscillator 1,” above.

4-3e: Noise

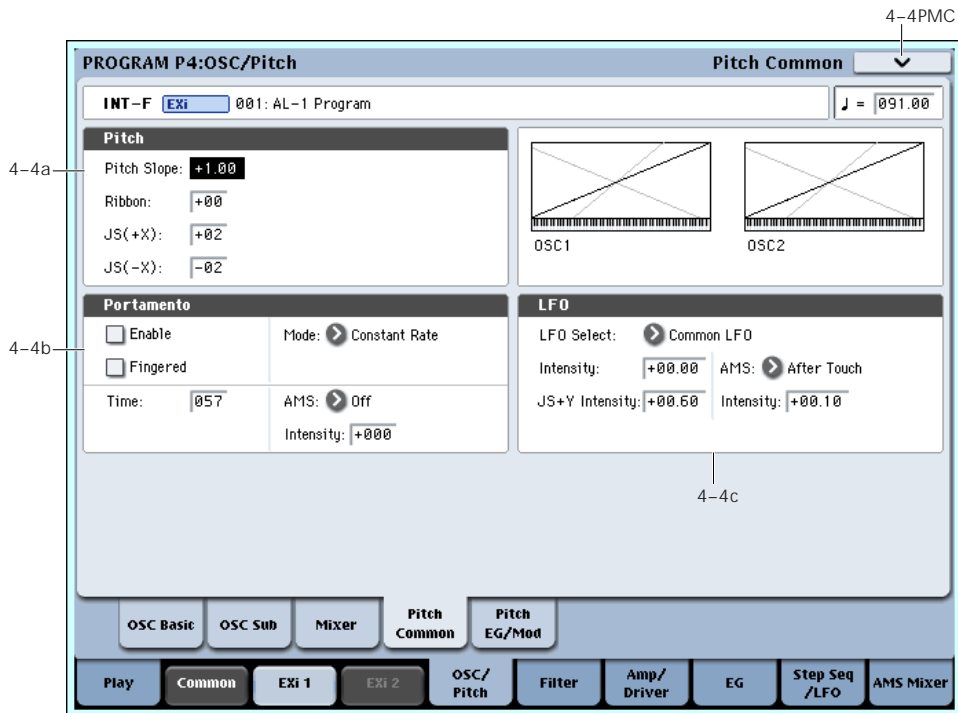
The Noise Generator has the same mixer parameters as described under “4-3a: Oscillator 1,” above.

▼ 4-3: Page Menu Commands

The number before each command shows its ENTER + number-key shortcut. For more information on these shortcuts, see “ENTER + 0-9: shortcuts for menu commands” on page 142.

- 0: **Write Program**. For more information, see “Write Program” on page 142.
- 1: **Exclusive Solo**. For more information, see “Exclusive Solo” on page 142.

4-4: Pitch Common



This page lets you modulate the pitch of Oscillators 1, 2, and the Sub Oscillator simultaneously, so that the modulation applies equally to all three oscillators. For example, you can:

- Set up pitch bend from both Joystick X (with separate settings for bending up and bending down) and the ribbon controller.
- Use Pitch Slope to control how the pitch changes when you play up and down the keyboard.
- Set up Portamento.
- Assign an LFO to modulate the pitch of all three oscillators simultaneously.

4-4a: Pitch

Pitch Slope [-1.00...+0.00...+2.00]

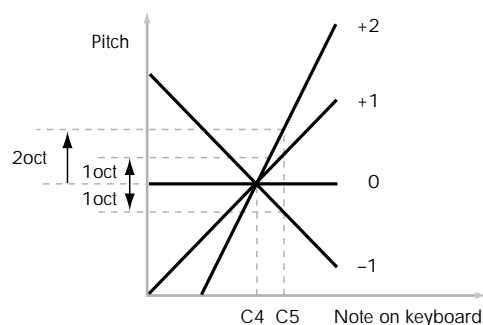
Normally, this should be set to the default of +1.00.

Positive (+) values cause the pitch to rise as you play higher on the keyboard, and **negative (-)** values cause the pitch to *fall* as you play higher on the keyboard.

When this is set to 0, playing different notes on the keyboard won't change the pitch at all; it will be as if you're always playing C4. This can be useful for special effects sounds, for instance.

If you want to create more complex effects, you can assign key tracking as an AMS source.

Pitch Slope, pitch, and note



Ribbon

[-60...+60 semitones]

You can use the ribbon controller for pitch-bend. This parameter specifies, in semitones, the ribbon's pitch-bend range.

Positive (+) values make the pitch rise when you press the ribbon controller to the right of center, and **negative (-)** values will cause the pitch to fall.

When you lift off of the ribbon, the pitch will snap back to the center (unless you're using the SW1/2 "Ribbon Lock" feature). So, by tapping on the right edge of the ribbon and then releasing quickly, you can create guitar-style "hammer-on" effects.

JS+ X

[-60...+60 semitones]

This sets the maximum amount of pitch bend, in semitones, when you move the joystick to the right. For normal pitch bend, set this to a positive value.

JS- X

[-60...+60 semitones]

This sets the maximum amount of pitch bend, in semitones, when you move the joystick to the left. For normal pitch bend, set this to a negative value.

4-4b: Portamento

Portamento lets the pitch glide smoothly between notes, instead of changing abruptly.

Enable [Off, On]

On (checked): Turns on Portamento, so that pitch glides smoothly between notes.

Off (unchecked): Turns off Portamento. This is the default state.

Fingered [Off, On]

This parameter allows you to control Portamento through your playing style. When it's enabled, playing legato will turn on Portamento, and playing detached will turn it off again.

This option is only available when Portamento Enable is turned on.

On (checked): Turns on Fingered Portamento.

Off (unchecked): Turns off Fingered Portamento.

Mode [Constant Rate, Constant Time]

Constant Rate means that Portamento will always take the same amount of time to glide a given distance in pitch - for instance, one second per octave. Put another way, gliding several octaves will take much longer than gliding a half-step.

Constant Time means that Portamento will always take the same amount of time to glide from one note to another, regardless of the difference in pitch. This is especially useful when playing chords, since it ensures that each note in the chord will end its glide at the same time.

Time [000...127]

This controls the portamento time. Higher values mean longer times, for slower changes in pitch. When **Time** is set to 0, the pitch will be reached instantly—just as if Portamento **Enable** was turned **Off**.

AMS [List of AMS Sources]

This selects an AMS source to control the **Portamento Time**. For a list of AMS sources, see "Alternate Modulation Source (AMS) List" on page 1021.

The modulation occurs only at note-on. This means that you can change the time for the *next* pitch glide, but you can't change any glides which are already in progress.

Intensity [-127...+127]

This controls the depth and direction of the **Portamento Time** AMS modulation.

Assigning SW1 or SW2 to Portamento On/Off

You can use the two assignable switches, SW1 and SW2, to turn portamento on and off.

To do so:

1. Go to Program page 1-8, **Controller Setup**.
2. Under **Panel Switch Assign**, set either SW1 or SW2 to **Portamento SW (CC#65)**.

Now, the selected switch will enable and disable Portamento. It will also send the MIDI Portamento controller, CC#65.

MIDI Even if you don't assign SW1/2 to Portamento, you can still use MIDI Controller #65 to turn Portamento on and off.

4-4c: LFO

LFO Select [LFO 1, LFO 2, LFO 3, LFO 4, Common LFO]

This selects an LFO to modulate all oscillators simultaneously. This shared modulation can be useful for vibrato, among other things.

The **LFO Intensity**, **JS+ Y Intensity**, and **AMS** are all summed together to produce the final amount of LFO pitch modulation.

LFO Intensity [-48.00...+48.00]

This controls the initial effect of the LFO on the pitch, in semitones, before any JS+Y or AMS modulation.

Negative (-) settings will invert the phase of the LFO.

JS+Y Intensity [-48.00...+48.00]

Moving the joystick "up" from the center detent position, away from yourself, produces the JS+Y controller. You can use this to scale the amount of the LFO applied to the pitch. This parameter sets the maximum amount of LFO modulation added by JS+Y, in semitones.

As this value is **increased**, moving the joystick in the +Y direction will cause the LFO to produce deeper pitch modulation.

Negative (-) settings will invert the phase of the LFO. You can also use this to reduce the initial amount of the LFO, as set by **LFO1 Intensity**, above.

AMS [List of AMS Sources]

This selects an AMS modulation source to scale the amount of the LFO applied to pitch.

For a list of AMS sources, see "Alternate Modulation Source (AMS) List" on page 1021.

Intensity [-48.00...+48.00]

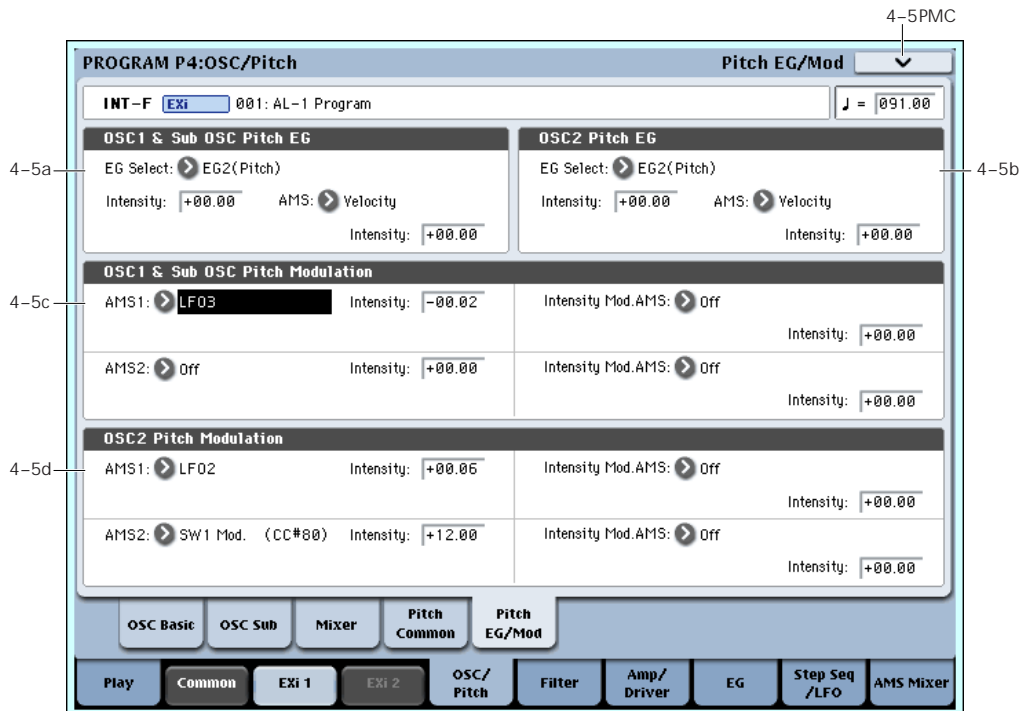
This controls the depth and direction of the LFO AMS modulation, in semitones.

▼ 4-4: Page Menu Commands

The number before each command shows its ENTER + number-key shortcut. For more information on these shortcuts, see "ENTER + 0-9: shortcuts for menu commands" on page 142.

- 0: **Write Program**. For more information, see "Write Program" on page 142.
- 1: **Exclusive Solo**. For more information, see "Exclusive Solo" on page 142.

4-5: Pitch EG/Mod



This page lets you modulate the pitches of Oscillators 1 and 2 separately—as opposed to the Pitch Common page, whose controls affect both Oscillators at once.

All pitch modulation for Oscillator 1 also affects the Sub Oscillator.

4-5a: OSC 1 & Sub OSC Pitch EG

EG Select [EG 1 (Filter), EG 2 (Pitch), EG 3, EG 4, Amp EG]

This selects an EG to modulate the pitch of Oscillator 1 and the Sub Oscillator.

There are four assignable EGs, in addition to the Amp EG. Each of these can be used as a modulation source to control a wide variety of parameters.

In the midst of all this flexibility, we thought it would also be good to provide a little structure. With this in mind, EG 1 is named EG 1 (Filter) and EG 2 is labeled EG 2 (Pitch).

Please take these names as suggestions, rather than restrictions. If you like, you're free to use these EGs to control any EG or AMS destination, or to use other EGs to control Filter Frequency and Pitch.

Intensity [-48.00...+48.00]

This controls the initial effect of the Pitch EG on the frequency of Oscillators 1 and the Sub Oscillator, in half-steps, before any AMS modulation.

The Pitch EG's shape can swing all the way from +99 to -99. When the Intensity is set to a **positive (+)** value, positive values from the EG raise the pitch, and negative values lower the pitch.

When the Intensity is set to a **negative (-)** value, the effect of the EG is reversed; positive EG values mean *lower* pitches, and negative EG values mean *higher* pitches.

AMS [List of AMS Sources]

This selects an AMS modulation source to scale the amount of the Pitch EG applied to Oscillator 1 and the Sub Oscillator.

For a list of AMS sources, see "Alternate Modulation Source (AMS) List" on page 1021.

Intensity [-48.00...+48.00]

This controls the depth and direction of the pitch EG AMS modulation. The AMS modulation and the initial Intensity are added together to determine the Pitch EG's final effect.

4-5b: OSC 2 Pitch EG

Oscillator 2 has the same Pitch EG parameters as described under "4-5a: OSC 1 & Sub OSC Pitch EG," above.

4-5c: OSC 1 & Sub OSC Pitch Modulation

AMS 1 [List of AMS Sources]

This selects the first modulation source for controlling the pitch of Oscillator 1 and the Sub Oscillator. For a list of AMS sources, see "Alternate Modulation Source (AMS) List" on page 1021.

Intensity [±/-48.00 semitones]

This controls the depth and direction of the AMS 1 pitch modulation, in semitones.

Intensity Mod AMS [List of AMS Sources]

You can modulate AMS 1's Intensity from another AMS source. This selects that source.

Intensity [+/-48.00 semitones]

This controls the depth and direction of the Intensity Mod AMS, in semitones. The result is summed with the main AMS 1 Intensity to produce the final pitch modulation amount.

AMS 2 [List of AMS Sources]

This selects a second modulation source for controlling the pitch of Oscillator 1 and the Sub Oscillator. For a list of AMS sources, see "Alternate Modulation Source (AMS) List" on page 1021.

Intensity [+/-48.00 semitones]

This controls the depth and direction of the AMS 2 pitch modulation, in semitones.

Intensity Mod AMS [List of AMS Sources]

You can modulate AMS 2's Intensity from another AMS source. This selects that source.

Intensity [+/-48.00 semitones]

This controls the depth and direction of the Intensity Mod AMS, in semitones. The result is summed with the main AMS 2 Intensity to produce the final pitch modulation amount.

4-5d: OSC 2 Pitch Modulation

Oscillator 2 has the same Pitch Modulation parameters as described under "4-5c: OSC 1 & Sub OSC Pitch Modulation," above.

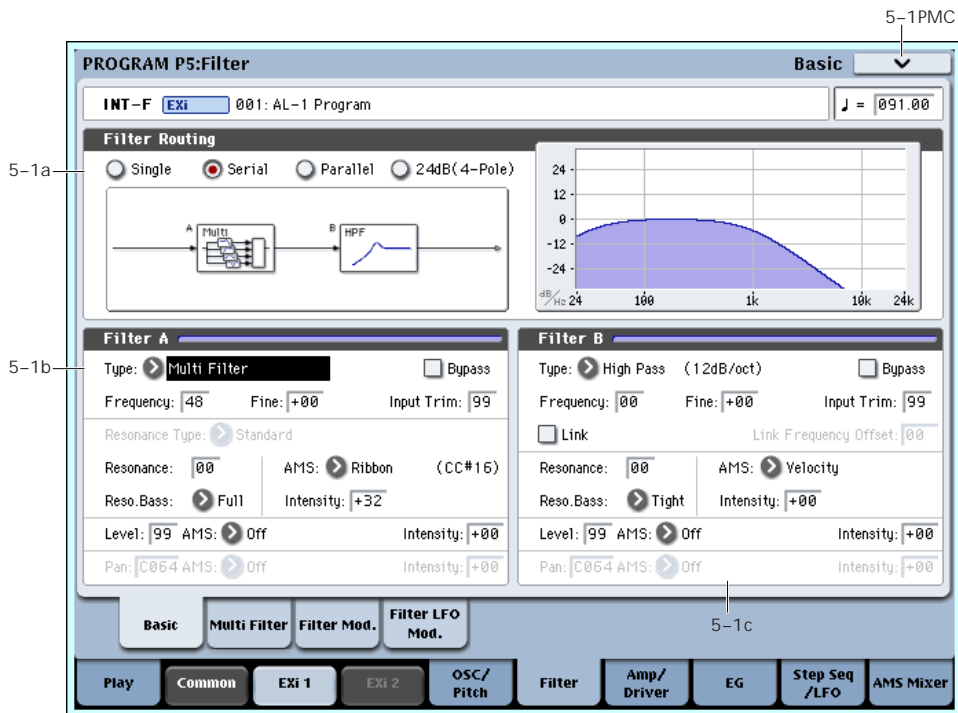
▼ 4-5: Page Menu Commands

The number before each command shows its ENTER + number-key shortcut. For more information on these shortcuts, see "ENTER + 0-9: shortcuts for menu commands" on page 142.

- 0: **Write Program.** For more information, see "Write Program" on page 142.
- 1: **Exclusive Solo.** For more information, see "Exclusive Solo" on page 142.

Program P5: Filter

5-1: Filter Basic



Interaction between the filters and the mixer

When the **Filter Routing** is set to either **Single** or **24dB/oct**, the routing from the Oscillator section into the Filter section is fairly simple. There's only a single filter, and that filter processes all of the Oscillator elements.

Things can get more interesting when the **Filter Routing** is set to **Serial** or **Parallel**. In these modes, The Mixer page's **Balance** parameters let you separately control the filter routing for each of the five inputs: Oscillator 1, Oscillator 2, the Sub Oscillator, the Ring Modulator, and the Noise Generator.

When an input's **Balance** is set to **0**, it goes into Filter A. (Note that if the **Filter Routing** is set to **Serial**, the signal will also pass through Filter B.)

If the input's **Balance** is set to **99**, it goes directly into Filter B, regardless of whether the routing is set to **Serial** or **Parallel**.

Standard serial configuration

To create a standard serial filter configuration:

1. **Set the Filter Routing to Serial.**

This connects the output of Filter A to the input of Filter B.

2. **Set all of the mixer's Balance controls to 0.**

This makes all of the inputs go to Filter A first, and then through Filter B.

Standard parallel configuration

To create a standard parallel filter configuration:

1. **Set the Filter Routing to Parallel.**
2. **Set all of the mixer's Balance controls to 50.**

This routes all of the inputs to both filters, at equal volumes.

Dual signal paths

You can also send one Oscillator through Filter A, and the other through Filter B, to create a layered sound. For instance:

1. **Set the Filter Routing to Parallel.**
2. **Set Oscillator 1's Balance to 0.**

This routes Oscillator 1 to Filter A.

3. **Set Oscillator 2's Balance to 99.**

This routes Oscillator 2 to Filter B.

Anywhere in-between

If an input's **Balance** is set between **1** and **98**, it will go to a combination of both filters—so that many “in between” filter effects are available.

Finally, by modulating an input's **Balance** via AMS, you can crossfade between routing through Filter A and Filter B.

5-1a: Routing

Filter Routing [Single, Serial, Parallel, 24dB/oct]

There are two filters, Filter A and Filter B. This parameter controls whether one or both of the filters are used, and if both are used, it controls how they are connected to each other.

Single. This uses only Filter A as a single 2-pole, 12dB/octave filter (6dB for Band Pass and Band Reject). When this option is selected, the controls for Filter B will be grayed out. A classic synthesizer expander module used this type of filter.

Serial. This uses both Filters A and B as separately controllable 2-pole filters. The output of Filter A is processed through Filter B.

Parallel. This also uses both Filter A and Filter B. Unlike Serial, above, the outputs of the two filters are kept separate, with individual control over both level and pan.

24dB/oct. This merges both filters to create a single 4-pole, 24dB/octave filter (12dB for Band Pass and Band Reject). In comparison to Single, this option produces a sharper roll-off beyond the cutoff frequency, as well as a slightly more delicate resonance. Many classic analog synths used this general type of filter.

When **24dB/oct** is selected, only the controls for Filter A are active; the controls for Filter B will be grayed out. Also, note that the **Multi Filter** is not available in this mode.

5-1b: Filter A

Filter Type [Low Pass, High Pass, Band Pass, Band Reject, Multi Filter]

The filter will produce very different results depending on the selected filter type. The selections will change slightly according to the selected **Filter Routing**, to show the correct cutoff slope in dB per octave.

Low Pass. This cuts out the parts of the sound which are **higher** than the cutoff frequency. Low Pass is the most common type of filter, and is used to make bright timbres sound darker.

High Pass. This cuts out the parts of the sound which are **lower** than the cutoff frequency. You can use this to make timbres sound thinner or more buzzy.

Band Pass. This cuts out all parts of the sound, both highs and lows, except for the region around the cutoff frequency. Since this filter cuts out both high and low frequencies, its effect can change dramatically depending on the cutoff setting and the oscillator's multisample.

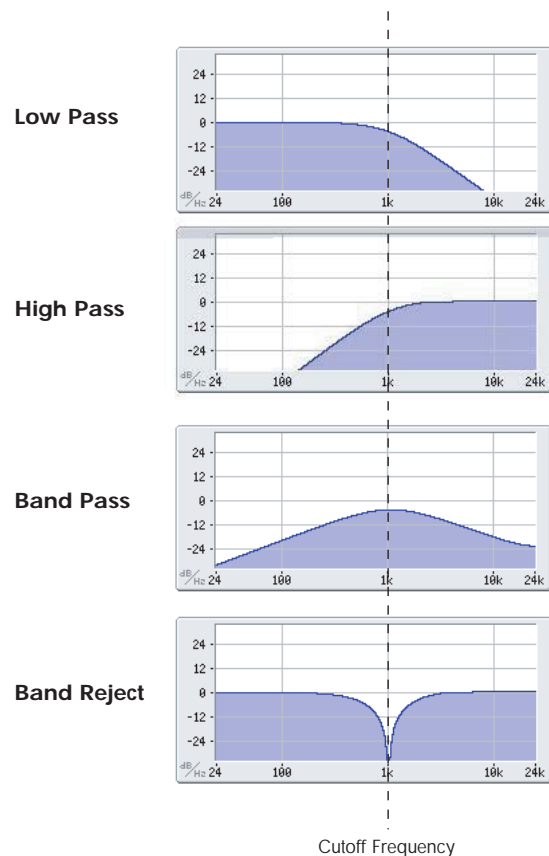
With low resonance settings, you can use the Band Pass filter to create telephone or vintage phonograph sounds. With higher resonance settings, it can create buzzy or nasal timbres.

Band Reject. This filter type—also called a notch filter—cuts only the parts of the sound directly around the cutoff frequency. Try modulating the cutoff with an LFO to create phaser-like effects.

Multi Filter. This is a complex filter which is capable of all of the above filter types, and many more besides. For more information, see “5-2: Multi Filter,” on page 191.

The Multi Filter is available only for Filter A, and only when the Filter Routing is set to **Single**, **Serial** or **Parallel**.

Filter Types and Cutoff Frequency



Bypass

[Off, On]

This lets you bypass Filter A completely.

If **Bypass** is **Off**, Filter A functions normally.

When **Bypass** is **On**, Filter A has no effect on the input signal.

Trim

[00...99]

This adjusts the volume level at the input to Filter A. If you notice that the sound is distorting, especially with high Resonance settings, you can turn the level down here, or at the Output Level.

Note that the filter will not clip internally, so there is no difference between adjusting the Input Trim and the Output Level. Either of these controls will allow you to minimize clipping later in the signal chain, such as may occur in the Drive section and in some effects.

Output Level

[00...99]

This controls the output level of Filter A. You can use this to balance the volumes of Filters A and B when the Routing is set to Parallel, or to turn down the volume to avoid clipping later in the signal chain.

AMS [List of AMS Sources]

This selects a modulation source to control the **Output Level**. For a list of AMS sources, see “Alternate Modulation Source (AMS) List” on page 1021.

Intensity [-99...+99]

This controls the depth and direction of the **Output Level** modulation.

Frequency [00...99]

This controls the cutoff frequency of Filter A, in increments of 1/10 of an octave. The specific effect of the cutoff frequency will change depending on the selected **Filter Type**, as described above.

Frequency Fine [-99...+99]

This provides fine control of the filter cutoff frequency. Each step of this parameter is equal to 1/100 of a step of the main **Frequency** parameter, above.

Resonance Type [Standard, High]

This controls the strength of the filter resonance when the **Filter Routing** is set to **24dB/oct**. When the routing is set to **Single**, **Serial**, or **Parallel**, this parameter is grayed out.

Standard provides the resonance character of a typical analog 4-pole filter.

High creates a more pronounced resonance.

Resonance Bass [Tight, Full]

This controls the character of the filter resonance at low cutoff frequencies. Its effect is most noticeable with high **Resonance** settings.

Tight produces a more restrained resonance, similar to a classic, American, wood-paneled monophonic synthesizer.

Full produces a wide, boomy resonance, reminiscent of a famous five-voice American synthesizer.

Resonance [00...99]

Resonance emphasizes the frequencies around the cutoff frequency.

When this is set to **0**, there is no emphasis, and frequencies beyond the cutoff will simply diminish smoothly.

At medium settings, the resonance will alter the timbre of the filter, making it sound more nasal, or more extreme.

At very high settings, the resonance can be heard as a separate, whistling pitch.

To make the resonance track the keyboard pitch, see “Key Follow,” on page 193.

Resonance Mod by AMS [List of AMS Sources]

This selects a modulation source to control the Resonance amount. For a list of AMS sources, see “Alternate Modulation Source (AMS) List” on page 1021.

Intensity [-99...+99]

This controls the depth and direction of the **Resonance** modulation.

Pan [Random, L001...C064...R127]

This controls the stereo pan for Filter A’s output. It is available only when **Filter Routing** is set to **Parallel**.

When the **Filter Routing** is set to **Single**, **Serial**, or **24dB/oct**, the Pan parameters will be grayed out.

AMS [List of AMS Sources]

This selects an AMS source to modulate **Pan**. For a list of AMS sources, see “Alternate Modulation Source (AMS) List” on page 1021.

Intensity [-99...+99]

This controls the depth and direction of the **Pan** AMS modulation.

5-1c: Filter B

Filter B is available when the **Filter Routing** is set to **Serial** or **Parallel**. Otherwise, its parameters will be grayed out.

Filter B is almost the same as Filter A, but without the **Multi Filter** mode, and with the addition of the **Link** controls, as described below. For all other parameters, please see the descriptions under “5-1b: Filter A,” on page 189.

Link [Off, On]

When **Link** is **On**, most of Filter B’s parameters are grayed out, and are instead controlled by the settings for Filter A.

Specifically, Filter B will use Filter A’s settings for **Resonance**, **Resonance Bass**, and all **Frequency** and **Resonance** modulation settings. Filter B’s **Frequency** is also linked to that of Filter A, with an optional frequency offset via the **Link Frequency Offset** parameter, below.

The **Bypass**, **Type**, **Input Trim**, **Output Level**, **Output Level AMS**, **Pan**, and **Pan AMS** parameters are still controlled separately.

Link Frequency Offset [-99...+99]

This offsets Filter B’s **Frequency** from that of Filter A, and applies only when **Link** is **On**.

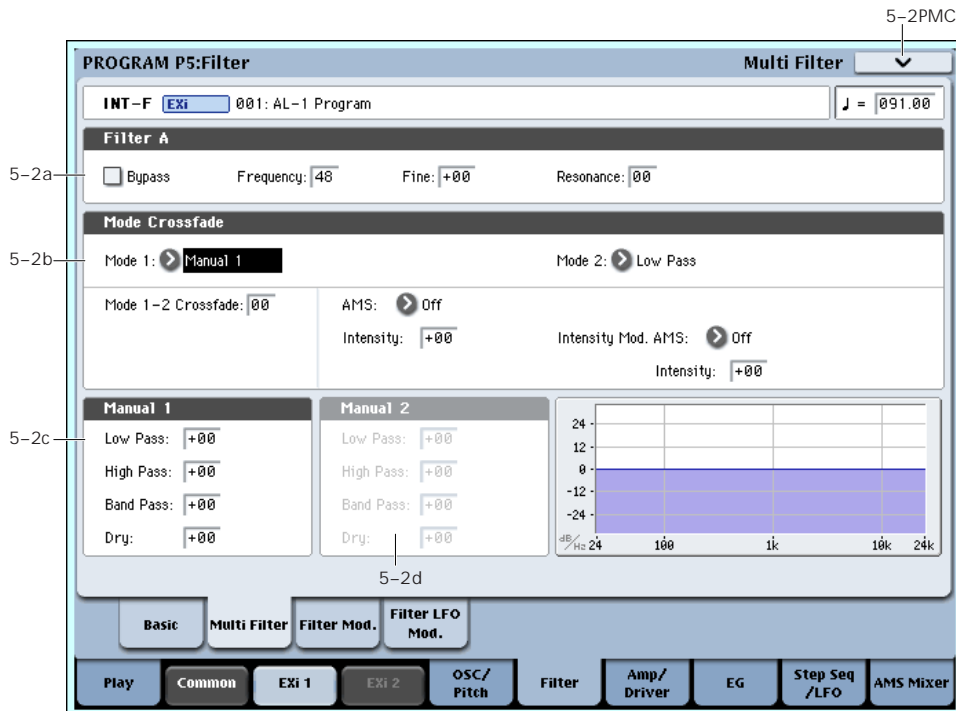
When **Link** is **Off**, this parameter is grayed out.

▼ 5-1: Page Menu Commands

The number before each command shows its **ENTER** + number-key shortcut. For more information on these shortcuts, see “**ENTER** + 0-9: shortcuts for menu commands” on page 142.

- **0: Write Program**. For more information, see “**Write Program**” on page 142.
- **1: Exclusive Solo**. For more information, see “**Exclusive Solo**” on page 142.

5-2: Multi Filter



This page is available only when the **Filter A Type** is set to **Multi Filter**.

What's a Multi Filter?

Standard multimode filters generate lowpass, highpass, and bandpass filters simultaneously - but only allow you to use one of them at a time.

The Multi Filter gives you access to all three filter modes simultaneously, in any combination, along with the dry input signal. You can choose from a large number of preset combinations, or create your own complex filter modes using the Manual controls.

This is capable of some cool sounds in and of itself, but things really get interesting when you use the Crossfade controls. These allow you to crossfade between two of these filter settings (Mode 1 and Mode 2), using AMS sources such as EGs, LFOs, or real-time controllers.

5-2a: Filter A

Bypass	[Off, On]
Frequency	[00...99]
Fine	[-99...+99]
Resonance	[00...99]

These are the same as the similarly-named parameters on the Filter Basic page, as described under "5-1b: Filter A" on page 189.

Edits to the values on this page will be reflected on the Filter Basic page, and vice-versa.

5-2b: Mode Crossfade

Mode 1 [List of filter types]

This sets the filter type for Mode 1.

Low Pass, High Pass, Band Pass, and Band Reject are the standard filter types. For more information, see "Filter Type," on page 189.

The following types combine two or more filters at equal volumes. **Dry** is the un-filtered input signal. The minus sign ("-") indicates when the phase of a filter is reversed: **LP+BP, LP-BP, LP-HP, BP+HP, BP-HP, Dry+LP, Dry-LP, Dry+BP, Dry-BP, Dry+LP-HP, Dry+LP-BP, Dry+BP-LP, Dry+BP-HP, Dry+HP-LP, Dry+HP-BP, LP+HP+BP.**

All On uses the Low Pass, High Pass, Band Pass, and Dry signals at equal volumes.

Manual 1 lets you create your own mix of the filters. For more information, see "5-2c: Manual 1," below.

Mode 2 [List of filter types]

Mode 2 has the same selections as Mode 1, except that the list ends with Manual 2 instead of Manual 1.

Mode 1-2 Crossfade [00...99]

This fades between the Mode 1 and Mode 2 settings.

0 is all **Mode 1**, 99 is all **Mode 2**, and 1-98 are intermediate values between the two Modes.

AMS [List of AMS Sources]

This selects a modulation source to control the **Mode 1-2 Crossfade**. For a list of AMS sources, see "Alternate Modulation Source (AMS) List" on page 1021.

Intensity [-99...+99]

This controls the depth and direction of the **Mode 1-2 Crossfade** modulation.

Intensity Mod AMS [List of AMS Sources]

This selects an AMS source to modulate the intensity of the main **Mode 1-2 Crossfade AMS**.

For instance, you can set **AMS** to use one of the LFOs, and then set the **Intensity Mod AMS** to JS -Y. You can then use the joystick to modulate the amount of the LFO.

Intensity [-99...+99]

This controls the depth and direction of the **Intensity Mod AMS**.

5-2c: Manual 1

These parameters let you create your own mix of the filters. When **Mode 1** is set to **Manual 1**, it will use these settings.

You may wonder why Band Reject is not included here. This is because it's not a filter mode per se. Instead, it's created by an equal combination of High Pass and Low Pass. Try it and see!

Lowpass [-99...+99]

This controls the volume of the Lowpass filter output. Negative values invert the phase.

Highpass [-99...+99]

This sets the volume of the Highpass filter output.

Bandpass [-99...+99]

This controls the volume of the Bandpass filter output.

Dry [-99...+99]

This sets the volume of the dry signal.

5-2d: Manual 2

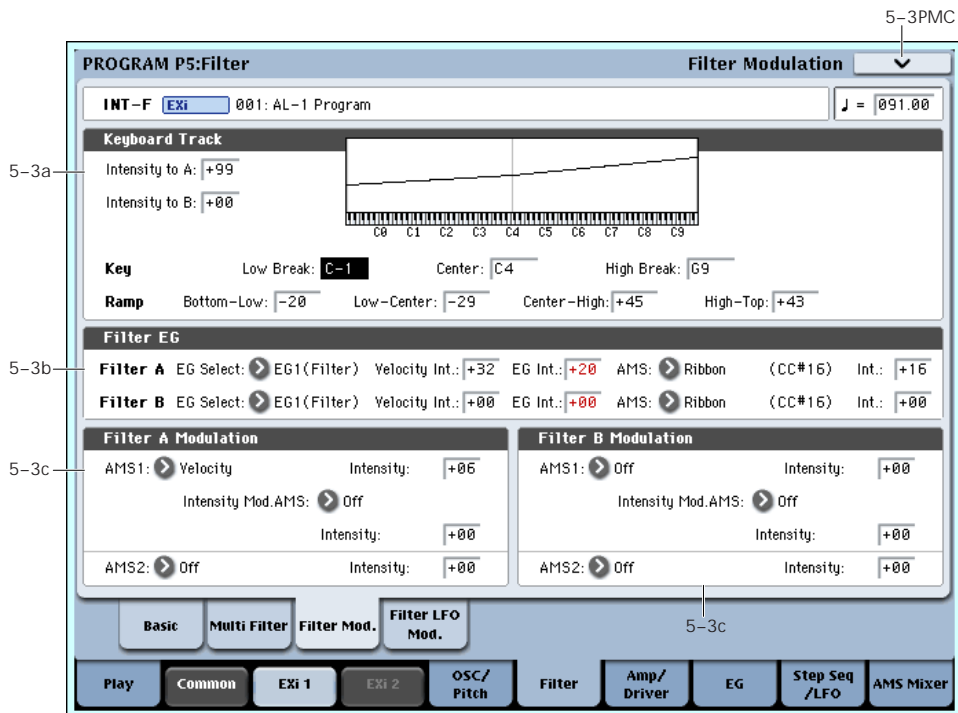
The Manual 2 parameters are identical to those of Manual 1, as described above.

▼ 5-2: Page Menu Commands

The number before each command shows its ENTER + number-key shortcut. For more information on these shortcuts, see "ENTER + 0-9: shortcuts for menu commands" on page 142.

- **0: Write Program.** For more information, see "Write Program" on page 142.
- **1: Exclusive Solo.** For more information, see "Exclusive Solo" on page 142.

5-3: Filter Modulation



This page contains all of the settings for **Filter Frequency** modulation (except for the LFOs, which are on their own page). Among other things, you can:

- Set up complex keyboard tracking shapes, and control how the tracking affects filter cutoff.

- Control the effect of the Filter Envelope on filter cutoff.
- Assign AMS modulation for filter cutoff.

Filter B is available when the **Filter Routing** is set to **Serial** or **Parallel**. Otherwise, the parameters for Filter B will be grayed out.

5-3a: Keyboard Track AMSource

Most acoustic instruments get brighter as you play higher pitches. At its most basic, keyboard tracking re-creates this effect by increasing the cutoff frequency of a lowpass filter as you play higher on the keyboard. Usually, some amount of key tracking is necessary in order to make the timbre consistent across the entire range.

The OASYS keyboard tracking can also be much more complex, since it allows you to create different rates of change over up to four different parts of the keyboard.

The AL-1's Filter keyboard tracking parameters are identical to the HD-1's. For more detailed explanations of the parameters, please see "3-2a: Keyboard Track," on page 64.

There is one difference between the two, however: the AL-1's Filter tracking is affected by Portamento, so that it changes smoothly during glides.

Intensity to A [-99...+99]

This controls how much the keyboard tracking will affect Filter A's cutoff frequency. The overall effect of the Keyboard Track is a combination of this **Intensity** value and the overall Keyboard Track shape.

Intensity to B [-99...+99]

This controls how much the keyboard tracking will affect Filter B's cutoff frequency.

Intensity to B applies only when the **Filter Routing** is set to **Serial** or **Parallel**, and when **Link** is **Off**. In **Single** and **24dB/oct** modes, or if **Link** is **On**, this parameter is grayed out.

Key

Low Break [C-1...G9]

This sets the breakpoint note between the two lower ramps.

Center [C-1...G9]

This sets the center of the keyboard tracking. At this key, the keyboard tracking has no effect on the filter frequency, or on any AMS destinations.

High Break [C-1...G9]

This sets the breakpoint note between the two higher ramps.

Ramp

The effect on the filter cutoff is a combination of the ramp values, as set below, and the Intensity to A and B parameters. When Intensity is set to +99, a ramp of 50 changes the filter frequency by 1 octave for every octave of the keyboard, and a ramp of +99 changes the frequency by 2 octaves for every octave of the keyboard.

+Inf and -Inf are special settings which create abrupt changes for split-like effects. When a ramp is set to +Inf or -Inf, the keyboard tracking will go to its extreme highest or lowest value over the span of a single key.

For more detailed explanations, please see "3-2a: Keyboard Track," on page 64

Bottom-Low [-Inf, -99...+99, +Inf]

This sets the slope between the bottom of the MIDI note range and the Low Break key. For normal key track, use negative values.

Low-Center [-Inf, -99...+99, +Inf]

This sets the slope between the Low Break and Center keys. For normal key track, use negative values.

Center-High [-Inf, -99...+99, +Inf]

This sets the slope between the Center and High Break keys. For normal key track, use positive values.

High-Top [-Inf, -99...+99, +Inf]

This sets the slope between the High Break key and the top of the MIDI note range. For normal key track, use positive values.

Key Follow

To create the classic Key Follow effect, in which the filter frequency tracks the pitch of the keyboard:

1. Set the Filter Frequency to 30.
2. Set the Keyboard Track Intensity to +99.
3. Set the Bottom-Low and Low-Center ramps to -50.
4. Set the Center-High and High-Top ramps to +50.
5. Set the Center Key to C4.

The settings for the Low Break and High Break keys don't matter in this case.

5-3b: Filter EG

The EGs modulate the Filter A and B cutoff frequencies over time. You can control how strongly they will affect the filters in three different ways:

- Set an initial amount of EG modulation, using the EG Intensity parameters.
- Use velocity to scale the amount of the EG applied to the filter.
- Use any AMS source to scale the amount of the EG applied to the filter.

You can use all three of these at once, and the results are added together to produce the total EG effect.

To set up the EGs themselves, including attack and release times, levels, and so on, see "7-1: EG 1 (Filter)," on page 203.

Filter A

EG Select [EG 1 (Filter), EG 2 (Pitch), EG 3, EG 4, Amp EG]

This selects an EG to modulate Filter A's Frequency.

There are four assignable EGs, in addition to the Amp EG. Each of these can be used as a modulation source to control a wide variety of parameters.

In the midst of all this flexibility, we thought it would also be good to provide a little structure. With this in mind, EG 1 is named EG 1 (Filter) and EG 2 is labeled EG 2 (Pitch).

Please take these names as suggestions, rather than restrictions. If you like, you're free to use these EGs to control any EG or AMS destination, or to use other EGs to control Filter Frequency and Pitch.

Velocity Intensity [-99...+99]

This lets you use velocity to scale the amount of the EG applied to Filter A.

EG Intensity [-99...+99]

This controls the initial effect of the EG on Filter A's cutoff frequency, before any velocity or AMS modulation.

AMS [List of AMS Sources]

This selects an AMS modulation source to scale the amount of the EG applied to Filter A.

For a list of AMS sources, see "Alternate Modulation Source (AMS) List" on page 1021.

Intensity [-99...+99]

This controls the depth and direction of the AMS modulation.

Filter B

The EG parameters for Filter B are the same as those for "Filter A," above.

When **Link** is **On**, or when the Filter Routing is set to **Single** or **24dB/oct**, all of these parameters are grayed out.

When **Link** is **On**, or when the Filter Routing is set to **Single** or **24dB/oct**, all of these parameters are grayed out.

▼ 5-3: Page Menu Commands

The number before each command shows its ENTER + number-key shortcut. For more information on these shortcuts, see "ENTER + 0-9: shortcuts for menu commands" on page 142.

- **0: Write Program.** For more information, see "Write Program" on page 142.
- **1: Exclusive Solo.** For more information, see "Exclusive Solo" on page 142.

5-3c: Filter Modulation**Filter A Frequency****AMS 1** [List of AMS Sources]

This selects the first modulation source to control Filter A's **Frequency**. For a list of AMS sources, see "Alternate Modulation Source (AMS) List" on page 1021.

Intensity [-99...+99]

This controls the depth and direction of the **Frequency** modulation.

Intensity Mod AMS [List of AMS Sources]

This selects an AMS source to modulate the intensity of **AMS 1**.

Intensity [-99...+99]

This controls the depth and direction of the **Intensity Mod AMS**.

AMS 2 [List of AMS Sources]

This selects a second modulation source to control Filter A's **Frequency**. For a list of AMS sources, see "Alternate Modulation Source (AMS) List" on page 1021.

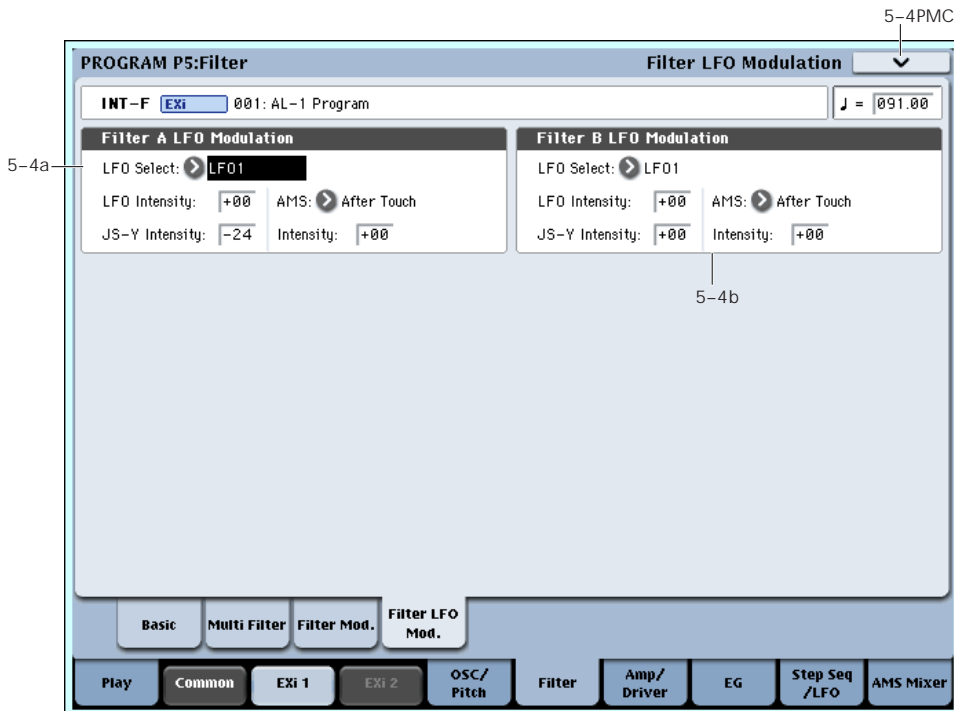
Intensity [-99...+99]

This controls the depth and direction of **AMS 2**.

Filter B Frequency

The settings for Filter B are the same as those for "Filter A Frequency," above.

5-4: Filter LFO Mod



There are three LFO-to-Frequency controls for each filter: a basic amount (**LFO Intensity**), joystick -Y control of LFO amount (**JS- Y Intensity**), and AMS control of LFO amount (**AMS Intensity**). The three controls are summed together to determine the final LFO amount.

5-4a: Filter A

LFO Select [LFO 1, LFO 2, LFO 3, LFO 4, Common LFO]

This selects an LFO to modulate Filter A's cutoff frequency.

The **LFO Intensity**, **JS -Y Intensity**, and **AMS** are all summed together to produce the final amount of LFO pitch modulation.

LFO Intensity [-99...+99]

This controls the initial effect of the LFO on Filter A's cutoff frequency, before any JS+Y or AMS modulation.

Negative (-) settings will invert the phase of the LFO.

JS -Y Intensity [-99...+99]

Moving the joystick "down" from the center detent position, towards yourself, produces the JS -Y controller. You can use this to scale the amount of the LFO applied to Filter A.

This parameter sets the maximum amount of LFO modulation added by JS -Y.

AMS [List of AMS Sources]

This selects an AMS modulation source to scale the amount of the LFO applied to Filter A's cutoff frequency.

For a list of AMS sources, see "Alternate Modulation Source (AMS) List" on page 1021.

Intensity [-99...+99]

This controls the depth and direction of the LFO AMS modulation.

5-4b: Filter B

The settings for Filter B are the same as those for "5-4a: Filter A," above.

When **Link** is **On**, or when the Filter Routing is set to **Single** or **24dB/oct**, all of these parameters are grayed out.

▼ 5-4: Page Menu Commands

The number before each command shows its ENTER + number-key shortcut. For more information on these shortcuts, see "ENTER + 0-9: shortcuts for menu commands" on page 142.

- 0: **Write Program**. For more information, see "Write Program" on page 142.
- 1: **Exclusive Solo**. For more information, see "Exclusive Solo" on page 142.

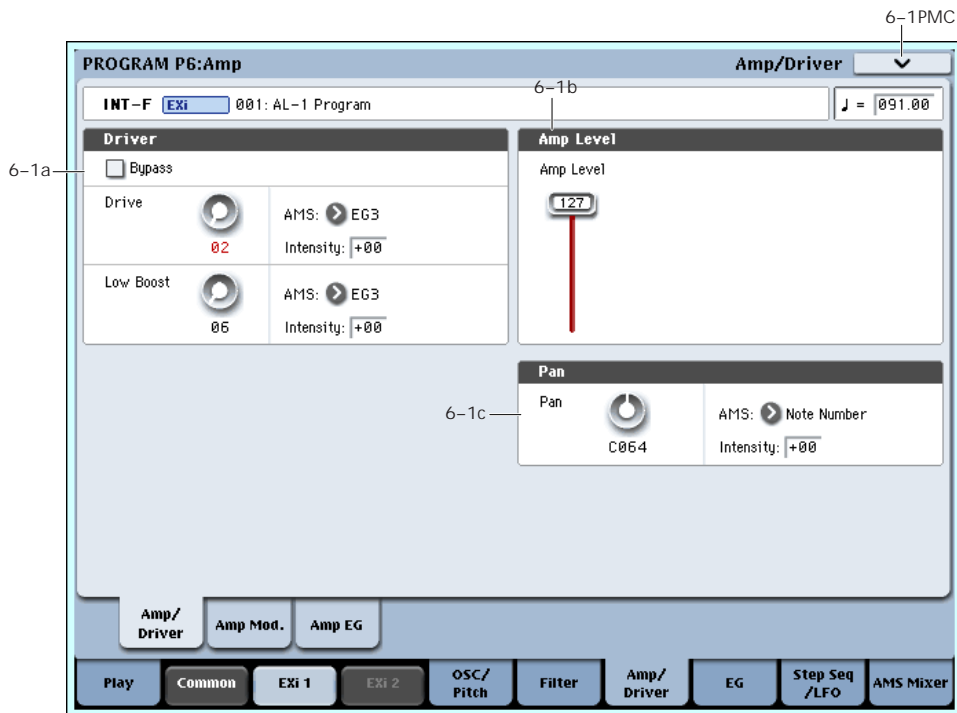
Program P6: Amp

These pages let you control the sound's volume (also called "amplitude," or "amp" for short), pan, and Drive, as well as its dedicated amp envelopes and keyboard tracking generators. For instance, you can:

- Set up the Driver circuit, which adds saturation and bass boost to the timbre.

- Set the pan position and pan modulation.
- Control amp level and modulation, including keyboard tracking, the amp envelope, LFO modulation, and AMS control.

6-1: Amp/Driver



This page controls the basic settings for the Amp section. Here, you can:

- Set up the Driver circuit.
- Set the initial volume level.
- Control the pan position and pan modulation.

6-1a: Driver

The Driver adds saturation and overdrive to the sound, for everything from subtle fattening to drastic distortion. Unlike an overdrive effect, the Driver processes each voice individually, so the timbre stays the same regardless of how many voices are being played.

The two main parameters, Drive and Low Boost, work together to create the overall Driver effect. Drive contributes edge and bite, and Low Boost provides the body as well as boosting the bass.

- ⚠ Although the oscillators themselves have extremely low aliasing, the Driver can produce aliasing—especially at higher frequencies. If your goal is a completely pristine sound, set the Driver's **Bypass** to **On**. Otherwise, let it rip!

Bypass [Off, On]

When **Bypass** is **On**, the Driver is completely removed from the signal path.

Drive [0...99]

This controls the amount of edge and bite in the timbre. Low settings will produce mild saturation, and higher settings create more obvious distortion.

Often, it's useful to increase the **Low Boost** along with the **Drive**.

Note: even when the **Drive** amount is set to 0, the Driver circuit still affects the timbre. If your goal is a completely pristine sound, use the Bypass control instead.

AMS [List of AMS Sources]

This selects an AMS modulation source to control the **Drive** amount. For a list of AMS sources, see "Alternate Modulation Source (AMS) List" on page 1021.

Intensity [-99...+99]

This controls the depth and direction of the AMS modulation for **Drive**.

Low Boost [0...99]

This low-frequency EQ controls the body character of the sound. The specific EQ frequencies affected will change with the **Drive** setting.

Higher amounts increase the bass boost, and will also intensify the effect of the **Drive** parameter.

AMS [List of AMS Sources]

This selects an AMS modulation source to control the **Low Boost** amount. For a list of AMS sources, see “Alternate Modulation Source (AMS) List” on page 1021.

Intensity [-99...+99]

This controls the depth and direction of the AMS modulation for **Low Boost**.

6-1b: Amp Level

Amp Level [0...127]

This controls the basic volume level of the AL-1, before keyboard tracking, velocity, and other modulation.

The Control Surface and volume

You can also control the volumes of EXi 1 and 2 directly from the Control Surface sliders. These volume levels are separate parameters, in addition to the individual EXi Amp Levels. To do so:

1. Press the Control Surface Timbre/Track button.
2. Move Slider 1 to set the volume for EXi 1, and Slider 2 for EXi 2.

MIDI and volume

MIDI You can control the Program’s overall volume via MIDI using both Volume (CC#7) and Expression (CC#11). When used one at a time, the two controllers work in exactly the same way: a MIDI value of 127 is equal to the Amp Level setting, and lower values reduce the volume.

If both CC#7 and CC#11 are used simultaneously, the one with the *lower* value determines the maximum volume, and the one with the higher value scales down from that maximum.

6-1c: Pan

Pan [Random, L001...C064...R127]

This controls the stereo pan of the EXi. A setting of **L001** places the sound at the far left, **C064** in the center, and **R127** to the far right.

When this is set to **Random**, the pan position will be different for each note-on.

You can also set this Pan parameter directly from the Control Surface knobs. To do so:

1. Press the Control Surface Timbre/Track button.
2. Set the MIXER KNOBS switch to INDIVIDUAL PAN.
3. Move Knob 1 to set the pan for EXi 1, and Knob 2 to set the pan for EXi 2.

MIDI You can also control pan via MIDI Pan (CC#10). A CC#10 value of 0 or 1 places the sound at the far left, 64 places the sound at the location specified by the **Pan** parameter, and 127 places the sound at the far right.

Note: you can select Random pan only from the on-screen UI, and not from MIDI or the Control surface.

AMS [List of AMS Sources]

This selects an AMS source to modulate **Pan**. For a list of AMS sources, see “Alternate Modulation Source (AMS) List” on page 1021.

Intensity [-99...+99]

This controls the depth and direction of the AMS modulation for **Pan**.

For example, if **Pan** is set to C064 and **AMS** is set to Note Number, **positive (+)** intensities will cause the sound to move toward the right as you play higher than C4, and toward the left as you play lower than C4.

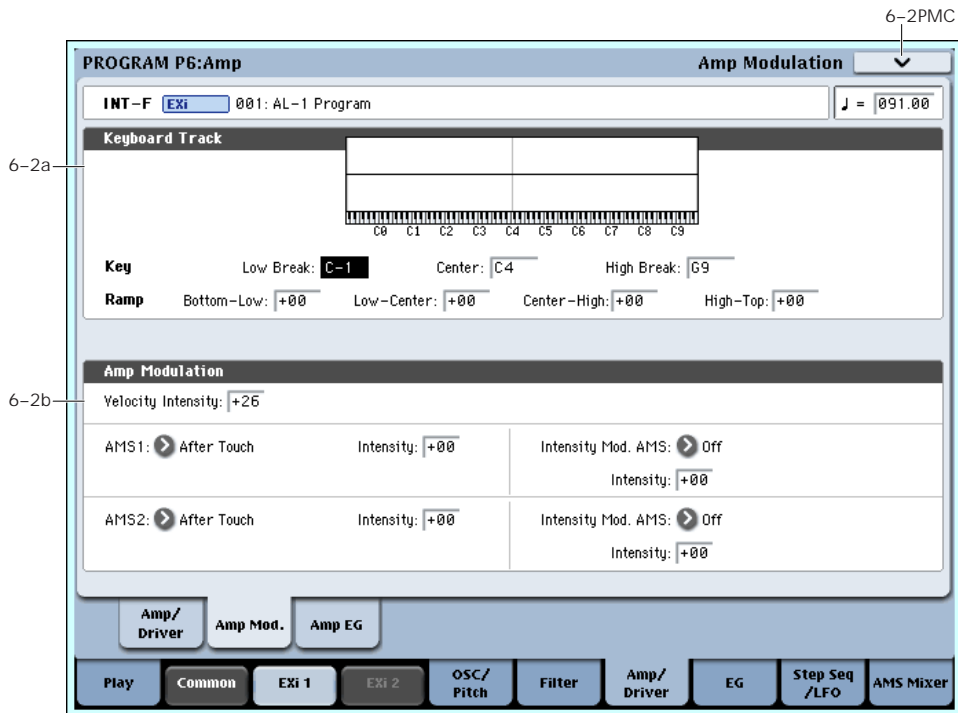
Negative (-) intensities will have the opposite effect.

▼ 6-1: Page Menu Commands

The number before each command shows its ENTER + number-key shortcut. For more information on these shortcuts, see “ENTER + 0-9: shortcuts for menu commands” on page 142.

- 0: **Write Program**. For more information, see “Write Program” on page 142.
- 1: **Exclusive Solo**. For more information, see “Exclusive Solo” on page 142.

6-2: Amp Modulation



This page contains the settings for Oscillator 1’s Amp level modulation. Among other things, you can:

- Set up complex keyboard tracking shapes to control the Amp level.
- Assign AMS modulation for the Amp level.
- Control the effect of the LFOs on the Amp level.

The total effects of the modulation can increase the volume to a maximum of two times louder than the Amp Level setting.

6-2a: Keyboard Track AMSource

Keyboard tracking lets you vary the volume as you play up and down the keyboard. Usually, some amount of key tracking is necessary in order to make the volume consistent across the entire range.

The AL-1’s Amp keyboard tracking parameters are identical to the HD-1’s. In both cases, the Amp keyboard tracking works somewhat differently from the Filter and Common keyboard tracking. For more detailed explanations of the parameters, please see “4-2a: Keyboard Track,” on page 76.

There is one difference between the two, however: the AL-1’s Amp tracking is affected by Portamento, so that it changes smoothly during glides.

Key

Low Break [C-1...G9]

This sets the breakpoint note between the two lower ramps.

Center [C-1...G9]

This sets the center of the keyboard tracking. At this key, the keyboard tracking has no effect on the volume, or on any AMS destinations.

High Break [C-1...G9]

This sets the breakpoint note between the two higher ramps.

Ramp

Bottom-Low [-Inf, -99...+99, +Inf]

This sets the slope between the bottom of the MIDI note range and the Low Break key. For normal key track, use negative values.

Ramp	Change in level
-Inf	Silent in one half-step
-99	Silent in one whole-step
-95	Silent in one octave
-48	Silent in two octaves
-25	Silent in four octaves
00	no change
+25	x2 in four octaves
+50	x2 in two octaves
+99	x2 in one octave
+Inf	x2 in one half-step

Low-Center [-Inf, -99...+99, +Inf]

This sets the slope between the Low Break and Center keys. For normal key track, use negative values.

Center-High [-Inf, -99...+99, +Inf]

This sets the slope between the Center and High Break keys. For normal key track, use positive values.

High-Top [-Inf, -99...+99, +Inf]

This sets the slope between the High Break key and the top of the MIDI note range. For normal key track, use positive values.

6-2b: Amp Modulation

You can modulate the Amp level by velocity and two AMS sources. Each of the AMS sources also has its own secondary intensity modulation.

This modulation scales the basic Amp level and Amp EG level parameters. If these original levels are low, the maximum volume available with modulation will also be reduced.

Note that there is an upper limit to Amp modulation. Once the volume level reaches double the programmed Amp Level and Amp EG level settings, it cannot be increased any further.

Velocity Intensity [-99...+99]

With **positive (+)** values, the volume will increase as you play harder.

With **negative (-)** values, the volume will decrease as you play harder.

AMS1 [List of AMS Sources]

This selects the first modulation source for the Amp level. For a list of AMS sources, see "Alternate Modulation Source (AMS) List" on page 1021.

Intensity [-99...+99]

This sets the initial amount of **AMS1**. The **Intensity Mod AMS** then adds to this initial amount.

Intensity Mod AMS [List of AMS Sources]

This selects a secondary AMS modulation source to scale the intensity of **AMS1**.

For a list of AMS sources, see "Alternate Modulation Source (AMS) List" on page 1021.

Intensity [-99...+99]

This controls the depth and direction of the **Intensity Mod AMS**. Even if the main **AMS1 Intensity** is set to 0, **Intensity Mod AMS** can still control the final amount of **AMS A** over the full +/-99 range.

For example, if **AMS1** is set to **LFO1**, and **Intensity Mod AMS** is set to **After Touch**, **positive** settings mean that aftertouch will increase the amount of **LFO** modulation.

AMS2 [List of AMS Sources]

This selects a second modulation source for the Amp level. For a list of AMS sources, see "Alternate Modulation Source (AMS) List" on page 1021.

Intensity [-99...+99]

This sets the initial amount of **AMS2**. The **Intensity Mod AMS** then adds to this initial amount.

Intensity Mod AMS [List of AMS Sources]

This selects a secondary AMS modulation source to scale the intensity of **AMS2**.

For a list of AMS sources, see "Alternate Modulation Source (AMS) List" on page 1021.

Intensity [-99...+99]

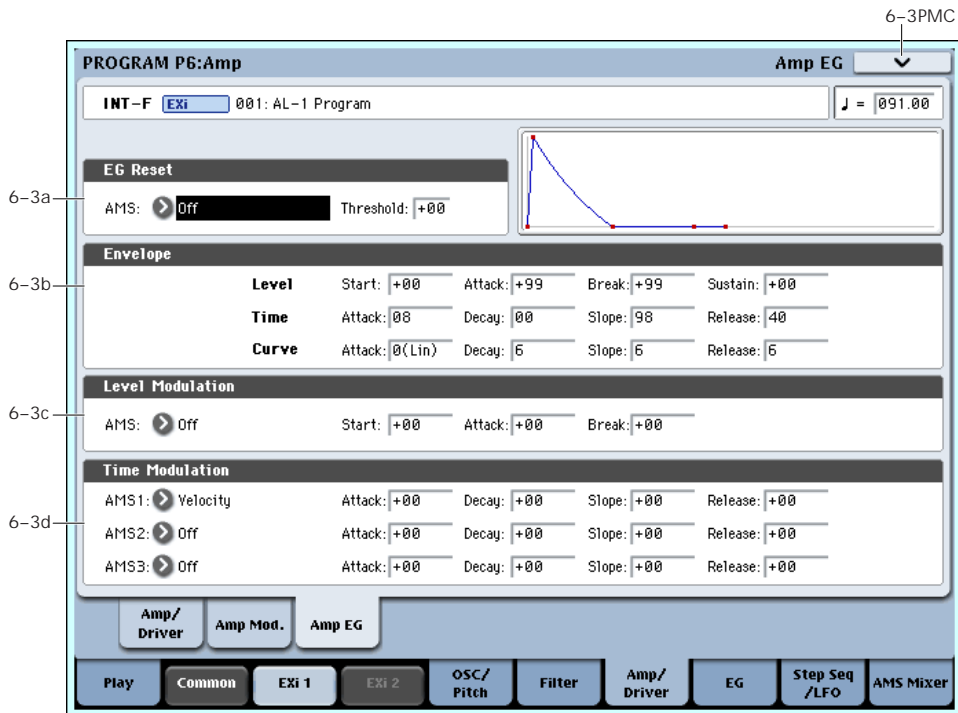
This controls the depth and direction of the **Intensity Mod AMS**. Even if the main **AMS2 Intensity** is set to 0, **Intensity Mod AMS** can still control the final amount of **AMS A** over the full +/-99 range.

▼ 6-2: Page Menu Commands

The number before each command shows its ENTER + number-key shortcut. For more information on these shortcuts, see "ENTER + 0-9: shortcuts for menu commands" on page 142.

- 0: **Write Program**. For more information, see "Write Program" on page 142.
- 1: **Exclusive Solo**. For more information, see "Exclusive Solo" on page 142.

6-3: Amp EG AMSource



The AL-1's Amp EG is identical to the HD-1's. For more detailed explanations of the Amp EG features, please see "4-3: Amp1 EG," on page 79.

Other envelopes can be used as additional controls via AMS, if desired.

6-3a: EG Reset

AMS [List of AMS Sources]

This selects an AMS source to reset the EG to the start point. For instance, you can use a tempo-sync'd LFO to trigger the EG in a repeating rhythm. This reset is in addition to the initial note-on, which always causes the EG to start.

Note: Once the Amp EG is in its Release segment, it cannot be reset. (Otherwise, the sound might keep playing forever!)

For a list of AMS sources, see "Alternate Modulation Source (AMS) List" on page 1021.

Threshold [-99...+99]

This sets the AMS level which will trigger the EG reset. Among other things, you can use this to adjust the exact point in an LFO's phase at which the EG will be reset, effectively controlling its "groove" against other rhythmic effects.

When the threshold is **positive**, the EG triggers when passing through the threshold moving upwards. When the threshold is **negative**, the EG triggers when passing through the threshold moving downwards.

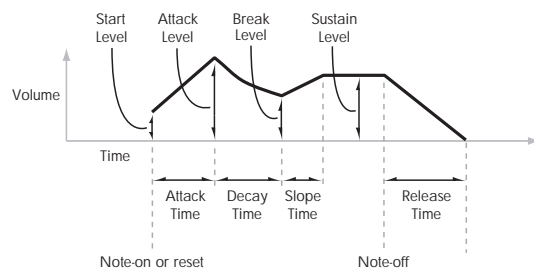
Note: with some LFO shapes, and with faster LFO speeds, the LFO may not always reach the extreme values of +99 or -99. In this case, setting the **Threshold** to these values may cause inconsistent behavior, or

may mean that the EG doesn't reset at all. If this happens, reduce the **Threshold** until the EG triggers consistently.

6-3b: Amp EG

These parameters specify how the amp EG will change over time.

Amp EG



Level

Start [00...99]

This sets the initial volume level at note-on.

Attack [00...99]

This sets the level at the end of the Attack time.

Break [00...99]

Break, short for Break Point, sets the level at the end of the Decay time.

Sustain [00...99]

This sets the level at the end of the Slope time. Once it reaches the Sustain level, the EG will stay there until note-off (unless it is reset via AMS).

Time

Higher values mean longer times. For a chart showing equivalents in milliseconds, please see “Time” on page 80.

Attack [00...99]

This sets how long the EG takes to move from the Start level to the Attack level.

The minimum attack time is 2/3 of a millisecond—as fast as the most punchy of classic analog synths.

For the fastest possible attack time, you can set the Start level to +99; in this case, the EG will start instantaneously at its maximum value.

Decay [00...99]

This sets the time it takes to move from the Attack level to the Break level.

Slope [00...99]

This sets how long the EG takes to move from the Break level to the Sustain level. Once it reaches the Sustain level, the EG will stay there until note-off (unless it is reset via AMS).

Release [00...99]

This sets how long it takes the EG to move from the Sustain level to silence.

Curve

Classic analog synth envelopes created curved shapes naturally. The OASYS goes a step further than vintage synths, however, and lets you control the amount of curvature separately for each of the four envelope segments.

When you change the curvature, the EG times remain the same. However, greater curvature will tend to *sound* faster, because the value changes more quickly at the beginning.

You may find that different amounts of curvature are suitable for segments which go up and segments which go down.

For instance, a curve of 3 is a good default setting for upward segments, such as Attack. On the other hand, a curve of 6 or more is good for downward segments, such as Decay and Release.

Attack [0 (Linear), 1...9, 10 (Exp/Log)]

This sets the curvature of the Attack segment - the transition from the Start level to the Attack level.

Decay [0 (Linear), 1...9, 10 (Exp/Log)]

This sets the curvature of the Decay segment - the transition from the Attack level to the Break level.

Slope [0 (Linear), 1...9, 10 (Exp/Log)]

This sets the curvature of the Slope segment - the transition from the Break level to the Sustain level.

Release [0 (Linear), 1...9, 10 (Exp/Log)]

This sets the curvature of the Release segment - the transition from the Sustain level to the Release level.

6-3c: Level Modulation

These settings let you use an AMS source to control the Level parameters of the EG. The Start, Attack, and Break levels share a single AMS source, but can each have different modulation intensities.

Note: Once the EG has started a segment between two points, that segment can no longer be modulated. For instance, if the EG is in the middle of the Decay time, you can no longer modulate either the Decay time or the Break level.

This also means that modulating the Start level, Attack level, or Attack time will not affect notes that are already sounding, unless the EG is then reset via AMS.

AMS [List of AMS Sources]

This selects an AMS source to control the EG’s Level parameters.

For a list of AMS sources, see “Alternate Modulation Source (AMS) List” on page 1021.

Start [-99...+99]

This controls the depth and direction of the AMS modulation for the Start level.

Attack [-99...+99]

This controls the depth and direction of the AMS modulation for the Attack level.

Break [-99...+99]

This controls the depth and direction of the AMS modulation for the Break level.

6-3d: Time Modulation

These settings let you use three different AMS sources to control the Time parameters of the EG. For each of the three AMS sources, the Attack, Decay, Slope, and Release times each have their own modulation intensities.

AMS1 [List of AMS Sources]

Selects the first AMS source to control the EG’s Time parameters. Velocity and Keyboard Track can both be useful here, for instance.

For a list of AMS sources, see “Alternate Modulation Source (AMS) List” on page 1021.

Attack [-99...+99]

This controls the depth and direction of the AMS modulation for the Attack time.

When the AMS source is at its maximum value—for instance, when Velocity is at 127—a setting of +8 will make the segment time almost twice as long, and a setting of -8 will cut the segment time almost in half.

Decay [-99...+99]

This controls the depth and direction of the AMS modulation for the Decay time.

Slope [-99...+99]

This controls the depth and direction of the AMS modulation for the Slope time.

Release [-99...+99]

This controls the depth and direction of the AMS modulation for the Release time.

AMS2 and AMS3

These select the second and third AMS sources, respectively, for controlling the EG's Time parameters. Each has its own intensities for Attack, Decay, Slope, and Release. The parameters of both AMS2 and AMS 3 are identical to those of AMS1, above.

▼ 6-3: Page Menu Commands

The number before each command shows its ENTER + number-key shortcut. For more information on these shortcuts, see "ENTER + 0-9: shortcuts for menu commands" on page 142.

- 0: **Write Program**. For more information, see "Write Program" on page 142.
- 1: **Exclusive Solo**. For more information, see "Exclusive Solo" on page 142.
- 2: **Copy Envelope**. For more information, see "Copy Envelope" on page 216.
- 3: **Swap Envelope**. For more information, see "Swap Envelope" on page 216.

Program P7: EG 1-4

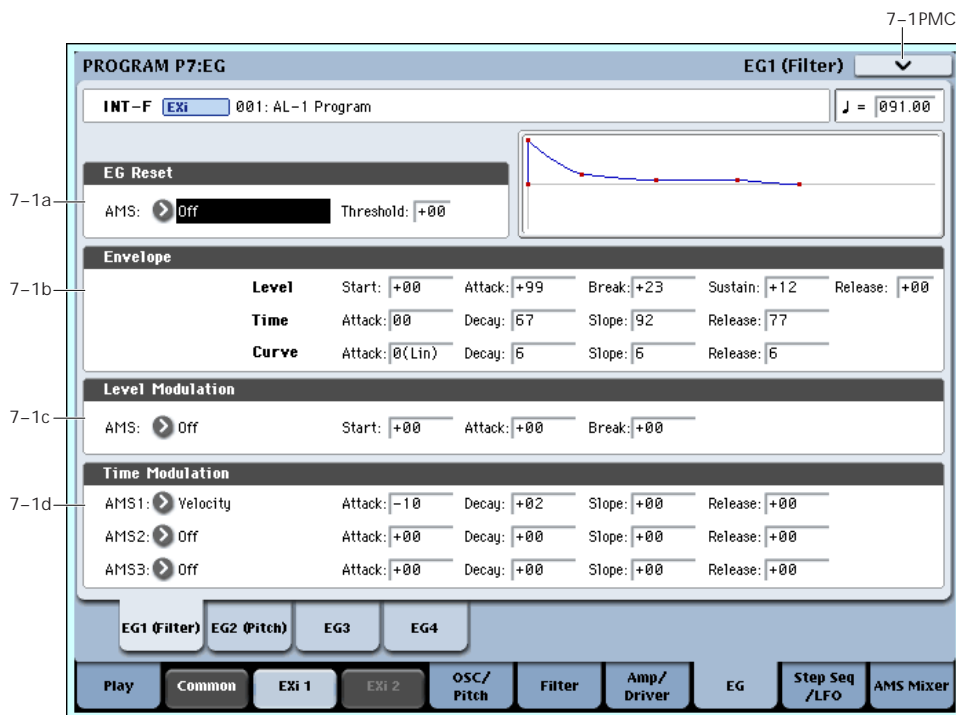
There are four assignable EGs, in addition to the Amp EG. Each of these can be used as an AMS modulation source to control a wide variety of parameters.

There are also four parameters with dedicated EG modulation inputs: Pitch for Oscillators 1 and 2, and Frequency for Filters A and B. Any of the four EGs can be used for these modulation routings.

In the midst of all this flexibility, we thought it would also be good to provide a little structure. With this in mind, EG 1 is named EG 1 (Filter) and EG 2 is labeled EG 2 (Pitch).

Please take these names as suggestions, rather than restrictions. If you like, you're free to use these EGs to control any EG or AMS destination, or to use other EGs to control Filter Frequency and Pitch.

7-1: EG 1 (Filter) AMSource



The EGs, or Envelope Generators, let you create complex, time-varying changes to AMS-modulatable parameters. The controls on this page specify the shape of the EG. Among other things, you can:

- Create the basic EG shape by setting the levels and times of each segment.
- Control the curvature of each EG segment, for subtle control over the sound of the EG.
- Set up complex modulation of EG levels and times.
- Set up an AMS source, such as an LFO, to restart the EG.

One thing that you can't do on this page is to control how much effect the EG has on the parameters it modulates. To do that, you'll need to adjust the AMS intensities on the pages for the individual parameters.

7-1a: EG Reset

AMS

[List of AMS Sources]

This selects an AMS source to reset the EG to the start point. For instance, you can use a tempo-synced LFO to trigger the EG in a repeating rhythm. This reset is in addition to the initial note-on, which always causes the EG to start.

For a list of AMS sources, see "Alternate Modulation Source (AMS) List" on page 1021.

Threshold

[-99...+99]

This sets the AMS level which will trigger the EG reset. Among other things, you can use this to adjust the exact point in an LFO's phase at which the EG will be reset, effectively controlling its "groove" against other rhythmic effects.

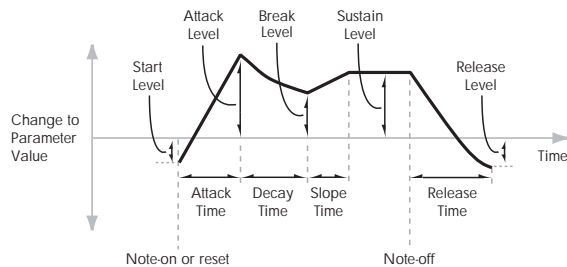
When the threshold is **positive**, the EG triggers when passing through the threshold moving upwards. When the threshold is **negative**, the EG triggers when passing through the threshold moving downwards.

Note: with some LFO shapes, and with faster LFO speeds, the LFO may not always reach the extreme values of +99 or -99. In this case, setting the **Threshold**

to these values may cause inconsistent behavior, or may mean that the EG doesn't reset at all. If this happens, reduce the **Threshold** until the EG triggers consistently.

7-1b: Envelope

EG



Envelopes create a modulation signal by moving from one level to another over a specified time, and then moving to another level over another period of time, and so on.

The parameters below let you set five levels, the amount of time it takes to go from each of the levels to the next, and the shape (from linear to curved) of each transition.

Level

Each of the five levels can be either positive or negative.

Positive levels will make the cutoff frequency (or other AMS destination) go up from its programmed value; **negative** levels will make it go down.

Start [-99...+99]

This sets the initial EG level, at note-on.

Attack [-99...+99]

This sets the level at the end of the Attack time.

Break [-99...+99]

Break, short for Break Point, sets the level at the end of the Decay time.

Sustain [-99...+99]

This sets the level at the end of the Slope time. Once it reaches the Sustain level, the EG will stay there until note-off, unless it is reset via AMS.

Release [-99...+99]

This sets the level at the end of the Release time.

Time

Higher values mean longer times, as shown below:

EG Value	Actual Time
00	0.667 ms
10	10 ms
20	44 ms
30	104 ms
40	224 ms

EG Value	Actual Time
50	464 ms
60	944 ms
70	1.8 seconds
80	3.8 seconds
90	10.9 seconds
99	87.3 seconds

Attack [00...99]

This sets how long the EG takes to move from the Start level to the Attack level.

The minimum attack time is 2/3 of a millisecond—as fast as the most punchy of classic analog synths.

For the fastest possible attack time, you can set the Start level to +99; in this case, the EG will start instantaneously at its maximum value.

Decay [00...99]

This sets the time it takes to move from the Attack level to the Break level.

Slope [00...99]

This sets how long the EG takes to move from the Break level to the Sustain level. Once it reaches the Sustain level, the EG will stay there until note-off (unless it is reset via AMS).

Release [00...99]

This sets how long it takes the EG to move from the Sustain level to the Release level.

Curve

For the sake of simplicity, most of the diagrams in this manual show envelopes as being made out of straight lines. In actuality, though, envelopes are more likely to be made out of curves.

In other words, each segment's level will change quickly at first, and then slow down as it approaches the next point. This tends to sound better than straight, linear segments.

Classic analog synth envelopes made these curved shapes naturally. The OASYS goes a step further than vintage synths, however, and lets you control the amount of curvature separately for each of the four envelope segments.

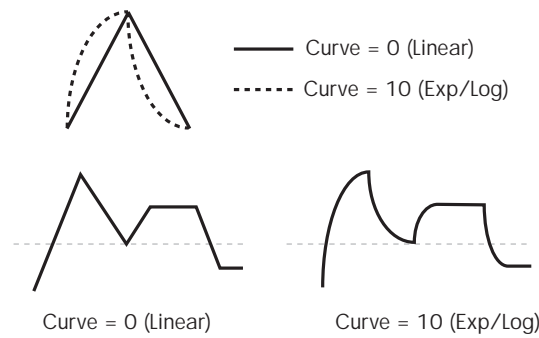
When you change the curvature, the EG times remain the same. However, greater curvature will tend to *sound* faster, because the value changes more quickly at the beginning.

Different curve settings for up and down

You may find that different amounts of curvature are suitable for segments which go up and segments which go down.

For instance, a curve of 3 is a good default setting for upward segments, such as Attack. On the other hand, a curve of 6 or more is good for downward segments, such as Decay and Release.

EG Curve



Attack [0 (Linear), 1...9, 10 (Exp/Log)]

This sets the curvature of the Attack segment - the transition from the Start level to the Attack level.

Decay [0 (Linear), 1...9, 10 (Exp/Log)]

This sets the curvature of the Decay segment - the transition from the Attack level to the Break level.

Slope [0 (Linear), 1...9, 10 (Exp/Log)]

This sets the curvature of the Slope segment - the transition from the Break level to the Sustain level.

Release [0 (Linear), 1...9, 10 (Exp/Log)]

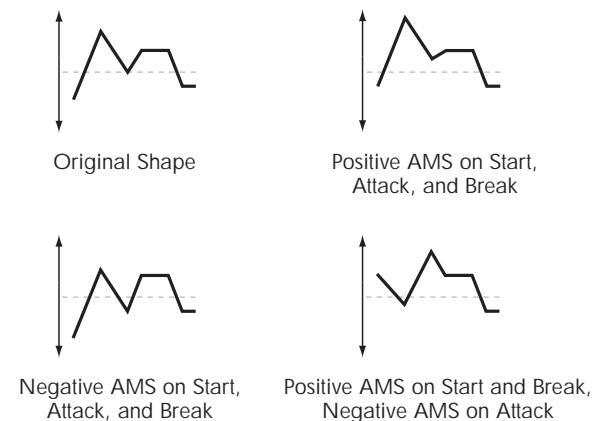
This sets the curvature of the Release segment - the transition from the Sustain level to the Release level.

7-1c: Level Modulation

These settings let you use an AMS source to control the Level parameters of the EG. The Start, Attack, and Break levels share a single AMS source, but can each have different modulation intensities.

By using different settings for each of the three levels, you can cause both subtle and dramatic changes to the EG shape, as shown below.

EG Level Modulation



Once an EG segment begins, it can't be modulated

Once the EG has started a segment between two points, that segment can no longer be modulated. This includes both the time of the segment, and the level reached at the end of the segment.

For instance, if the EG is in the middle of the Decay time, you can no longer modulate either the Decay time or the Break level.

As another example, let's say that you've assigned the Common LFO to modulate Break Level. The LFO may be moving all the time, but the Break Level is only affected by the LFO's value at the instant that the Decay segment starts. After that, the level is fixed.

Finally, this also means that modulating the Start level, Attack level, or Attack time will not affect notes that are already sounding, unless the EG is then reset via AMS.

AMS [List of AMS Sources]

This selects an AMS source to control the EG's Level parameters.

For a list of AMS sources, see "Alternate Modulation Source (AMS) List" on page 1021.

Start [-99...+99]

This controls the depth and direction of the AMS modulation for the Start level.

For example, if you set the AMS source to Velocity and set Start to +99, the Start level will increase as you play harder. If you instead set Start to -99, the Start level will decrease as you play harder.

Attack [-99...+99]

This controls the depth and direction of the AMS modulation for the Attack level.

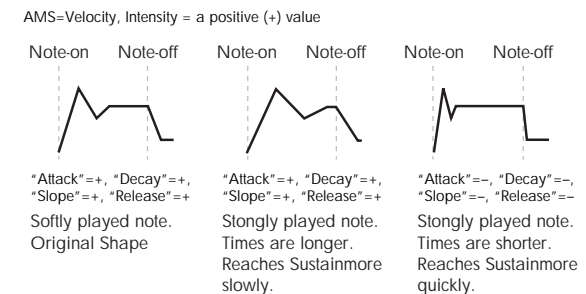
Break [-99...+99]

This controls the depth and direction of the AMS modulation for the Break level.

7-1d: Time Modulation

These settings let you use three different AMS sources to control the Time parameters of the EG. For each of the three AMS sources, the Attack, Decay, Slope, and Release times each have their own modulation intensities.

EG Time Modulation



AMS1 [List of AMS Sources]

Selects the first AMS source to control the EG's Time parameters. Velocity and Keyboard Track can both be useful here, for instance.

For a list of AMS sources, see "Alternate Modulation Source (AMS) List" on page 1021.

Attack [-99...+99]

This controls the depth and direction of the AMS modulation for the Attack time.

When the AMS source is at its maximum value—for instance, when Velocity is at 127—a setting of +8 will make the segment time almost twice as long, and a setting of -8 will cut the segment time almost in half.

For example, if you set the AMS source to Velocity and set Attack to +99, the Attack time will get much longer at higher velocities. If you instead set Attack to -99, the Attack time will get much shorter at higher velocities.

Decay [-99...+99]

This controls the depth and direction of the AMS modulation for the Decay time.

Slope [-99...+99]

This controls the depth and direction of the AMS modulation for the Slope time.

Release [-99...+99]

This controls the depth and direction of the AMS modulation for the Release time.


AMS2 and AMS3

These select the second and third AMS sources, respectively, for controlling the EG's Time parameters. Each has its own intensities for Attack, Decay, Slope, and Release. The parameters of both AMS2 and AMS3 are identical to those of AMS1, above.

▼ **7-1: Page Menu Commands**

The number before each command shows its ENTER + number-key shortcut. For more information on these shortcuts, see "ENTER + 0-9: shortcuts for menu commands" on page 142.

- **0: Write Program.** For more information, see "Write Program" on page 142.
- **1: Exclusive Solo.** For more information, see "Exclusive Solo" on page 142.
- **2: Copy Envelope.** For more information, see "Copy Envelope" on page 216.
- **3: Swap Envelope.** For more information, see "Swap Envelope" on page 216.

7-2: EG 2 (Pitch) 

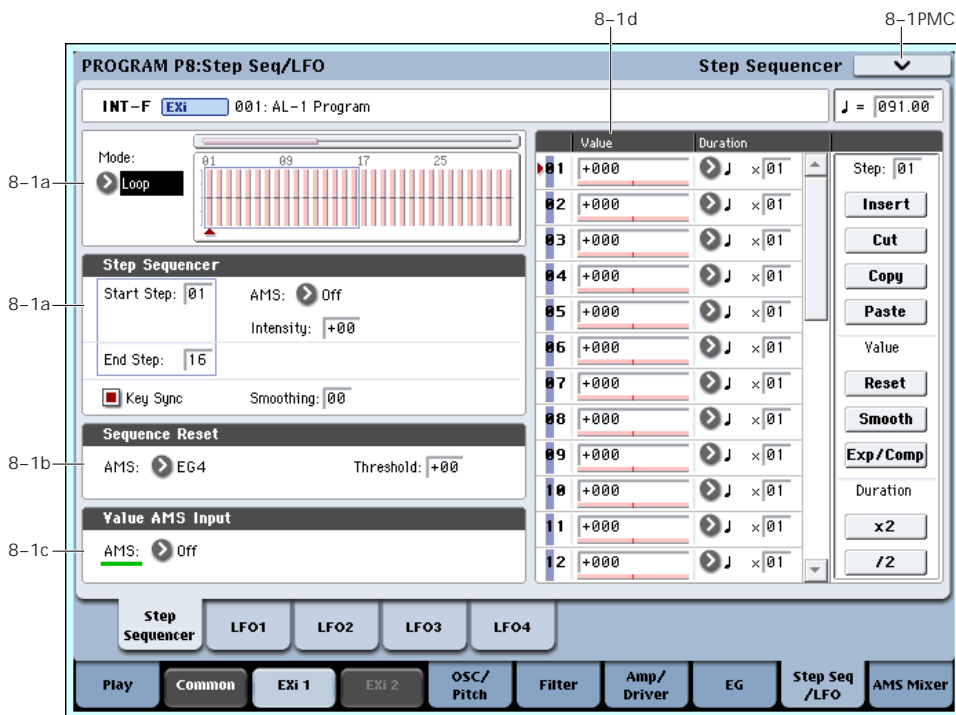
7-3: EG 3 

7-4: EG 4 

The settings for EGs 2-4 are identical to those for EG1. For more information, see "7-1: EG 1 (Filter)" on page 203.

Program P8: Step Seq/LFO

8-1: Step Sequencer AMSource



Overview

The Step Sequencer creates complex, rhythmic patterns, for use as an AMS modulation source. For instance, you can modulate a filter to create sample-and-hold effects, modulate pitch to create melodic patterns, or modulate amplitude to create pulsing, triggered-gate effects.

Each voice of the AL-1 has its own Step Sequencer, in addition to the Common Step Sequencer shared by both EXi instruments. To make all of the per-voice Step Sequencers run in sync, set **Key Sync** to **Off**.

The sequence can have up to 32 steps, each with its own level and duration. It can loop, or play only once. You can also:

- Re-start the Step Sequencer via AMS
- Modulate the Start Step via AMS
- Use individual steps to either gate or do sample-and-hold on a continuous AMS source, such as an EG or LFO
- Assign individual steps to create a random level
- Use Smoothing to create gentle, curving shapes

Step Sequencer usage tips

For some tips on using the Step Sequencer, see:

- “Creating melodic patterns with the Step Sequencer” on page 170
- “Using Smoothing to create envelope-like shapes” on page 171

- “Using Smoothing to make step transitions more gentle” on page 171

8-1a: Step Sequencer

Mode **[Loop, One Shot]**

Loop makes the Step Sequence loop continuously between the **Start Step** and the **End Step**.

One Shot makes the Step Sequence play once from the **Start Step** to the **End Step**, and then hold at the **End Step**. You can still reset the Step Sequencer from AMS to make it play again.

Start Step **[1...32]**

This is the step on which the sequence will start. If **Mode** is set to **Loop**, this also sets the start of the loop.

AMS **[List of AMS Sources]**

This selects an AMS source to modulate the **Start Step**. For a list of AMS sources, see “Alternate Modulation Source (AMS) List” on page 1021.

Intensity **[-32...+32]**

This controls the depth and direction of the **Start Step** modulation.

End Step **[01...32]**

This sets the last step in the sequence. Once the sequence reaches the **End Step**, it will either hold there until the note goes away (if **Mode** is set to **One Shot**), or loop back to the **Start Step** (if **Mode** is set to **Loop**).

Key Sync [Off, On]

When **Key Sync** is **On**, each note's Step Sequencer is independent, and the sequence always starts from the **Start Step** at note-on.

When **Key Sync** is **Off**, the Step Sequencers for all notes are synchronized together (unless the **Start Step** is modulated by note-specific AMS sources). The first note in a legato phrase will start from the **Start Step**; subsequent notes will play in sync with that first note.

Smoothing

These controls filter the Step Sequencer's output signal, creating more gentle transitions between values. You can use this to round off the hard edges of the Step Sequencer's output, or to create envelope-like effects.

You have separate control of the amount of smoothing during the attack (when the signal is increasing) and decay (when it's decreasing).

For more information, see "Using Smoothing to create envelope-like shapes" on page 171, and "Using Smoothing to make step transitions more gentle" on page 171.

Attack [00...99]

This controls the attack time of the smoother, or how long it takes to reach a new, *higher* value.

Higher **Attack** settings mean longer times.

Depending on how quickly the Step Sequencer value is changing, high **Attack** settings may mean that a new value is never quite reached.

Decay [00...99]

This controls the decay time of the smoother, or how long it takes the smoother to reach a new, *lower* value.

Higher **Decay** settings mean longer times.

8-1b: Sequencer Reset**AMS** [List of AMS Sources]

This selects an AMS source to reset the sequence to the **Start Step**.

Threshold [-99...+99]

This sets the AMS level which will make the Step Sequencer reset. Among other things, you can use this to adjust the exact point in an LFO's phase at which the sequencer will be reset, effectively controlling its "groove" against other rhythmic effects.

When the threshold is **positive**, the Step Sequencer triggers when passing through the threshold moving upwards. When the threshold is **negative**, the Step Sequencer triggers when passing through the threshold moving downwards.

Note: with some LFO shapes, and with faster LFO speeds, the LFO may not always reach the extreme values of +99 or -99. In this case, setting the **Threshold** to these values may cause inconsistent behavior, or may mean that the Step Sequencer doesn't reset at all. If this happens, reduce the **Threshold** until the Step Sequencer triggers consistently.

8-1c: Value AMS Input**AMS** [List of AMS Sources]

This is the AMS source used for steps set to **AMS Input** or **AMS Input S/H**.

8-1d: Step Parameters

Each of the 32 steps has its own settings for Value and Duration.

Value 1-32 [-100...+100, Random, AMS Input, AMS Input S/H]

-100 through +100 generate specific levels, just as you'd expect.

Random yields a different, random value every time the step is played.

AMS Input uses the signal from the **Value AMS Input** source, above. This can change continuously over the duration of the step. For instance, if you used an LFO as the **Value AMS Input**, you'd hear the LFO move over the duration of the step.

AMS Input S/H grabs the level of the **Value AMS Input** source at the start of the step, and then maintains that single value for the duration of the step.

Duration (Base Note) 1-32 [♪...♩]

This sets the basic length of the step, relative to the system tempo. The values range from a 32nd note to a whole note, including triplets.

x (Multiply Base Note by...) 1-32 [01...32]

This multiplies the length of the Base Note. For instance, if the Base Note is set to a sixteenth note, and Times is set to 3, the step's duration will be a dotted eighth note.

Command buttons**Step****Step** [01...32]

Selects the step that you want to edit.

Insert

Inserts the cut or copied step at the current step.

Cut

Cuts the current step. Subsequent steps will be moved forward. If desired, you can then paste or insert the cut step into another location.

Copy

Copies the current step. You can then paste or insert the copied step into another location.

Paste

Pastes the cut or copied step onto the current step, replacing it.

Value**Reset**

Resets the "Value" of each step to 000.

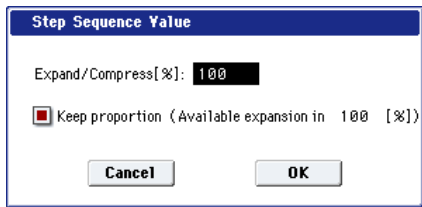
Smooth

Automatically adjusts the “Value” of each step so that they are smoothly connected.

Exp/Comp

When you press the Exp/Comp button, the Step Sequence Value dialog box will appear. The value of each step will be expanded or compressed by the percentage (%) you specify.

Step Sequence Value dialog box



Expand/Compress [%] [0...100]

If this is at 100%, the current value of each step will be used without change. If you check “Keep Proportion,” the % value will be limited so that the expansion/compression will maintain the relationships between the current step settings.

Duration

x2

This doubles the duration of the steps or the “x (Multiply Base Note by...)” value. For example, it would turn eighth notes into quarter notes, and quarter notes into half notes.

/2

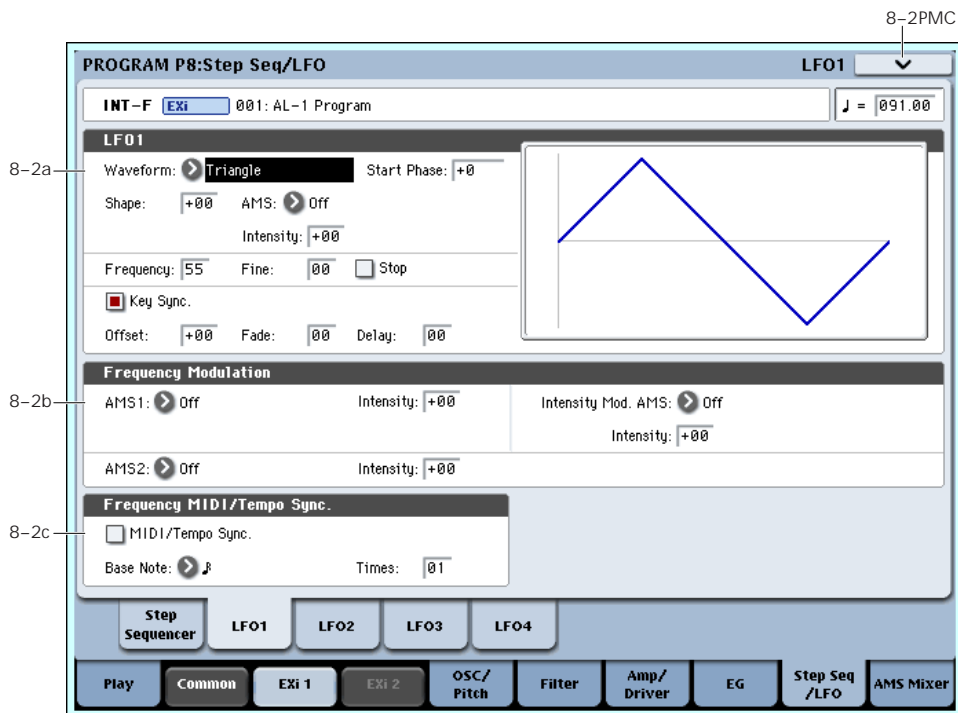
This halves the duration of the steps or the “x (Multiply Base Note by...)” value. For example, it would turn quarter notes into eighth notes, and eighth notes into sixteenth notes.

▼ 8-1: Page Menu Commands

The number before each command shows its ENTER + number-key shortcut. For more information on these shortcuts, see “ENTER + 0-9: shortcuts for menu commands” on page 142.

- 0: **Write Program.** For more information, see “Write Program” on page 142.
- 1: **Exclusive Solo.** For more information, see “Exclusive Solo” on page 142.
- 2: **Copy Step Sequencer.** For more information, see “Copy Step Sequencer” on page 174.

8-2: LFO 1 AMSource



This page has all of the controls for the first LFO. For instance, you can:

- Select the LFO’s basic waveform, and modify it with the Shape parameter.
- Control the LFO’s frequency, and assign AMS controllers to modulate the frequency.

- Use the Key Sync parameter to choose whether the LFO runs separately for each voice, or is synchronized across all of the voices
- Use the Fade and Delay parameters to control how long the LFO waits to start after note-on, and whether it starts abruptly or fades in slowly.
- Set the LFO to sync to MIDI tempo.

8-2a: LFO 1

Waveform [Triangle...Random6 (Continuous)]

This selects the basic LFO waveform, as shown in the graphic below.

Most of the waveforms should be self-explanatory, but a few will benefit from more details:

Guitar is intended for guitar vibrato, and its shape is specifically tuned for this purpose. The waveform is positive-only, so that when used for pitch, it will only bend up, and not down.

Random1 (S/H) generates traditional sample and hold waveforms, in which the level changes randomly at fixed intervals of time.

Random2 (S/H) randomizes both the levels and the timing.

Random3 (S/H) generates a pulse wave with random timing. It's the opposite of traditional sample and hold; the timing varies, but the levels don't.

Random4-6 (Continuous) are smoothed versions of Random 1-3, with ramps instead of steps. You can use them to create more gentle random variations.

Start Phase [-180...+180, Random]

This controls the phase of the waveform at the start of the note, in steps of 5 degrees.

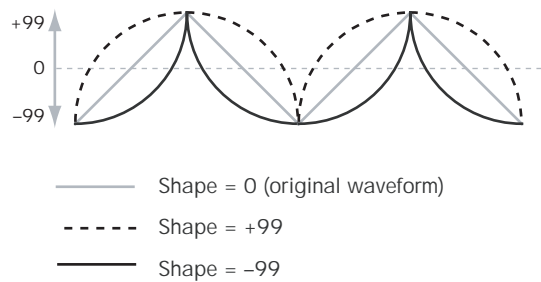
If **Key Sync** is On, the Start Phase will apply only to the first note of the phrase.

Shape [-99...+99]

Shape adds curvature to the basic waveform. As you can see in the graphic below, this can make the waveforms either more rounded or more extreme. It can also be useful to emphasize certain value ranges, and de-emphasize others.

For example, let's say that you are using a triangle LFO to modulate filter cutoff. If Shape emphasizes the high value range, the filter will spend more time at the higher frequencies. If it emphasizes the low range, the filter will spend more time at the lower frequencies.

LFO Shape



Note: Shape does **not** affect the Square and Random 3 waveforms, since their values are always either +99 or -99. When these are selected, Shape is grayed out.

AMS [List of AMS Sources]

This selects a modulation source for controlling the LFO's Shape. Modulating the shape can dramatically alter the effect of the LFO—try it out!

For a list of AMS sources, see "Alternate Modulation Source (AMS) List" on page 1021.

Intensity [-99...+99]

This controls the depth and direction of the modulation.



















Frequency [00...99]

This controls the speed of the LFO, before any modulation. Higher values mean faster speeds, as shown in the table below.

By using AMS modulation, you can also get speeds much faster and much slower than are available through this basic setting.

Frequency Value	Frequency in Hz
00	0.014 Hz
10	0.112 Hz
20	0.422 Hz
30	0.979 Hz
40	1.79 Hz
50	2.84 Hz
60	4.14 Hz
70	5.69 Hz
80	7.49 Hz
90	9.53 Hz
99	26.25 Hz
99 + Fine 99	32 Hz

LFO Waveforms

Triangle 	Guitar 	Step Triangle-4 	Random1 (S/H) 	Random4 (Continuous) 
Saw 	Exponential Triangle 	Step Triangle-6 	Random2 (S/H) 	Random5 (Continuous) 
Square 	Exponential Saw Down 	Step Saw-4 	Random3 (S/H) 	Random6 (Continuous) 
Sine 	Exponential Saw Up 	Step Saw-6 		

Frequency Fine [00...99]

This allows you to control the LFO frequency with greater precision, giving you 98 additional steps for each step of the main Frequency parameter.

When this is set to 00, the LFO speed is as set by the Frequency parameter.

When this is set to 99, it's the same as increasing the main Frequency value by 1.

Stop [Off, On]

On (checked): When Stop is **On**, the LFO does not advance normally, and the Frequency parameters are ignored. Instead, the LFO simply generate its very first value (as determined by the combination of the **Waveform**, **Start Phase**, **Shape**, and **Offset**), and then holds that value until the end of the note.

You can use this in conjunction with the Random waveforms to create static, random modulation, with the value changing only at note-on.

Off (unchecked): When Stop is **Off**, the LFO will function normally.

Key Sync [Off, On]

On (checked): When Key Sync is **On**, the LFO starts each time you press a key, and an independent LFO runs for each note. This is the normal setting.

Off (unchecked): When Key Sync is **Off**, the LFO starts from the phase determined by the first note in the phrase, so that the LFOs for all notes being held are synchronized together. The Fade and Delay settings will only apply to the first note's LFO.

Note that even if Key Sync is Off, each note's LFO speed may still be different if you modulate the Frequency by note number, velocity, key scaling, or other note-specific AMS sources.

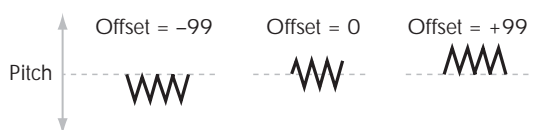
Offset [-99...+99]

By default, almost all of the LFO waveforms are centered around 0, and then swing all the way from -99 to +99. This parameter lets you shift the LFO up and down, so that—for instance—it's centered on 50, and then swings from -49 to +149.

For example, let's say that you're using an LFO for vibrato. If the Offset is 0, the vibrato will be centered on the note's original pitch, bending it both up and down.

If the Offset is +99, on the other hand, the vibrato will only raise the pitch above the original note.

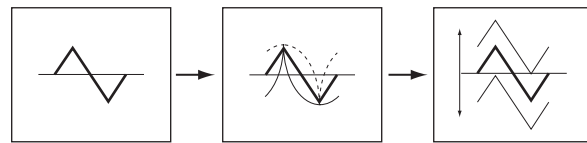
Offset settings and pitch change produced by vibrato



The one exception to this is the Guitar waveform, which is designed to emulate bending a string on a guitar—so that the pitch only goes up, and not down. Because of this, the waveform is centered on 50, and not on 0. Of course, you can always use a negative Offset to shift it back down below 0 again!

Since Offset affects the output values of the LFO, it's important to note that it affects the signal *after* the Shape function, as shown below:

LFO Signal Flow



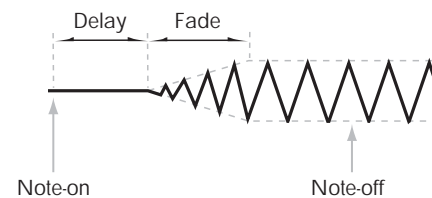
Fade [00...99]

The LFO can fade in gradually, instead of simply starting immediately at full strength. This parameter specifies the time from when the LFO begins to play until it reaches its maximum amplitude.

If the Delay parameter is being used, then the fade will begin after the delay is complete.

When **Key Sync** is **Off**, the fade will apply only to the first note in the phrase.

LFO Fade and Delay



Delay [0...99]

This sets the time from note-on until the LFO starts.

When **Key Sync** is **Off**, the delay applies only to the first note of the phrase.

8-2b: Frequency Modulation

You can use two alternate modulation sources (AMS) to adjust the speed of the LFO.

AMS1 [List of AMS Sources]

This selects the first modulation source for the LFO frequency. For a list of AMS sources, see "Alternate Modulation Source (AMS) List" on page 1021.

Note that you can use LFO2 to modulate LFO1's frequency.

Intensity [-99...+99]

This sets the initial amount of AMS1. The Intensity Mod AMS then adds to this initial amount.

When AMS1 is at its maximum value (for instance, when the joystick is pushed all the way up), the AMS affects the frequency as shown below:

Intensity	Change to LFO Frequency	
+99	64x	Faster
+82	32x	
+66	16x	
+49	8x	
+33	4x	
+16	2x	

Intensity	Change to LFO Frequency	
-16	1/2x	Slower
-33	1/4x	
-49	1/8x	
-66	1/16x	
-82	1/32x	
-99	1/64x	

Intensity Mod AMS [List of AMS Sources]

This selects a secondary AMS modulation source to scale the intensity of AMS1.

For a list of AMS sources, see “Alternate Modulation Source (AMS) List” on page 1021.

Intensity [-99...+99]

This controls the depth and direction of the Intensity Mod AMS. Even if the main AMS1 Intensity is set to 0, Intensity Mod AMS can still control the final amount of AMS A over the full +/-99 range.

For example, if AMS1 is set to the Pitch EG, and Intensity Mod AMS is set to After Touch, positive settings mean that aftertouch will increase the intensity of the Pitch EG modulation of LFO Frequency.

AMS2 [List of AMS Sources]

This selects the second modulation source for the LFO frequency. For a list of AMS sources, see “Alternate Modulation Source (AMS) List” on page 1021.

Intensity [-99...+99]

This controls the amount of modulation from AMS2.

8-2c: Frequency MIDI/Tempo Sync

MIDI/Tempo Sync [Off, On]

On (checked): The LFO will synchronize to the system tempo, as set by either the Tempo knob or MIDI Clock. The LFO speed will be controlled by the **Base Note** and **Multiply** parameters, below. All settings for **Frequency** and **Frequency Modulation** will be ignored.

Off (unchecked): The Frequency settings will determine the speed of the LFO, and the tempo settings will have no effect.

Base Note [♪...♩]

This sets the basic speed of the LFO, relative to the system tempo. The values range from a 32nd note to a whole note, including triplets.

x (Multiply Base Note by...) [01...32]

This multiplies the length of the Base Note. For instance, if the Base Note is set to a sixteenth note, and Times is set to 3, the LFO will cycle over a dotted eighth note.

▼ **8-2: Page Menu Commands**

The number before each command shows its ENTER + number-key shortcut. For more information on these shortcuts, see “ENTER + 0-9: shortcuts for menu commands” on page 142.

- 0: **Write Program**. For more information, see “Write Program” on page 142.
- 1: **Exclusive Solo**. For more information, see “Exclusive Solo” on page 142.
- 2: **Copy LFO**. For more information, see “Copy LFO” on page 216.
- 3: **Swap LFO**. For more information, see “Swap LFO” on page 216.

8-3: LFO 2 AMSource

8-4: LFO 3 AMSource

8-5: LFO 4 AMSource

The settings for LFOs 2-4 are identical to those for LFO1. For more information, see “8-2: LFO 1” on page 209.

Program P9: AMS Mixer

The AMS Mixers combine two AMS sources into one, or process an AMS source to make it into something new.

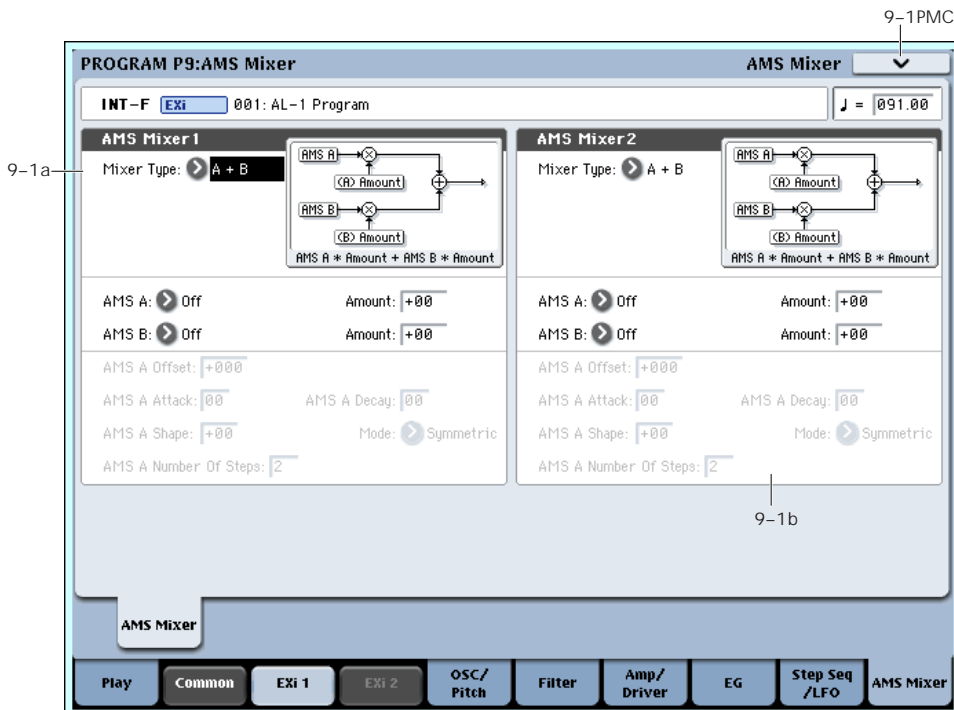
For instance, they can add two AMS sources together, or use one AMS source to scale the amount of another. You can also use them to modify the response of realtime controllers.

The AMS Mixer outputs appear in the list of AMS sources, just like other controllers.

This also means that the original, unmodified inputs to the AMS Mixers are still available as well. For instance, if you use Aftertouch as an input to a AMS Mixer, you can use the processed version of the Aftertouch to control one AMS destination, and the original version to control another.

Finally, you can cascade the two AMS Mixers together, by using AMS Mixer 1 as an input to AMS Mixer 2.

9-1: AMS Mixer



9-1a: AMS Mixer 1 AMSource

Mixer Type [A+B, Amt Ax B, Offset, Smoothing, Shape, Quantize]

This controls the type of processing performed by AMS Mixer 1. Each of the Mixer Types is discussed in detail elsewhere in the manual.

A+B adds two AMS sources together. For more information, see “A+B” on page 91.

Amt Ax B scales the amount of one AMS source with the other. See “Amt A x B” on page 91 for more details.

Offset adds or subtracts a constant value to or from an AMS source. For more information, see “Offset” on page 92.

Smoothing creates more gentle transitions between values, smoothing out abrupt changes such as a quick move on a joystick or a sharp edge on an LFO. For details, see “Smoothing” on page 93.

Shape adds curvature to the AMS input. For an in-depth description, see “Shape” on page 93.

Quantize turns smooth transitions into discrete steps. See “Quantize” on page 94 for more information.

Gate chooses between two AMS inputs (or fixed values) based on a third AMS source. See “Gate” on page 95 for more information.

9-1b: AMS Mixer 2 AMSource

This is the second AMS Mixer. Its parameters are exactly the same as those of AMS Mixer 1, above.

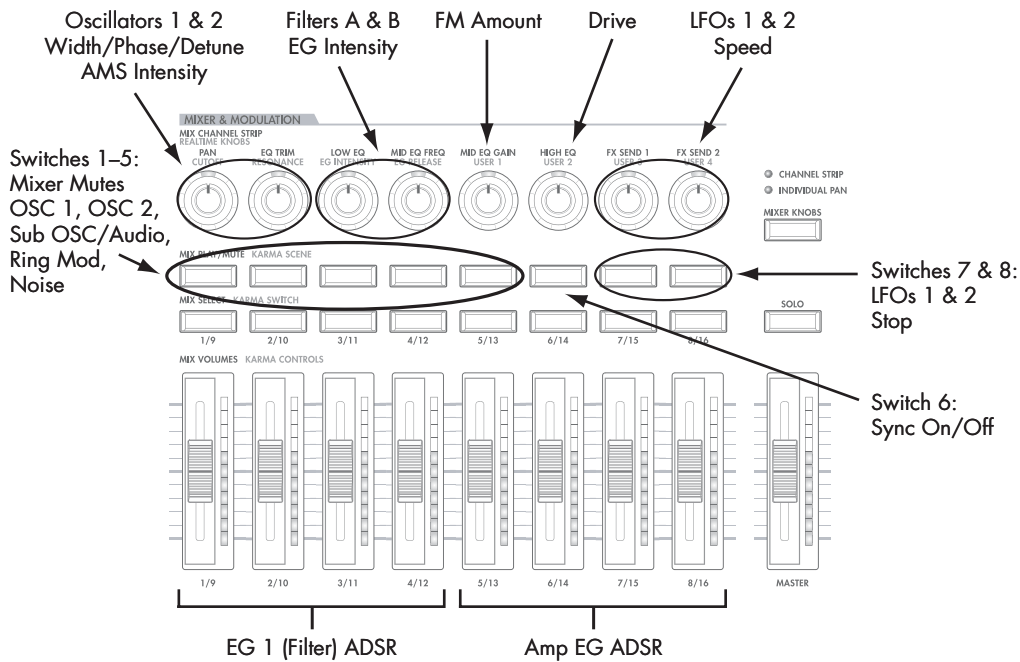
▼ 9-1: Page Menu Commands

The number before each command shows its ENTER + number-key shortcut. For more information on these shortcuts, see “ENTER + 0-9: shortcuts for menu commands” on page 142.

- 0: **Write Program**. For more information, see “Write Program” on page 142.
- 1: **Exclusive Solo**. For more information, see “Exclusive Solo” on page 142.

AL-1: Tone Adjust

AL-1 Tone Adjust Default Settings



Tone Adjust provides an elegant physical interface to the AL-1's parameters. Most of the factory sounds use the default layout, as shown above. You can also customize the layout for individual sounds, if desired.

For more information about Tone Adjust, please see "0-9f: Tone Adjust," on page 26.

AL-1 Tone Adjust parameters

The AL-1 supports all of the Common Tone Adjust parameters, as described under "0-9f: Tone Adjust," on page 26. It also adds a number of its own additional parameters, which apply only to the AL-1.

Note that these additional parameters are separate for each EXi, as opposed to being shared by both EXi in the Program.

All of the additional parameters are listed below. Each is marked as either relative (meaning that it scales the existing parameter value) or absolute (which overwrites the existing value).

Oscillator 1

- Tune (absolute)
- Waveform (absolute)
- Morph (absolute)
- Morph AMS Intensity (absolute)
- Detune/Pulse Width (absolute)
- Detune/Pulse Width AMS Intensity (absolute)

Oscillator 2

Oscillator 2 has the same Tone Adjust parameters as Oscillator 1, above.

Oscillators common

- Sync On/Off (absolute)
- FM Amount (absolute)
- FM AMS Intensity (absolute)

Mixer

- OSC 1 level (absolute)
- OSC 2 level (absolute)
- Sub OSC/Audio Input level (absolute)
- Ring Mod level (absolute)
- Noise level (absolute)

Filter A

In addition to the standard Tone Adjust filter parameters, the AL-1 adds the following:

- Type (absolute)
- Cutoff (absolute)
- Resonance (absolute)
- Frequency EG Intensity (absolute)
- Frequency LFO Intensity (absolute)

Filter B

Filter B has the same Tone Adjust parameters as Filter A, above.

Amp

- AMS 1 Intensity (absolute)
- AMS 2 Intensity (absolute)
- Drive (absolute)
- Low Boost (absolute)

EGs

In addition to supporting the standard Tone Adjust EG parameters, the AL-1 adds the following separate controls for both EG3 and EG4:

- Attack time (relative)
- Decay & Slope time (relative)
- Sustain level (relative)
- Release time (relative)

LFOs

In addition to supporting the standard Tone Adjust LFO parameters, the AL-1 adds the following separate controls:

- LFO 3 Speed (relative)
- LFO 3 Fade (relative)
- LFO 3 Delay (relative)
- LFO 3 Stop (absolute)
- LFO 4 Speed (relative)
- LFO 4 Fade (relative)
- LFO 4 Delay (relative)
- LFO 4 Stop (absolute)
- LFO 1, 2, 3, and 4 Waveform (absolute)
- LFO 1, 2, 3, and 4 Shape (absolute)

Step Sequencer

In addition to supporting the standard Tone Adjust Common Step Sequencer parameters, the AL-1 adds the following separate control for the per-voice Step Sequencer:

- Smoothing (relative)

Pitch

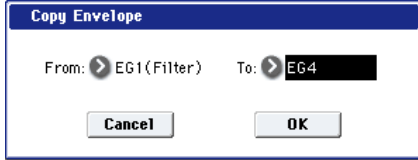
- Pitch Slope (absolute)
- Pitch LFO AMS Intensity (absolute)

AL-1: Page Menu Commands

Copy Envelope

This copies settings from one AL-1 envelope to another.

1. Select "Copy Envelope" to open the dialog box.

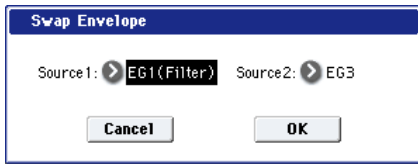


2. Use the "From" field to select the copy-source envelope.
3. Use the "To" field to select the copy-destination envelope.
4. Press the OK button to execute the Copy Envelope operation. If you decide not to execute, press the Cancel button.

Swap Envelope

This exchanges settings between two AL-1 envelopes.

1. Select "Swap Envelope" to open the dialog box.

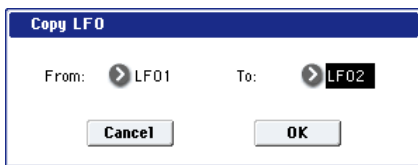


2. Use the "Source 1" and "Source 2" fields to select the two envelopes you want to swap.
3. Press the OK button to execute the Swap Envelope operation. If you decide not to execute, press the Cancel button.

Copy LFO

This copies settings from one AL-1 LFO to another.

1. Select "Copy LFO" to open the dialog box.



2. Use the "From" field to select the copy-source LFO.
3. Use the "To" field to select the copy-destination LFO.
4. Press the OK button to execute the Copy LFO operation. If you decide not to execute, press the Cancel button.

Swap LFO

This exchanges settings between two AL-1 LFOs.

1. Select "Swap LFO" to open the dialog box.



2. Use the "Source 1" and "Source 2" fields to select the two LFOs you want to swap.
3. Press the OK button to execute the Swap LFO operation. If you decide not to execute, press the Cancel button.

EXi: CX-3 Tonewheel Organ

CX-3 Overview

The CX-3 is a detailed model of a classic tone-wheel organ, based on Korg's ground-breaking CX-3 keyboard.

Its awesome sound starts with perfect tone-wheel phase coherency, resulting in pure, powerful sounding chords, just like the real thing. Subtleties such as different tone wheel types, adjustable overtones, leakage, and noise, along with detailed key-click modeling, provide unparalleled realism.

Amp modeling, Vibrato/Chorus, and Rotary Speaker effects are included in the model, so that you don't need to use any Insert Effects to re-create most classic organ sounds.

In EX mode, you can introduce additional drawbar and percussion harmonics, letting you produce new timbres unavailable on traditional organs.

If you're familiar with the CX-3 keyboard, you might want to check out "Changes from the original CX-3" on page 237 for an overview of some of the improvements in the OASYS CX-3.

CX-3 uses EXi fixed resources

The CX-3 uses EXi fixed resources for the built-in rotary speaker, amp, vibrato chorus, and so on. These use up a small amount of processing power, even if you're not playing any notes.

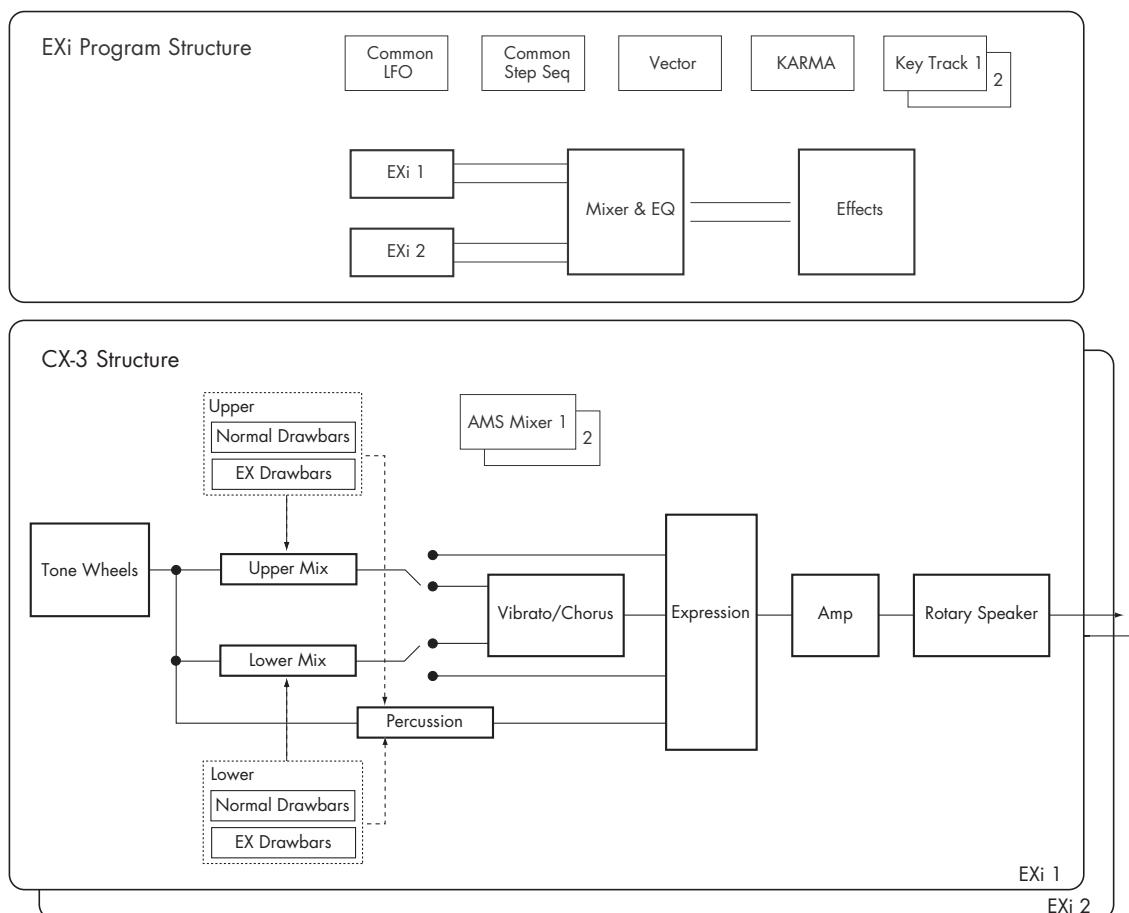
Because of this, you can use only four CX-3s simultaneously in a Combination or Song. If other EXi with fixed resources are in use, the maximum number of CX-3s will be reduced accordingly. Each EXi in each Program counts towards the maximum; for instance, a Program with two CX-3s counts as two, not as one.

For more information, see "CX-3 & STR-1: Limitations on EXi fixed resources" on page 382.

Unsupported EXi Common parameters

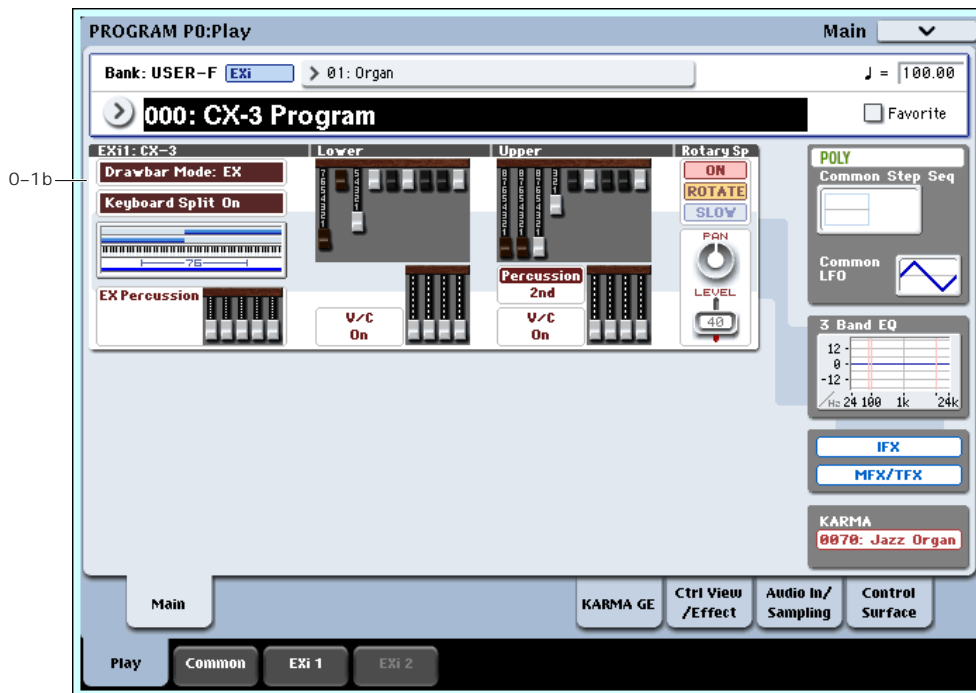
The CX-3 supports most of the EXi Common parameters, except for scales and a number of the voice allocation options, as detailed below:

- **Poly Legato** and **Single Trigger**
- **Mono Legato** (simple Mono retrigger mode is supported, however)
- **Mono Mode (Normal or Use Legato Offset)**
- **Unison**, including **Number of Voices**, **Detune**, and **Thickness**
- **Scale**, including **Type**, **Key**, and **Random**



EXi Program P0: Play

0-1: Main



This is the main page of Program mode. For a full description of this page and all of its functions, please see “EXi Program P0: Play” on page 159. This section describes only the overview display, which differs for each individual EXi.

0-1b: Overview and Page Jump

This part of the page shows an overview of the most important settings for the Program’s two EXi instruments. The specific parameters will vary, depending on which EXi are being used. The specific parameters for the AL-1 are described below.

The graphics give you a quick way to check all of these settings at a glance. They also let you jump instantly to any of the displayed parameters. Just touch one of the graphics, and you’ll jump to the page containing its parameters. For instance, if you touch the Filter EG graphic, you’ll go to the Filter EG page.

Tip: Pressing EXIT several times will always bring you back to this page.

Display shows programmed values—not AMS

These graphics show the values of the programmed parameters, including any edits made via Tone Adjust. They do not update to show temporary changes made by AMS modulation.

For instance, moving the joystick up (JS+Y) will often switch the Rotary Speaker between fast and slow, via AMS. You’ll hear the sound change - but since the programmed parameter is still the same, the display won’t be updated.

CX-3

Drawbar Mode

This shows whether the Drawbars are set to Normal or EX modes.

Press this area to jump to the Basic page.

Keyboard Split

This shows whether the Keyboard Split is turned on, or turned off.

Press this area to jump to the Keyboard Split page.

Keyboard Split Zone/Common Key Zone

The upper portion of this graphic shows the keyboard split range within the CX-3.

Press this area to jump to the Keyboard Split page.

The lower portion shows the key zones for EXi1 and EXi2, as set on the Common section’s Program Basic page, in relation to the entire MIDI note range. The range of the 76-note or 88-note keyboard is also shown, as appropriate.

Press this area to jump to the Program Basic page.

EX Percussion

This area shows the EX Percussion settings. It will only appear if the **Drawbar Mode** is set to EX.

Press this area to jump to the EX Percussion page.

Lower

These graphics will only be displayed if **Keyboard Split** is turned On.

Lower Drawbars

This shows the Lower drawbar settings.

Press this area to jump to the Drawbars page.

V/C On/Off

This shows whether the Vibrato/Chorus is turned on or off for the Lower drawbars.

Press this area to jump to the Amp/Vibrato/Chorus page.

EX Drawbars

This area shows the Lower EX drawbar settings. It will only appear if the **Drawbar Mode** is set to EX.

Press this area to jump to the EX Drawbars page.

Upper**Upper Drawbars**

This shows the Upper drawbar settings.

Press this area to jump to the Drawbars page.

Percussion

This section shows the **Percussion Harmonic** setting, and whether or not **Percussion** is turned On.

Press this area to jump to the Percussion page.

V/C On/Off

This shows whether the Vibrato/Chorus is turned on or off for the Upper drawbars.

Press this area to jump to the Amp/Vibrato/Chorus page.

EX Drawbars

This shows the Upper EX drawbar settings.

Press this area to jump to the EX Drawbars page.

Rotary Speaker

Press anywhere in this area to jump to the Rotary Speaker page.

Rotary Speaker On/Off

This shows the **On/Off** setting of the rotary speaker.

Mode Switch

This shows the rotary speaker's **Mode Switch** (Rotate/Stop) setting of the rotary speaker.

Speed Switch

This shows the rotary speaker's **Speed Switch** setting (Fast/Slow).

Common

The graphics along the right side of the screen show the most important Common parameters, which are shared by both EXi in the Program. This section will always show the same parameters, regardless of which EXi are being used.

Common Voice Assign Mode

This shows the voice assign mode of the Program—either POLY or MONO.

Press this area to jump to the Program Basic page.

Common Step Sequencer

This shows a graphic overview of the Common Step Sequencer.

Press this area to jump to the Common Step Sequencer page.

Common LFO Graphic

This shows the waveform of the Common LFO.

Press this area to jump to the Common LFO page.

3 Band EQ Graphic

This shows the mid-sweepable 3-band EQ.

Press this area to jump to the EQ page.

IFX, MFX/TFX

Press the IFX area to jump to the IFX Routing page.

Press the MFX/TFX area to jump to the MFX Routing page.

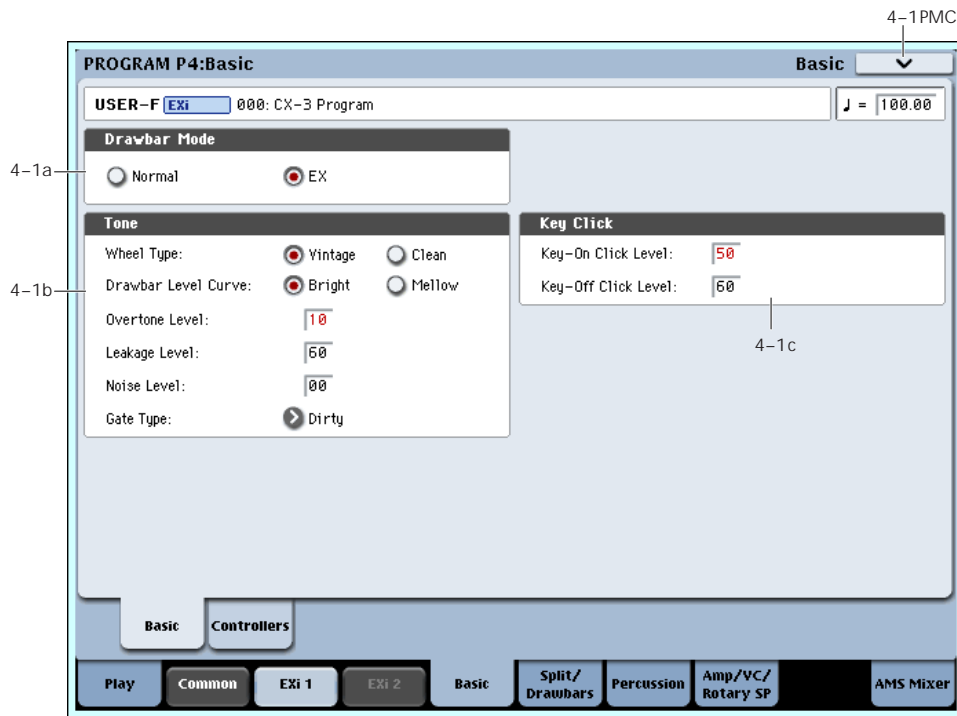
KARMA GE Name

This shows the name of the selected KARMA GE.

Press this area to jump to the GE Setup/Key Zones page.

Program P4: Basic

4-1: Basic



4-1a: Drawbar Mode

Drawbar Mode [Normal, EX]

This is a basic control, which affects the parameters available in the Drawbars and Percussion sections.

Normal mode models a standard tone-wheel organ, with 9 drawbars and single-pitch percussion.

EX mode adds four additional drawbars, with pitches adjustable in half-step increments between 16' and two octaves above 1'. It also allows you to create the percussion using up to five different pitches, each with adjustable volume levels.

4-1b: Tone

Wheel Type [Vintage, Clean]

Vintage offers an organic, complex tone. It includes some amount of additional harmonics for each note, which can be further increased by using the **Overtone Level** parameter, below. It also adds "leakage," a pitched noise caused by the mix of all 91 tone wheels "leaking" into each individual note—a characteristic part of the authentic tone-wheel organ sound. The **Leakage Level** parameter, below, controls the volume of this component.

Clean gives you a pristine, perfect set of tone wheels, with no leakage noise. By default, these tone wheels have no additional overtones—but you can add them by using the **Overtone Level** parameter, below.

Drawbar Level Curve [Bright, Mellow]

This controls the way in which the tone-wheel levels change in relation to pitch, which contributes to the overall brightness of the sound.

Bright produces a crisp effect, slightly brighter than traditional tone-wheel organs.

Mellow produces a slightly darker, more traditional tone.

Overtone Level [0...99]

This controls the timbre of the individual tone wheels. Increasing the **Overtone Level** adds more harmonics, for a brighter, richer tone.

The **Wheel Type** setting, above, determines both the specific harmonics added and their volume levels.

Leakage Level [0...99]

This specifies the amount of drawbar leakage, both into played notes and into the constant noise (see Noise Level, below).

This parameter is available only when the **Wheel Type**, above, is set to **Vintage**. When the **Wheel Type** is set to **Clean**, it is grayed out.

Noise Level [0...99]

This lets you add a constant amount of noise to the outputs - just like you might find in older vintage gear. The noise will be present whether or not any notes are being played.

The noise includes both colored broad-band noise and tone wheel leakage. The amount of leakage within the noise is scaled by **Leakage Level**, described above.

Gate Type [Clean, Dirty]

This affects the sound character when notes are turned on or off. It is similar in concept to **Key Click**, below, but has a different timbral character.

Clean does not add any additional gate noise.

Dirty adds a small amount of noise at note-on and note-off, for a small amount of extra punch. You can also use this if you're looking to duplicate the gate timbre of the CX-3 and BX-3.

4-1c: Key Click

Pressing down or releasing a key on a tone wheel organ can result in arcing between the contacts, producing a characteristic "Key Click" sound. This section models that effect.

Key-On Click Level [0...99]

This controls the amount of click noise at note-on.

Key-Off Click Level [0...99]

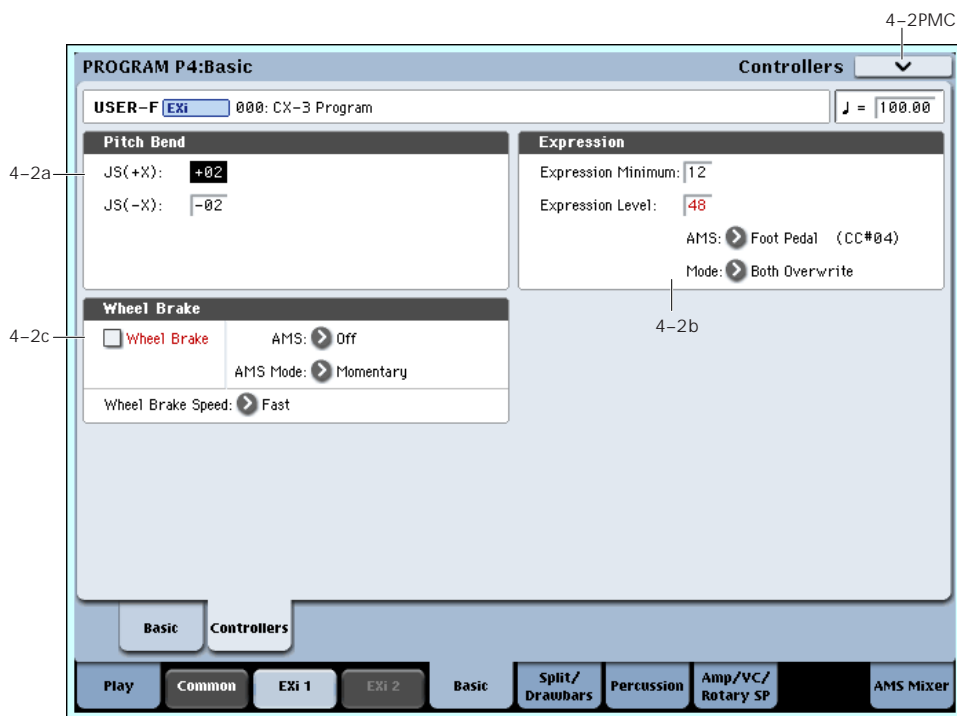
This controls the level of the click noise at note-off.

▼ 4-1: Page Menu Commands

The number before each command shows its ENTER + number-key shortcut. For more information on these shortcuts, see "ENTER + 0-9: shortcuts for menu commands" on page 142.

- 0: **Write Program**. For more information, see "Write Program" on page 142.
- 1: **Exclusive Solo**. For more information, see "Exclusive Solo" on page 142.

4-2: Controllers



4-2a: Pitch Bend

JS+ X [-60...+12]

This sets the maximum amount of pitch bend, in semitones, when you move the joystick to the right. For normal pitch bend, set this to a positive value.

For example, if you set this to +12 and move the joystick all the way to the right, the pitch will rise one octave above the original pitch.

JS- X [-60...+12]

This sets the maximum amount of pitch bend, in semitones, when you move the joystick to the left. For normal pitch bend, set this to a negative value.

For example, if you set this to -60 and move the joystick all the way to the left, the pitch will fall five octaves below the original pitch.

4-2b: Expression

Expression adjusts both the volume level and the amount of distortion. At lower Expression values, both the low bass and high treble frequencies are slightly

emphasized. The Amp section interacts with Expression; for more details, see “7-1a: Amp,” on page 230.

To allow optimal modulation flexibility, the AMS works differently from most other parameters. See **Mode**, below, for more details.

Expression Minimum [0...30]

This specifies the minimum level when the Expression Level parameter or Expression AMS are at 0.

Expression Level [0...99]

This sets the default Expression level. It will be grayed out if the **Mode**, below, is set to **Control Only**.

AMS [List of AMS Sources]

This selects an AMS source to modulate Expression. For a list of AMS sources, see “Alternate Modulation Source (AMS) List” on page 1021.

This parameter is grayed out if **Mode**, below, is set to **Level Only**.

NOTE: The MIDI Expression controller (CC #11) is hard-wired to scale the channel volume level. So, despite the similar name, it’s best to use another controller for as an AMS source.

Mode [Level Only, AMS Only, Both Scale, Both Overwrite]

This controls how the AMS interacts with the programmed **Expression Level**.

Level Only: The **Expression Level** parameter has complete control over Expression. The **AMS** parameter is grayed out and has no affect.

AMS Only: The AMS input has complete control over Expression, while the Expression Level parameter is grayed out and has no affect.

Both Scale: The values of **Expression Level** and AMS are multiplied to produce the Expression level. For the math-friendly, a value of 99 is treated as 1.0.

Both Overwrite: **Expression Level** and AMS both write directly to the Expression level. If the **Expression Level** parameter is updated, it directly controls Expression, and the last value from AMS is ignored. If the AMS input moves, it also directly controls Expression, and the setting of the **Expression Level** parameter is ignored.

4-2c: Wheel Brake

Tone wheel organs actually have physical wheels, which gradually come up to speed when you turn the power on, and gradually slow to a stop when you turn the power off. As the wheels rotate more quickly, the pitch rises; as they slow down, the pitch falls.

This section models this behavior, for use as a special effect.

Wheel Brake [Off, On]

This parameter allows you to manually control the Wheel Brake. Off is the default; the tone wheels will turn normally. Changing this to On will make the tone wheels gradually slow down, and eventually stop altogether.

AMS [List of AMS sources]

This selects an AMS source to control the Wheel Brake.

For a list of AMS sources, see “Alternate Modulation Source (AMS) List” on page 1021.

AMS Mode [Toggle, Momentary]

This parameter controls the way in which the Wheel Brake AMS works.

When this is set to **Toggle**, the Wheel Brake AMS will alternate between “power on” and “power off.” For instance, if **Wheel Brake** is set to **Off**, and **AMS** is assigned to a footswitch, the first press will cause the wheel rotation to slow, and the next press will bring them back up to speed again.

Momentary means that the power is turned “off” only while the controller is enabled. Continuing the example from above, when the footswitch is pressed down, the wheel rotation will slow down; when the footswitch is released, the wheel rotation will speed up again.

AMS lets you switch to the opposite of the programmed setting. For instance, if **Wheel Brake** is set to **On** (unlikely but possible!), and the **AMS Mode** is set to **Momentary**, then pressing down on the footswitch would cause the tone wheels to come up to speed.

If you set AMS to use a continuous controller, such as the Joystick, values of 0-63 are as if the switch was off, and values of 64-127 are as if the switch was on.

Finally - note that the assignable switches, **SW1** and **SW2**, can themselves be set to either momentary or toggle modes, and these settings are reflected by the switch LEDs. Individual parameter mode settings, such as the Wheel Brake AMS Mode, do *not* affect the LEDs.

So, if you’re using SW1 or SW2 as the AMS source, it’s best to set the AMS Mode to Momentary, and then just let the switch itself determine the momentary/toggle behavior.

Wheel Brake Speed [Slow, Fast]

This controls the speed at which the wheels will slow down and speed up.

▼ 4-2: Page Menu Commands

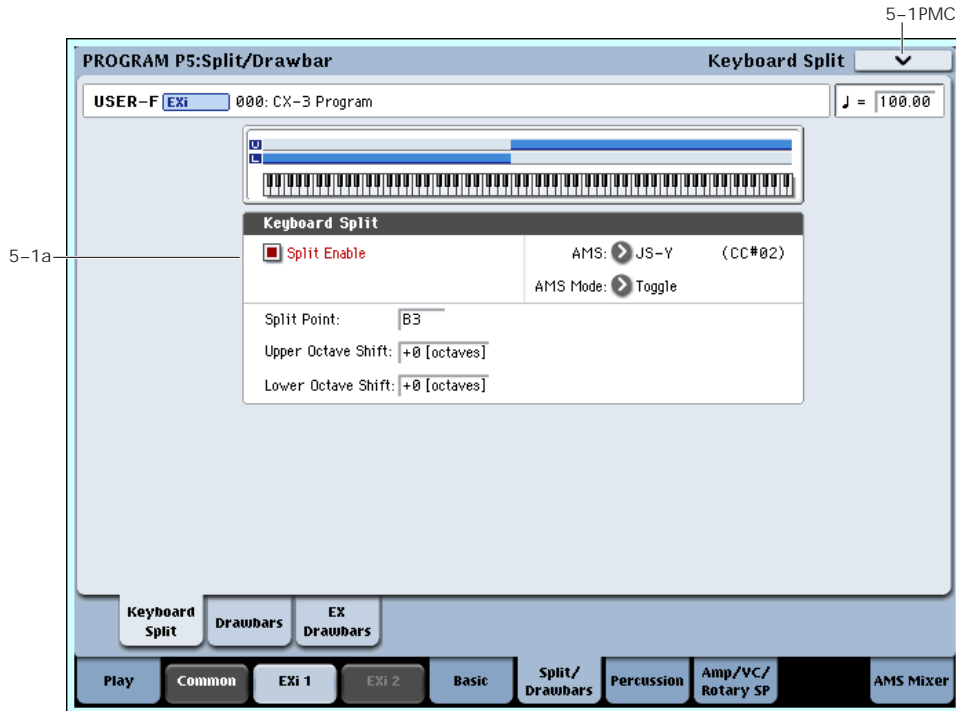
The number before each command shows its ENTER + number-key shortcut. For more information on these shortcuts, see “ENTER + 0-9: shortcuts for menu commands” on page 142.

- 0: **Write Program**. For more information, see “Write Program” on page 142.
- 1: **Exclusive Solo**. For more information, see “Exclusive Solo” on page 142.

Program P5: Split & Drawbars

You can set up the organ to use a single sound across the entire keyboard, or to split the keyboard between two different sets of drawbars.

5-1: Keyboard Split



5-1a: Split

Split Enable [Off, On]

This turns the split on and off.

When Split is Off, only the Upper drawbars will be used.

AMS [List of AMS Sources]

This allows you to assign an AMS source to toggle the split on and off.

For a list of AMS sources, see “Alternate Modulation Source (AMS) List” on page 1021.

AMS Mode: [Momentary, Toggle]

This determines the behavior of Split Enable AMS. For details, see “AMS Mode” on page 222.

Split Point [C-1...G9]

This sets the highest key of the lower split range.

Upper Octave Shift [-2 octaves...+2 octaves]

This raises or lowers the pitch of the Upper drawbars in one-octave steps.

Lower Octave Shift [-2 octaves...+2 octaves]

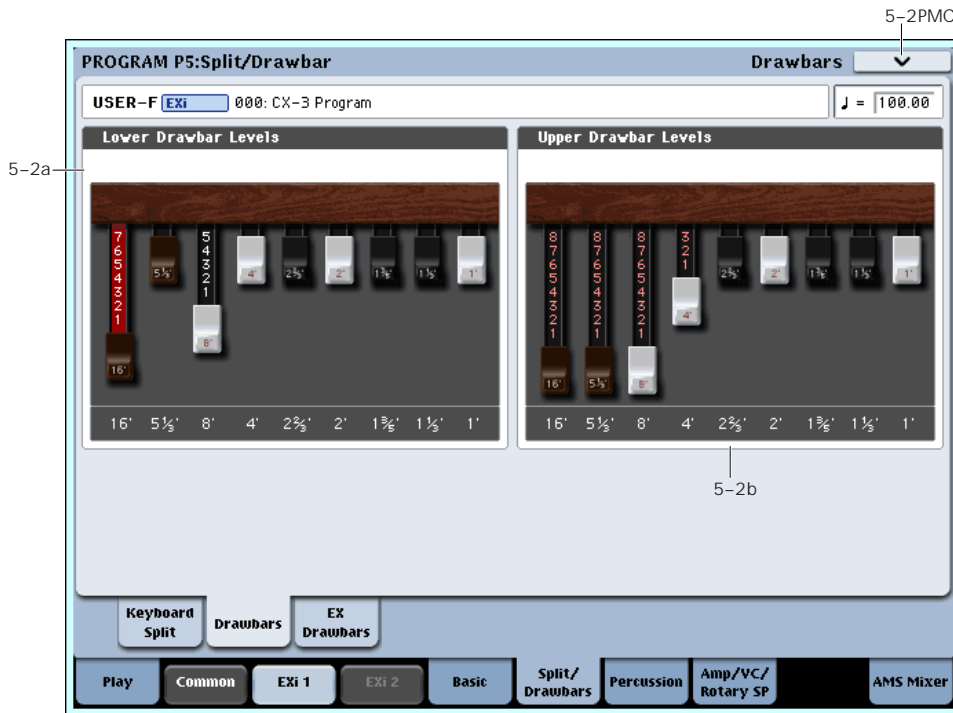
This raises or lowers the pitch of the Lower drawbars in one-octave steps.

▼ 5-1: Page Menu Commands

The number before each command shows its ENTER + number-key shortcut. For more information on these shortcuts, see “ENTER + 0-9: shortcuts for menu commands” on page 142.

- 0: **Write Program**. For more information, see “Write Program” on page 142.
- 1: **Exclusive Solo**. For more information, see “Exclusive Solo” on page 142.

5-2: Drawbars



The drawbars are the heart of the CX-3. These settings control the basic harmonic content of the sound, the perceived fundamental pitch, and the basic volume level.

Use Tone Adjust for physical drawbars

Using Tone Adjust, you can map the drawbars to the nine front-panel sliders, including both sliders 1-8 and the Master slider.

Like traditional tone wheel organs, the throw of the sliders is reversed from that of a mixer: all the way up is 0, and all the way down is the maximum (8).

Wrap-around

As with traditional organs, the tone wheels produce pitches between C2 and F#8. Depending on the notes that you play, certain drawbar settings may imply pitches outside of this range. In this case, the drawbar pitches will be “wrapped around” by one or more octaves to fit within the available range.

For instance, the 1' drawbar would normally sound 3 octaves above the note that you play. If you play a D6 on the keyboard, this would imply that the 1' play a D9. Since the tone wheels can't play a D9, however, the 1' drawbar is “wrapped around” to the highest possible D - a D8.

The same thing will happen on the low end. For instance, the 16' drawbar normally sounds one octave below the played note. If you play an F1 on the keyboard, this would imply that the 16' sound at F0. Since this is far below the range of the tone wheels, the 16' sounds at its lowest possible F - an F2.

5-2a: Lower Drawbar Levels

These parameters control the individual drawbar volume levels for the Lower split. The drawbars express their pitches in terms of feet, referring back to pipe organs, in which halving the length of a pipe will raise its pitch by one octave. So, 8' is an octave higher than 16', 4' is an octave higher than 8', and so on.

You can adjust these parameters by using the on-screen drawbar graphics, or use the physical faders via Tone Adjust, as described above.

Note that when **Split** is turned **Off**, only the Upper drawbars are used; the Lower drawbar settings will have no effect.

16' **[0...8]**

This is the volume for the lowest drawbar.

0 means that the drawbar will be silent, and 8 is the maximum volume.

5-1/3', 8', 4', 2-2/3', 2', 1-3/5', 1-1/3', 1' **[0...8]**

These set the volume levels for the remaining 8 drawbars.

5-2b: Upper Drawbar Levels

These parameters specify the level for each drawbar used by the Upper split. Also, when **Split** is turned **Off**, the Upper drawbars are used for the entire keyboard.

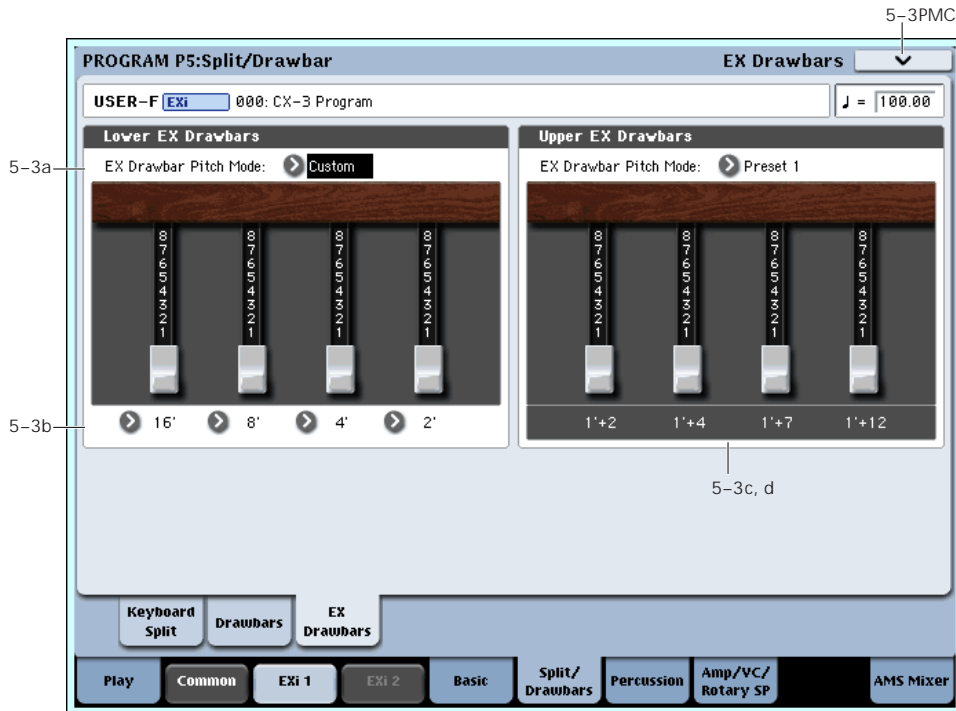
The settings are just the same as for the Lower drawbars. For more details, please see “5-2a: Lower Drawbar Levels,” above.

▼ 5-2: Page Menu Commands

The number before each command shows its ENTER + number-key shortcut. For more information on these shortcuts, see “ENTER + 0-9: shortcuts for menu commands” on page 142.

- 0: **Write Program**. For more information, see “Write Program” on page 142.
- 1: **Exclusive Solo**. For more information, see “Exclusive Solo” on page 142.

5-3: EX Drawbars



When the **Drawbar Mode** is set to **EX**, this adds four extra drawbars to the basic nine, with pitches adjustable in half-step increments between 16’ and two octaves above 1’. You can select from four preset combinations of drawbar pitches, or create your own from scratch.

When the **Drawbar Mode** is set to **Normal**, this section is grayed out.

Wrap-around and EX mode

Any harmonics above F#8 are “wrapped around” so that they will sound one or more octaves lower. Similarly, harmonics below C2 will be wrapped around to sound an octave higher. For more details, see “Wrap-around” on page 224.

In particular, this means that high settings of the EX Drawbar 1-4 Pitch parameters, below, may only be perceptible in the lower octaves of the keyboard.

5-3a: Lower EX Drawbars

These parameters control the individual EX drawbar pitches and volume levels for the Lower split.

EX Drawbar Pitch Mode [Preset 1...4, Custom]

Presets 1-4 are the CX-3’s default Pitch settings for the set of four EX Drawbars. When one of the Presets is selected, the EX Drawbar 1-4 Pitch parameters, below, are grayed out.

Custom lets you specify the pitches for each EX drawbar, using the EX Drawbar 1-4 Pitch parameters.

5-3b: Custom Drawbar Settings

Ex Drawbar 1 Pitch [16’...1’ +24]

This specifies the pitch assigned to EX Drawbar 1. The values are expressed in organ feet and semitones, with single-semitone steps from 16’ to 1’ +24 semitones.

This parameter is only available if the **EX Drawbar Mode** is set to **Custom**. Otherwise, it is grayed out.

Ex Drawbar 1 Level [0...8]

This is the volume for EX Drawbar 1.

0 means that the drawbar will be silent, and 8 is the maximum volume.

Ex Drawbars 2-4 Pitch [16’...1’ +24]

These parameters specify the pitch assigned to EX Drawbars 2-4. For more information, see “Ex Drawbar 1 Pitch,” above.

Ex Drawbars 2-4 Level [0...8]

These parameters specify the volumes of EX Drawbars 2-4. For more information, see “Ex Drawbar 1 Level,” above.

5-3c and 5-3d: Upper EX Drawbars

These parameters control the individual EX drawbar pitches and volume levels for the Upper split. The controls are identical to those for the Lower EX Drawbars, as described above.

▼ 5-3: Page Menu Commands

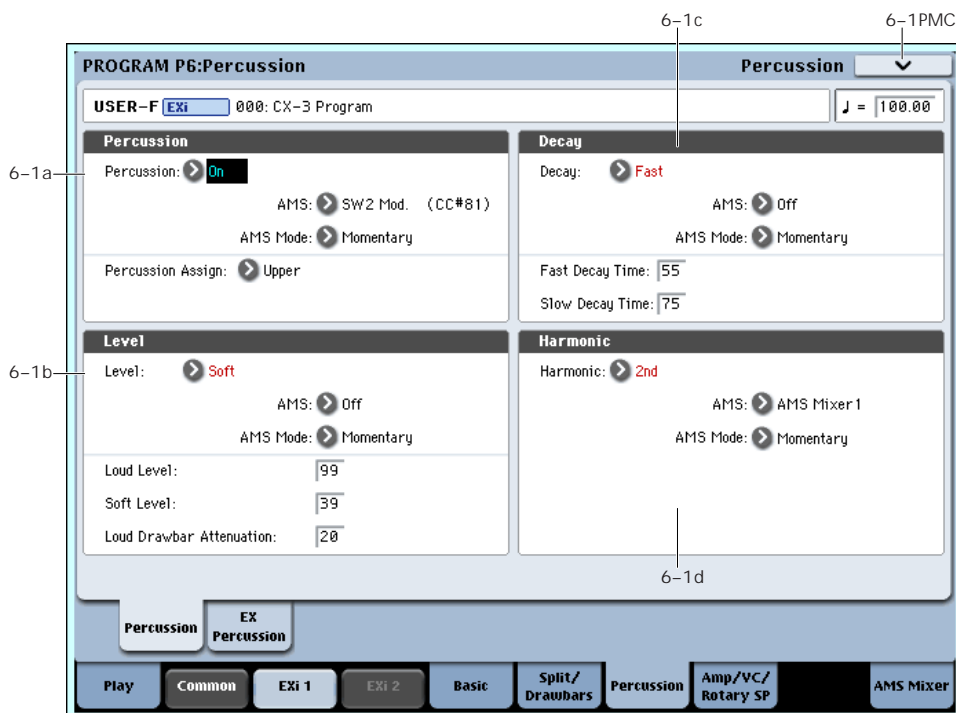
The number before each command shows its ENTER + number-key shortcut. For more information on these shortcuts, see “ENTER + 0-9: shortcuts for menu commands” on page 142.

- 0: **Write Program**. For more information, see “Write Program” on page 142.
- 1: **Exclusive Solo**. For more information, see “Exclusive Solo” on page 142.
- 2: **Copy Drawbars**. For more information, see “Copy Drawbars” on page 238.
- 3: **Swap Drawbars**. For more information, see “Swap Drawbars” on page 238.

Program P6: Percussion

Percussion adds a pitched attack to the notes, for a more crisp, punchy timbre. When you play legato, percussion will only sound for the first note in the phrase.

6-1: Percussion



6-1a: Percussion

Percussion [Off, On]

This toggles the Percussion section on and off.

AMS [List of AMS Sources]

This selects an AMS source to turn the Percussion on or off. For a list of AMS sources, see “Alternate Modulation Source (AMS) List” on page 1021.

AMS Mode [Toggle, Momentary]

This determines the behavior of the Percussion AMS. For details, see “AMS Mode” on page 222.

Percussion Assign [Lower, Upper]

This assigns the percussion to either the lower or upper drawbars. The default is **Upper**. This allows you to play a bass line with percussion.

If **Split** is **Off**, Percussion is automatically assigned to the Upper drawbars.

6-1b: Level

Level [Soft, Loud]

This toggles the Percussion Level between Soft and Loud. The actual volume levels are determined by the **Loud Level** and **Soft Level** parameters, below.

Note that the Percussion Level parameter can also affect the volume of the drawbars, as controlled by the **Loud Drawbar Attenuation** parameter.

AMS [List of AMS Sources]

This selects an AMS source to switch the Percussion Level between Soft and Loud. For a list of AMS sources, see “Alternate Modulation Source (AMS) List” on page 1021.

AMS Mode [Toggle, Momentary]

This determines the behavior of the Level AMS. For details, see “AMS Mode” on page 222.

Loud Level [00...99]

This sets the volume of the percussion when Percussion Level is set to Loud.

Soft Level [00...99]

This sets the volume of the percussion when Percussion Level is set to Soft.

Loud Drawbar Attenuation [00...99]

On traditional tonewheel organs, setting the Level to Loud (or disabling the Soft button) reduces the overall drawbar volume.

To put it another way, setting the Level to Soft makes the drawbars louder.

This parameter controls the difference in drawbar volume between the Soft and Loud Percussion settings.

6-1c: Decay

Decay [Slow, Fast]

This toggles the Percussion Decay time between Slow and Fast. The actual decay times are determined by the **Fast Decay Time** and **Slow Decay Time** parameters, below.

AMS [List of AMS Sources]

This selects an AMS source to switch the Percussion Decay time between Slow and Fast. For a list of AMS sources, see "Alternate Modulation Source (AMS) List" on page 1021.

AMS Mode [Toggle, Momentary]

This determines the behavior of the Decay AMS. For details, see "AMS Mode" on page 222.

Fast Decay Time [00...99]

This sets the decay time when the Decay parameter is set to Fast.

Slow Decay Time [00...99]

This sets the decay time when the Decay parameter is set to Slow.

6-1d: Harmonic

Harmonic [2nd, 3rd]

This selects the pitch of the percussion, in harmonics relative to the 8' drawbar.

2nd produces the same pitch as the 4' drawbar - one octave higher than the 8'.

3rd produces the same pitch as the 2 2/3' drawbar - one octave and a fifth higher than the 8'.

AMS [List of AMS Sources]

This selects an AMS source to switch the Harmonic between 2nd and 3rd. For a list of AMS sources, see "Alternate Modulation Source (AMS) List" on page 1021.

AMS Mode [Toggle, Momentary]

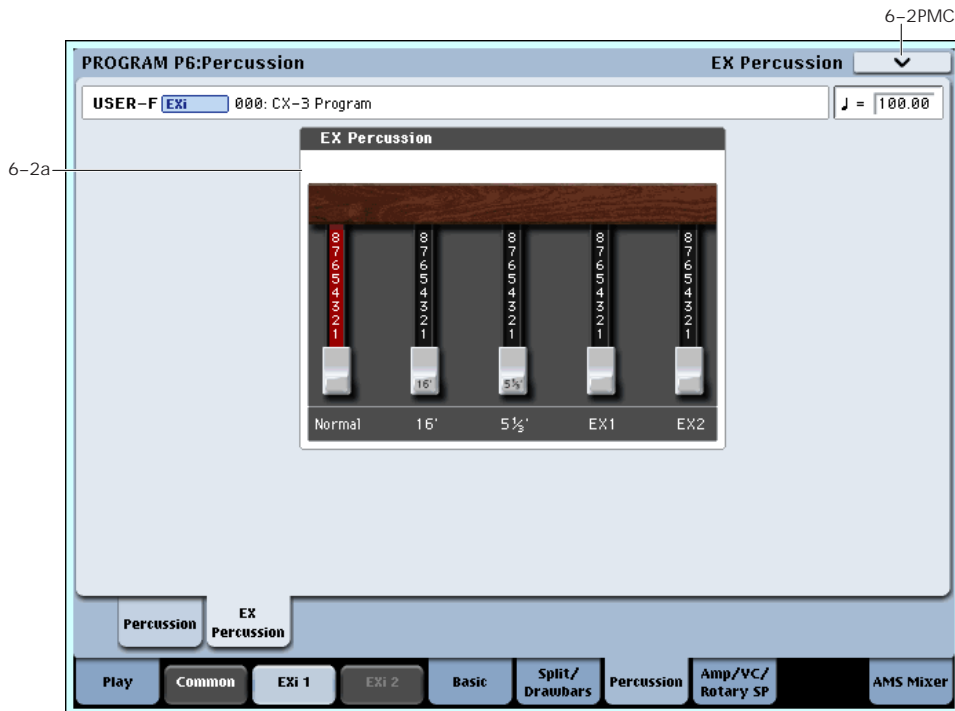
This determines the behavior of the Harmonic AMS. For details, see "AMS Mode" on page 222.

▼ 6-1: Page Menu Commands

The number before each command shows its ENTER + number-key shortcut. For more information on these shortcuts, see "ENTER + 0-9: shortcuts for menu commands" on page 142.

- **0: Write Program.** For more information, see "Write Program" on page 142.
- **1: Exclusive Solo.** For more information, see "Exclusive Solo" on page 142.

6-2: EX Percussion



When the **Drawbar Mode** is set to EX, the Percussion can use a mix of up to five drawbar pitches, instead of just one.

These include 2-2/3' or 4' (depending on the setting of the Percussion Harmonic parameter), 16', 5-1/3', and the pitches of the first two EX drawbars. You can set the levels for each of the five drawbars independently.

This section is grayed out when **Drawbar Mode** is set to **Normal**.

6-2a: EX Percussion

Normal Percussion [0...8]

This sets the volume of the 2nd or 3rd harmonic (2-2/3' or 4' drawbars), depending on the setting of the **Percussion Harmonic** parameter.

16' [0...8]

This sets the volume of the 16' drawbar within the Percussion pulse.

5 1/3' [0...8]

This sets the volume of the 5-1/3' drawbar within the Percussion pulse.

EX Drawbar 1 [0...8]

This sets the volume of EX Drawbar 1 within the Percussion pulse.

EX Drawbar 2 [0...8]

This sets the volume of EX Drawbar 2 within the Percussion pulse.

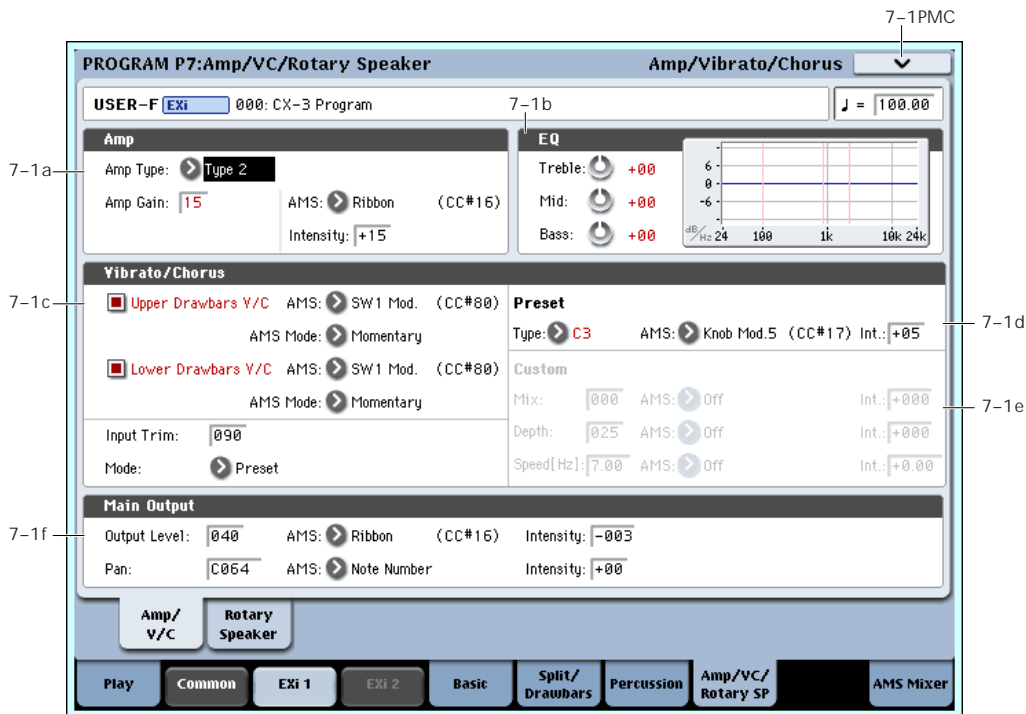
▼ 6-2: Page Menu Commands

The number before each command shows its ENTER + number-key shortcut. For more information on these shortcuts, see "ENTER + 0-9: shortcuts for menu commands" on page 142.

- 0: **Write Program**. For more information, see "Write Program" on page 142.
- 1: **Exclusive Solo**. For more information, see "Exclusive Solo" on page 142.

Program P7: Amp, V/C, Rotary Speaker

7-1: Amp & V/C



7-1a: Amp

Amp Type [Type 1, Type 2, Pre Amp]

This selects the type of amp model.

Type 1 is a standard powered amp for organ, producing a warm, fat tone.

Type 2 emphasizes the high range more than Type 1, producing a less colored tone.

PreAmp is the sound of a direct line-out from the organ.

Amp Gain [00...99]

This adjusts the gain when **Amp Type** is set to **Type 1** or **Type 2**.

Expression also adjusts the drive into the Amp section. With higher **Amp Gain** settings, you'll get more overdrive and distortion as you increase the **Expression** amount. For more information, see "4-2b: Expression," on page 221.

This setting does not apply if the **Amp Type** is set to **PreAmp**.

AMS [List of AMS Sources]

This selects an AMS source to modulate the **Amp Gain**. For a list of AMS sources, see "Alternate Modulation Source (AMS) List" on page 1021.

Intensity [-99...+99]

This controls the depth and direction of the AMS modulation of **Amp Gain**.

7-1b: EQ

Treble [-10...+10]

This adjusts the high frequency range of the amp, as selected by **Amp Type**.

Mid [-10...+10]

This adjusts the mid-frequency range of the amp, as selected by **Amp Type**.

Bass [-10...+10]

This adjusts the low frequency range of the amp, as selected by **Amp Type**.

7-1c: Vibrato/Chorus

Vibrato/Chorus is a traditional organ effect, similar to but not the same as other chorus effects. It adds varying degrees of LFO-driven flutter and richness to the timbre, and combines nicely with the rotary speaker.

In addition to the six traditional presets, the CX-3 allows you to create your own custom settings, which can then be modulated via AMS.

There is a single Vibrato/Chorus effect, and each set of drawbars can either be routed through the effect or go straight on to the rotary speaker and outputs.

Upper Drawbars V/C [Off, On]

This routes the upper drawbars through the Vibrato/Chorus.

AMS [List of AMS Sources]

This selects an AMS source to turn Vibrato/Chorus on or off for the Upper Drawbars.

AMS Mode [Toggle, Momentary]

This determines the behavior of the Vibrato/Chorus AMS for the Upper drawbars. For details, see “AMS Mode” on page 222.

Lower Drawbars V/C [Off, On]

This routes the lower drawbars through the Vibrato/Chorus.

AMS [List of AMS Sources]

This selects an AMS source to turn Vibrato/Chorus on or off for the Upper Drawbars. For a list of AMS sources, see “Alternate Modulation Source (AMS) List” on page 1021.

AMS Mode [Toggle, Momentary]

This determines the behavior of the Vibrato/Chorus AMS for the Upper drawbars. For details, see “AMS Mode” on page 222.

Input Trim [000...100]

This controls the input level to the Vibrato/Chorus. It applies only to the set(s) of drawbars routed through the Vibrato/Chorus, via the V/C On/Off buttons above. You can use this to compensate for volume level differences between the output of the Vibrato/Chorus and the dry signal, so that the volume stays constant when you switch the V/C on or off.

Note that the output volume of the V/C will vary, depending on the selected Preset or the settings of the Custom parameters.

Mode [Preset/Custom]

When **Mode** is set to **Preset**, the Vibrato/Chorus will use the settings under Preset, below. These are the classic V1-3 and C1-3 settings.

When **Mode** is set to **Custom**, the Vibrato/Chorus uses the settings under Custom, below. These allow you to create your own versions of the effect.

7-1d: Preset

These parameters are available only if the **Mode**, above, is set to **Preset**.

Type [V1, C1, V2, C2, V3, C3]

This selects one of the six classic Vibrato/Chorus presets. “V” stands for Vibrato, and “C” stands for Chorus.

AMS [List of AMS Sources]

This selects an AMS source to modulate the **Type**. For a list of AMS sources, see “Alternate Modulation Source (AMS) List” on page 1021.

Intensity [-05...+05]

This controls the depth and direction of the AMS modulation for the **Type**.

7-1e: Custom

These parameters are available only if the **Mode**, above, is set to **Custom**.

Mix [0...100]

This adjusts the balance between the Vibrato and Chorus effects. 0 is all Vibrato; 100 is all Chorus.

AMS [List of AMS Sources]

This selects an AMS source to modulate the **Mix**. For a list of AMS sources, see “Alternate Modulation Source (AMS) List” on page 1021.

Intensity [-100...+100]

This controls the depth and direction of the AMS modulation for **Mix**.

Depth [0...100]

This sets the depth of Vibrato/Chorus modulation. Higher values mean greater pitch and volume modulation.

AMS [List of AMS Sources]

This selects an AMS source to modulate the **Depth**. For a list of AMS sources, see “Alternate Modulation Source (AMS) List” on page 1021.

Intensity [-100...+100]

This controls the depth and direction of the AMS modulation for **Depth**.

Speed [0.2Hz...20Hz]

This controls the speed of the Vibrato/Chorus LFO. 0 is 0.02Hz; 230 is 20 Hz; and 180 is 7Hz. Try around 179 for the magic C3 frequency.

AMS [List of AMS Sources]

This selects an AMS source to modulate the **Speed**. For a list of AMS sources, see “Alternate Modulation Source (AMS) List” on page 1021.

Intensity [-20Hz...0Hz...+20Hz]

This controls the depth and direction of the AMS modulation for **Speed**.

7-1f: Main Output

Output Level [000...127]

This controls the overall output level, after the Amp section and the Expression controls. In other words, this affects only the volume of the sound, and not the tonal character.

AMS [List of AMS Sources]

This selects an AMS source to modulate the **Output Level**. For a list of AMS sources, see “Alternate Modulation Source (AMS) List” on page 1021.

Intensity [-127...+127]

This controls the depth and direction of the AMS modulation for **Output Level**.

Pan [Random, L001...C064...R127]

This controls the stereo pan of the organ. A setting of **L001** places the sound at the far left, **C064** in the center, and **R127** to the far right.

When this is set to **Random**, the Pan position will change at each note-on. Note that all notes of the CX-3 share the same Pan value, and will move together to the new position.

You can also set the Pan directly from the Control Surface knobs. To do so:

1. Press the Control Surface Timbre/Track button.
2. Set the MIXER KNOBS switch to INDIVIDUAL PAN.
3. Move Knob 1 to set the pan for EXi 1, and Knob 2 to set the pan for EXi 2.

MIDI You can also control pan via MIDI Pan (CC#10). A CC#10 value of 0 or 1 places the sound at the far left, 64 places the sound at the location specified by the **Pan** parameter, and 127 places the sound at the far right.

Note: you can select Random pan only from the on-screen UI, and not from MIDI or the Control surface.

AMS [List of AMS Sources]

This selects an AMS source to modulate Pan. Note that all notes of the organ share the same Pan value. For a list of AMS sources, see “Alternate Modulation Source (AMS) List” on page 1021.

Intensity [-99...+99]

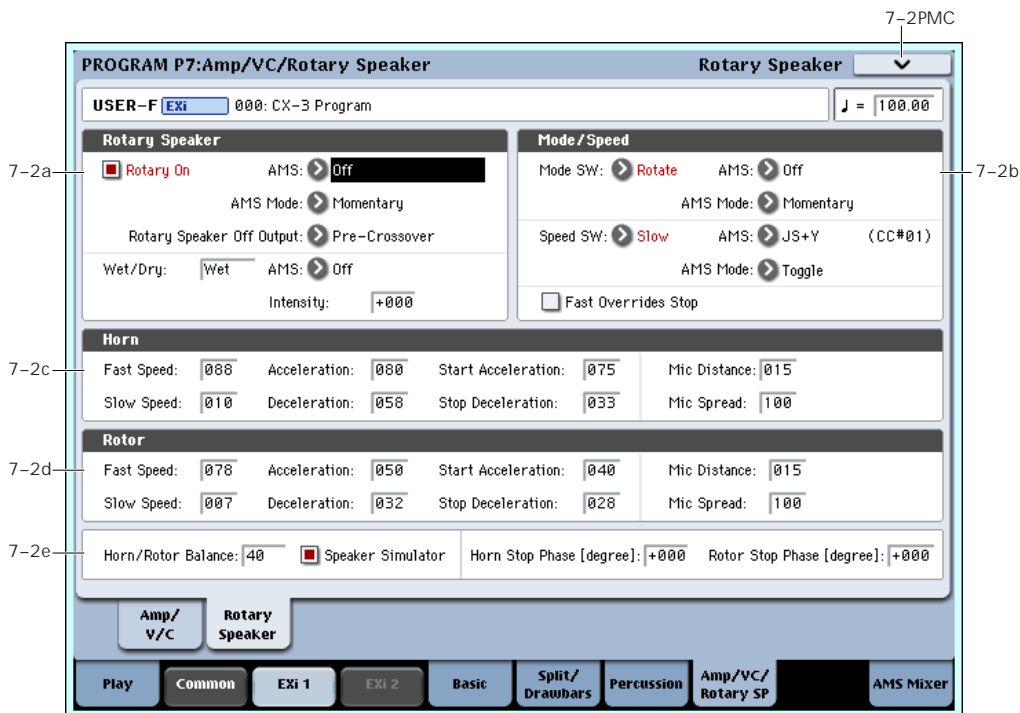
This controls the depth and direction of the AMS modulation for Pan.

▼ **7-1: Page Menu Commands**

The number before each command shows its ENTER + number-key shortcut. For more information on these shortcuts, see “ENTER + 0-9: shortcuts for menu commands” on page 142.

- **0: Write Program.** For more information, see “Write Program” on page 142.
- **1: Exclusive Solo.** For more information, see “Exclusive Solo” on page 142.

7-2: Rotary Speaker



7-2a: Rotary Speaker

Rotary On [Off, On]

This enables and disables the Rotary Speaker. It's different from simply stopping the rotation (which you can do with the **Mode** parameter, below); instead, this is like unplugging the organ from the rotary speaker entirely.

When the Rotary Speaker is turned off, the tone is determined by the **Rotary Speaker Off Output** parameter, below.

AMS [List of AMS Sources]

This selects an AMS source to turn the Rotary Speaker on or off.

AMS Mode [Momentary, Toggle]

This determines the behavior of the Rotary Speaker on/off AMS. For details, see “AMS Mode” on page 222.

Rotary Speaker Off Output [Pre-Crossover, Post-Crossover]

This determines the sound when the Rotary Speaker is turned Off, above. It also determines the “dry” signal in the Wet/Dry mix, as described on page 233.

Post-Crossover is the default, and matches the CX-3. With this setting, the speaker simulator and speaker crossover will still be active, even when the Rotary Speaker is disabled. Use this if you like the CX-3 sound, and are *not* sending the organ through a separate Rotary Speaker in the Insert Effects.

Pre-Crossover yields a tone without the effects of the speaker simulator and crossovers. Use this setting if you’ll be sending the organ through a separate Rotary Speaker in the Insert Effects.

Wet/Dry [Dry, 1:99...99:1, Wet]

This adjusts the balance between the dry signal coming into the Rotary Speaker and the output of the effect.

The “dry” signal is either the pre-crossover or post-crossover input, as selected by the **Rotary Speaker Off Output** parameter described on page 233.

AMS [List of AMS Sources]

This selects an AMS source to modulate the Wet/Dry mix. For a list of AMS sources, see “Alternate Modulation Source (AMS) List” on page 1021.

Intensity [-100...+100]

This controls the depth and direction of the Wet/Dry AMS modulation.

7-2b: Mode/Speed

Mode

Mode Switch [Rotate, Stop]

This lets you stop the motion of the Rotary Speaker. Even when stopped, the speaker will still affect the timbre.

The horn and rotor can each take different amounts of time to start and stop their rotation. For more information, see the **Start Acceleration** and **Stop Deceleration** parameters on page 233.

AMS [List of AMS Sources]

This selects an AMS source to start and stop the Rotary Speaker.

AMS Mode [Momentary, Toggle]

This determines the behavior of the Mode switch AMS. For details, see “AMS Mode” on page 222.

Speed

Speed Switch [Fast/Slow]

The Rotary Speaker has two basic speeds, and this allows you to switch between the two. You can set the speeds of the horn and rotor sections separately for both the Fast and Slow settings, as well as the time that it takes them to speed up and slow down. For more information, see the **Horn** and **Rotor** sections below, on page 233.

AMS [List of AMS Sources]

This selects an AMS source to switch between the Slow and Fast speeds.

AMS Mode [Toggle, Momentary]

This determines the behavior of the Speed switch AMS. For details, see “AMS Mode” on page 222.

Fast Overrides Stop [Off, On]

When this is enabled, switching the **Speed** to **Fast** via AMS will always push the Rotary Speaker into Fast mode - even if it had previously been stopped. Switching the **Speed** back to **Slow** will stop it again.

When Fast Overrides Stop is disabled, if the speaker is stopped, it will stay stopped regardless of Speed AMS.

7-2c: Horn

The Horn carries the high frequencies of the Rotary Speaker. You can independently control the Slow and Fast speeds of the horn, as well as the time it takes to speed up or slow down. You also have separate control over the amount of time that the horn takes to stop rotating entirely, and the time that it takes to resume rotation after being stopped.

Fast Speed [000...100]

This specifies the speed of the Horn when the **Speed Switch** is set to **Fast**.

Slow Speed [000...100]

This specifies the speed of the Horn when the **Speed Switch** is set to **Slow**.

Acceleration [000...100]

This sets how long it takes the Horn to change from the **Slow** speed to the **Fast** speed.

Deceleration [000...100]

This sets how long it takes the Horn to change from the **Fast** speed to the **Slow** speed.

Start Acceleration [000...100]

This sets how long it takes the Horn to come up to speed after the **Mode Switch** has changed from **Stop** to **Rotate**.

Stop Deceleration [000...100]

This sets how long it takes the horn to come to rest after the **Mode Switch** has changed from **Rotate** to **Stop**.

Mic

The Rotary Speaker model includes two pairs of stereo mics - one pair for the Horn, and the other for the Rotor.

Horn Mic Distance [000...100]

This adjusts the distance between the Horn and its microphones. Lower values bring the mics closer to the speaker.

Horn Mic Spread [000...100]

This adjusts the distance between the two Horn microphones, to widen the stereo field. Higher values increase the stereo effect.

7-2d: Rotor

The rotor carries the low frequencies of the Rotary Speaker. Its parameters are identical to those of the Horn, above.

Fast Speed [000...100]

This specifies the speed of the Rotor when the **Speed Switch** is set to **Fast**.

Slow Speed [000...100]

This specifies the speed of the Rotor when the **Speed Switch** is set to **Slow**.

Acceleration [000...100]

This sets how long it takes the Rotor to change from the **Slow** speed to the **Fast** speed.

Deceleration [000...100]

This sets how long it takes the Rotor to change from the **Fast** speed to the **Slow** speed.

Start Acceleration [000...100]

This sets how long it takes the Rotor to come up to speed after the **Mode Switch** has changed from **Stop** to **Rotate**.

Stop Deceleration [000...100]

Specifies the time it will take for the Rotor to actually come to rest after rotation is switched off.

This sets how long it takes the Rotor to come rest after the **Mode Switch** has changed from **Rotate** to **Stop**.

Mic

The Rotary Speaker model includes two pairs of stereo mics - one pair for the Rotor, and the other for the Horn.

Rotor Mic Distance [000...100]

This adjusts the distance between the Rotor and its microphones. Lower values bring the mics closer to the speaker.

Rotor Mic Spread [000...100]

This adjusts the distance between the two Rotor microphones, to widen the stereo field. Higher values increase the stereo effect.

7-2e: Horn/Rotor**Horn/Rotor Balance** [Rotor, 1...99, Horn]

This sets the output balance between the high frequencies of the Horn and the low frequencies of the Rotor.

Speaker Simulator [Off, On]

This enables and disables modeling of the speaker tone. Note that if the **Rotary Speaker Off Output** is set to **Pre-Crossover**, the speaker simulation will also be left out of the dry signal.

Horn Stop Phase [Free, -180...+180]

When the **Mode Switch** is set to **Stop**, the Horn gradually comes to rest pointing one way or another. This allows you to control where it will stop.

Free lets it come to rest naturally, at a more or less random spot. The other settings, **-180** to **+180**, let you force it to land in a specific position.

The speaker position has a dramatic effect on the tone, so specifying a fixed position allows you to achieve consistent timbral results.

Rotor Stop Phase [Free, -180...+180]

This determines where the Rotor will land when the **Mode Switch** is set to **Stop**. For more details, see "Horn Stop Phase," above.

▼ 7-2: Page Menu Commands

The number before each command shows its ENTER + number-key shortcut. For more information on these shortcuts, see "ENTER + 0-9: shortcuts for menu commands" on page 142.

- 0: **Write Program**. For more information, see "Write Program" on page 142.
- 1: **Exclusive Solo**. For more information, see "Exclusive Solo" on page 142.

Program P9: AMS Mixer

The AMS Mixers combine two AMS sources into one, or process an AMS source to make it into something new.

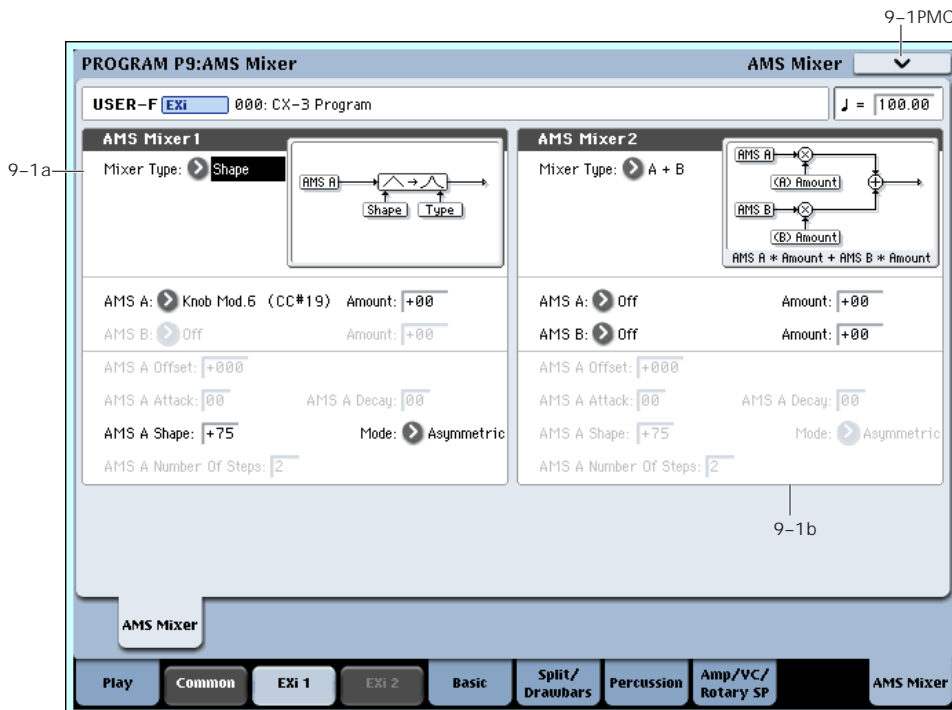
For instance, they can add two AMS sources together, or use one AMS source to scale the amount of another. You can also use them to modify the response of realtime controllers.

The AMS Mixer outputs appear in the list of AMS sources, just like other controllers.

This also means that the original, unmodified inputs to the AMS Mixers are still available as well. For instance, if you use Aftertouch as an input to a AMS Mixer, you can use the processed version of the Aftertouch to control one AMS destination, and the original version to control another.

Finally, you can cascade the two AMS Mixers together, by using AMS Mixer 1 as an input to AMS Mixer 2.

9-1: AMS Mixer



9-1a: AMS Mixer 1 AMSource

Mixer Type [A+B, Amt Ax B, Offset, Smoothing, Shape, Quantize]

This controls the type of processing performed by AMS Mixer 1.

A+B adds two AMS sources together. For more information, see “A+B” on page 91.

Amt Ax B scales the amount of one AMS source with the other. See “Amt A x B” on page 91 for more details.

Offset adds or subtracts a constant value to or from an AMS source. For more information, see “Offset” on page 92.

Smoothing creates more gentle transitions between values, smoothing out abrupt changes such as a quick move on a joystick or a sharp edge on an LFO. For details, see “Smoothing” on page 93.

Shape adds curvature to the AMS input. For an in-depth description, see “Shape” on page 93.

Quantize turns smooth transitions into discrete steps. See “Quantize” on page 94 for more information.

Gate chooses between two AMS inputs (or fixed values) based on a third AMS source. See “Gate” on page 95 for more information.

9-1b: AMS Mixer 2 AMSource

This is the second AMS Mixer. Its parameters are exactly the same as those of AMS Mixer 1, above.

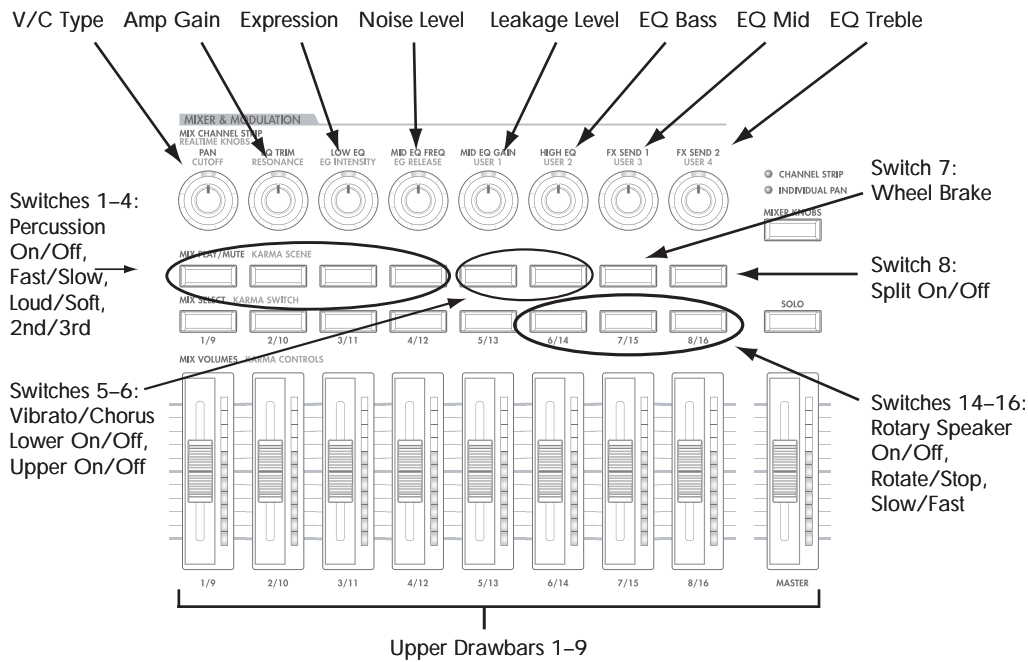
▼ 9-1: Page Menu Commands

The number before each command shows its ENTER + number-key shortcut. For more information on these shortcuts, see “ENTER + 0-9: shortcuts for menu commands” on page 142.

- 0: **Write Program**. For more information, see “Write Program” on page 142.
- 1: **Exclusive Solo**. For more information, see “Exclusive Solo” on page 142.

CX-3: Tone Adjust

CX-3 Tone Adjust Default Settings



Tone Adjust provides an elegant physical interface to the CX-3's parameters. Most of the factory sounds use the default layout, as shown above.

You can also customize the layout for individual sounds, if desired. For instance, most of the factory sounds use the sliders for the upper drawbars; if you like, you can re-assign them to the lower drawbars instead.

For more information about Tone Adjust, please see "0-9f: Tone Adjust," on page 26.

CX-3 Tone Adjust parameters

The CX-3 is substantially different from other EXi instruments, so it does not support the Common Tone Adjust parameters. Instead, it adds a number of its own, unique parameters, as described below.

All of these parameter are absolute, which means that they over-write the stored parameter values.

Note that these controls are separate for each EXi, as opposed to being shared by both EXi in the Program.

Drawbars

- Upper Drawbars 1-9
- Lower Drawbars 1-9
- Upper EX Drawbars 1-4
- Lower EX Drawbars 1-4
- Noise level
- Leakage level
- Wheel Brake
- Overtone Level
- Key-On Click Level

Percussion

- Percussion On/Off
- Level Soft/Loud
- Decay Slow/Fast
- Harmonic 2nd/3rd
- EX Percussion levels 1-5

Vibrato/Chorus

- Vibrato/Chorus Type
- Upper Drawbars V/C On/Off
- Lower Drawbars V/C On/Off

Expression

- Expression Level

Amp

- Amp Gain
- EQ Bass
- EQ Mid
- EQ Treble

Split

- Split On/Off

Rotary Speaker

- On/Off
- Rotate/Stop
- Slow/Fast

Changes from the original CX-3

With the OASYS CX-3, Korg has taken the original, ground-breaking CX-3 model and made it even better. If you'd like to convert sounds from the original CX-3, the following notes describe these changes in detail.

Noise Level range improved

The Noise Level parameter now offers more fine control over the most useful range of values. When converting CX-3 voicing, multiply the CX-3 Noise Level by 10.

EX Mode enhanced

On the original CX-3, there were four global settings for the EX Mode drawbar frequencies. The OASYS CX-3 offers four global presets, which match the factory defaults of the original CX-3, and then also allows you to set different frequencies for each Program if desired.

The range of the EX drawbar pitches has also been extended to go all the way down to 16', in semitone steps.

Finally, the CX-3 supports keyboard splits with full EX drawbars on both upper and lower sides of the split.

Split Transpose increased

You can now transpose both sides of the split up or down by up to two octaves, for more flexible zoning on 76- and 88-key instruments.

Expression parameters per-Program

The expression-related parameters can be set separately for each Program.

Percussion for either lower or upper drawbars

The percussion can be assigned to either the lower or upper drawbars, instead of just the upper drawbars. This allows you to play a bass line with percussion, as in ELP's "Tarkus."

Percussion parameters changed to absolute values

Instead of relative offsets, you can directly set the values for Percussion Slow and Fast Decay, and Percussion Loud and Soft.

Vibrato Chorus custom mode added

In addition to the six traditional presets, you can create your own custom settings, which can then be modulated via AMS.

Rotary Speaker Mic Modeling

For consistency with the rest of the OASYS, the value ranges of the mic modeling parameters have been changed slightly. On the CX-3, they are 0-99; in the CX-3, they are 0-100.

Additionally, the parameter ranges of the Horn and Rotor Mic Distance parameters are reversed. To convert these parameters from the CX-3, subtract the CX-3 value from 100:

$CX-3 \text{ Mic Distance} = 100 - (CX-3 \text{ Mic distance})$

Rotary Speaker Horn speeds improved

The maximum speed of the Horn has been increased to about twice that of the CX-3; the minimum speed is still the same. To convert settings from the CX-3, use the following formula:

$CX-3 \text{ speed} = (CX-3 \text{ speed} \times 0.48484848) + 52$

In other words, the CX-3 value range of 0...99 is equivalent to the CX-3 range of 52...100, with the new 0...51 all being faster than the original CX-3.

Rotary Speaker Acceleration and Deceleration

The Rotary Speaker Acceleration/Deceleration parameters were named "Transit" on the CX-3. Their ranges are also reversed from the CX-3, in order to be consistent with the rest of the OASYS system: 0=slow, and 100=fast.

Rotary Speaker Stop Phase added

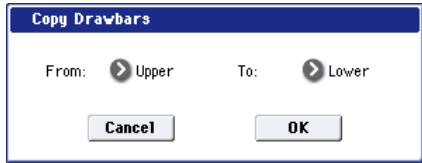
You can now set the phase at which the Horn and Rotor will settle when the Rotary Speaker stops.

CX-3: Page Menu Commands

Copy Drawbars

This copies drawbar or EX drawbar settings within the CX-3 oscillator.

1. Select "Copy Drawbars" to access the dialog box.

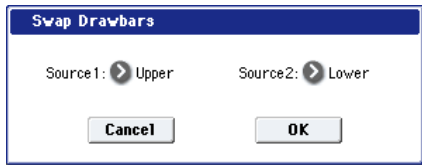


2. Use the "From" field to specify the copy-source drawbars.
3. Use the "To" field to specify the copy-destination drawbars.
4. Press the OK button to execute the Copy Drawbars operation. If you decide to cancel, press the Cancel button.

Swap Drawbars

This exchanges drawbar or EX drawbar settings within the CX-3 oscillator.

1. Select "Swap Drawbars" to access the dialog box.



2. Use the "Source1" and "Source2" fields to specify the two sets of drawbars you want to exchange.
3. Press the OK button to execute the Swap Drawbars operation. If you decide to cancel, press the Cancel button.

EXi: STR-1 Plucked String

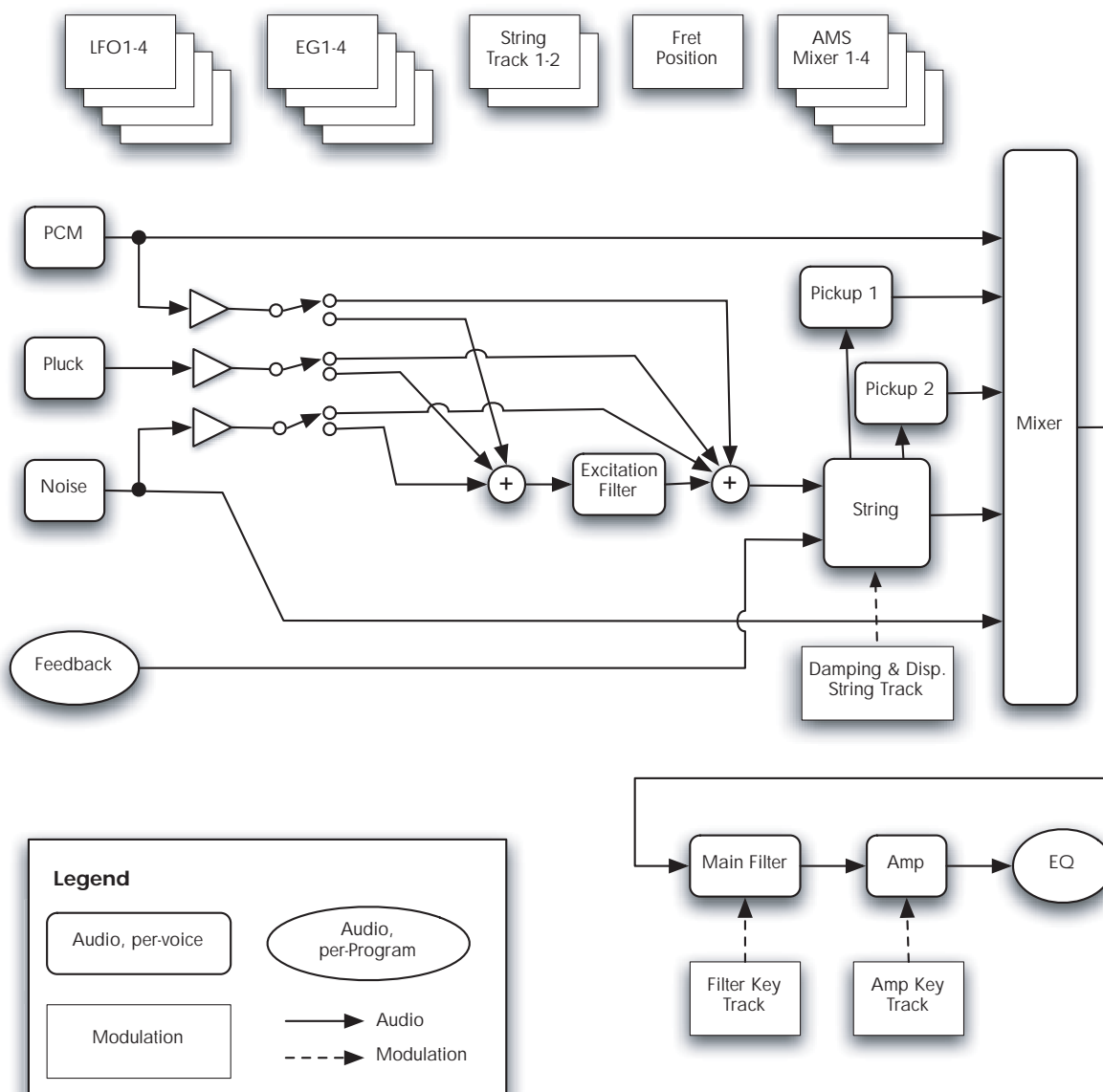
STR-1 Overview

The STR-1 Plucked String offers a comprehensive and sophisticated set of physical modeling synthesis tools, capable of creating both traditional sounds (acoustic and electric guitars and basses, clavinet and harpsichords, harps, bells, electric pianos, ethnic instruments, etc.) and unique, experimental timbres.

Some of the feature highlights include:

- Physically modeled string, including damping, decay, dispersion, nonlinearity, and harmonics
- String excitation via a selection of “pluck” types, a noise generator with saturation and dedicated filter, and any mono ROM, EXs, or RAM samples (using Korg’s ultra-low-aliasing PCM oscillator, as first introduced in the HD-1)
- Dual multi-mode resonant filters (including Korg’s Multi Filter, as first introduced in the AL-1), plus an additional multi-mode resonant filter dedicated to the string excitation
- Live audio input, including modeled feedback
- Up to 48-voice polyphony
- Four per-voice LFOs, five re-triggerable EGs, two key tracking generators, a string tracking generator, and four AMS mixers
- Access to all standard EXi Program features, including the Common LFO, Common Step Sequencer, Key Track 1 & 2, KARMA, EQ, and effects—as well as layering with any other EXi (including using two STR-1s together!)

STR-1 Overview



STR-1 uses EXi fixed resources

The STR-1 uses EXi fixed resources for its modeled feedback. This uses up a small amount of processing power, even if you're not playing any notes.

Because of this, you can use only sixteen STR-1s simultaneously in a Combination or Song. If other EXis with fixed resources are in use, the maximum number of STR-1s will be reduced accordingly. Each EXi in each Program counts towards the maximum; for instance, a Program with two STR-1s counts as two, not as one.

For more information, see "CX-3 & STR-1: Limitations on EXi fixed resources" on page 382.

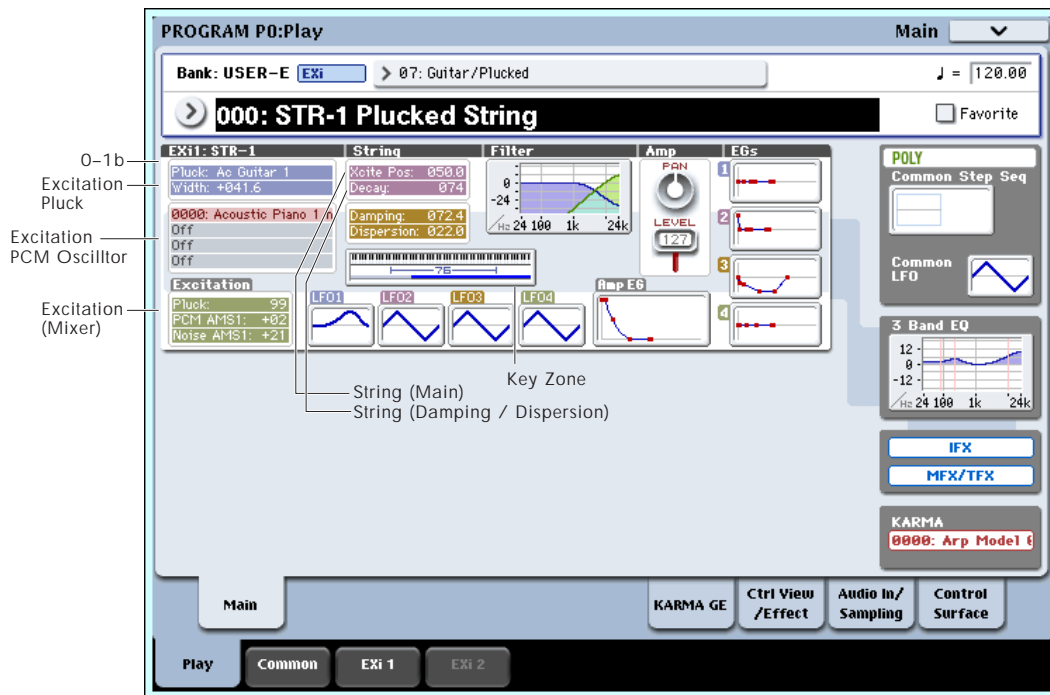
Unsupported EXi Common parameters

The STR-1 supports all of the EXi Common parameters, except for two of the voice allocation options: **Poly Legato** and **Mono Mode** (Normal/Use Legato Offset).

All of the other voice allocation options are fully supported, including Mono, Mono Legato, Unison, etc.

EXi Program P0: Play

0-1: Main



This is the main page of Program mode. For a full description of this page and all of its functions, please see “EXi Program P0: Play” on page 159. This section describes only the overview display, which differs for each individual EXi.

0-1b: Overview and Page Jump

This part of the page shows an overview of the most important settings for the Program’s two EXi instruments. The specific parameters will vary, depending on which EXi are being used. The specific parameters for the STR-1 are described below.

The graphics give you a quick way to check all of these settings at a glance. They also let you jump instantly to any of the displayed parameters. Just touch one of the sections, and you’ll jump to the page containing its parameters. For instance, if you touch the Filter EG graphic, you’ll go to the Filter EG page.

Tip: Pressing EXIT several times will always bring you back to this page.

Excitation

Pluck

This area shows the selected **Pluck Type** and **Width**.

Touch this area to jump to the 4-1 Pluck and Noise page.

PCM Oscillator

This area shows the four Multisamples selected for the PCM Oscillator. Colors are used to distinguish between the various possibilities, as detailed below.

- Red: ROM Multisamples
- Green: RAM Multisamples
- Grey: Off

Touch this area to jump to the 4-2 PCM Oscillator page.

Excitation (Mixer)

This shows the excitation **Level** for the Pluck, and the **AMS1 Intensities** for the Noise Generator and PCM Oscillator (since these levels will often be controlled completely via AMS).

Touch this area to jump to the 4-4 Excitation Mixer page.

String

String Main

This shows the **Excitation Position** and **Decay** settings for the string.

Touch this area to jump to the 4-5 String Main page.

Damping and Dispersion

This shows the **Damping** and **Dispersion** settings for the string.

Touch this area to jump to the 4-6 Damping and Dispersion page.

Output

Filter

This shows a graphic representation of the filter frequency response, including cutoff and resonance.

Press this area to jump to the 5–1 Filter Basic page.

Amp

This shows the Amp section's **Pan** and **Amp Level** values.

Press this area to jump to the 6–1 Amp page.

EGs and LFOs

EG 1...4, Amp EG Graphics

These show the shapes of the five EGs. Touch any of them to jump directly to the corresponding edit page.

LFO 1, 2, 3, 4 Graphic

These show the waveforms and shapes of the four LFOs. Touch any of them to jump directly to the corresponding edit page.

Key Zone

Key Zone

This shows the key zones for EXi1 and EXi2, as set on the Common section's Program Basic page, in relation to the entire MIDI note range. The range of the 76-note or 88-note keyboard is also shown, as appropriate.

Press this area to jump to the Program Basic page.

Common

The graphics along the right side of the screen show the most important Common parameters, which are shared by both EXi in the Program. This section will always show the same parameters, regardless of which EXi are being used.

Common Voice Assign Mode

This shows the voice assign mode of the Program—either POLY or MONO.

Press this area to jump to the Program Basic page.

Common Step Sequencer

This shows a graphic overview of the Common Step Sequencer.

Press this area to jump to the Common Step Sequencer page.

Common LFO Graphic

This shows the waveform of the Common LFO.

Press this area to jump to the Common LFO page.

3 Band EQ Graphic

This shows the mid-sweepable 3-band EQ.

Press this area to jump to the EQ page.

IFX, MFX/TFX

Press the IFX area to jump to the IFX Routing page.

Press the MFX/TFX area to jump to the MFX Routing page.

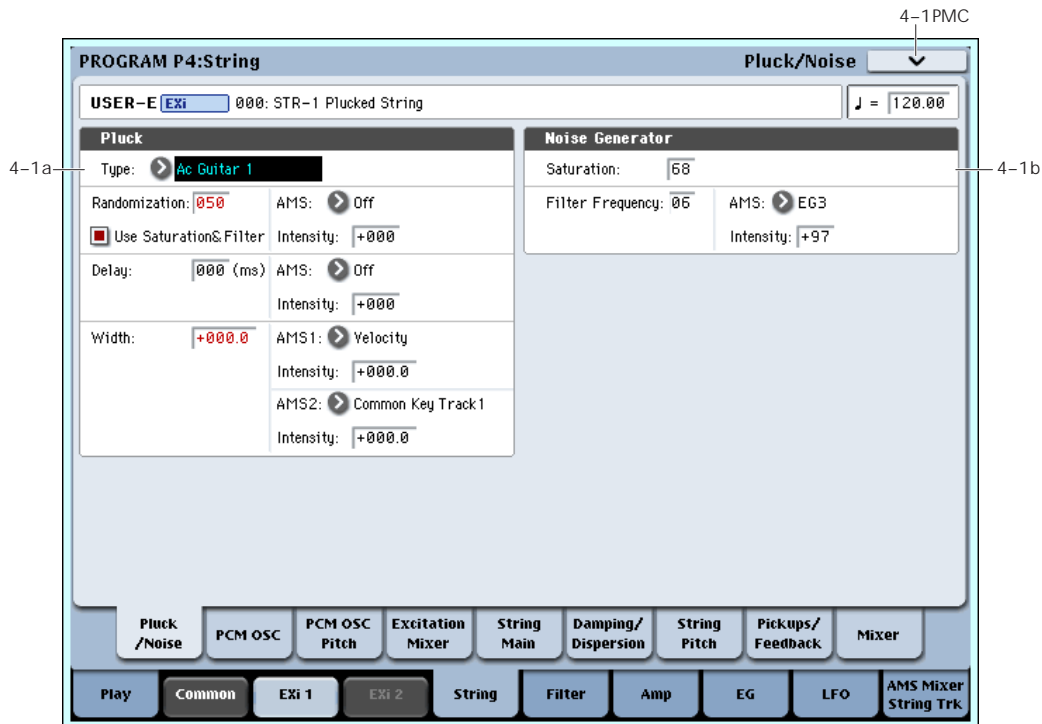
KARMA GE Name

This shows the name of the selected KARMA GE.

Press this area to jump to the GE Setup/Key Zones page.

Program P4: String

4-1: Pluck and Noise



4-1a: Pluck

Type [Ac Guitar 1...Harpisichord]

This selection models different types of plucking actions, including picks and finger-plucking. The pluck type sets the basic tone of the plucked string.

You can also “pluck” the string using the Noise Generator, as well as PCM samples. You can even combine all three types of excitation together, to create specific tones.

Ac Guitar 1. This type is a little unusual, in that it includes the “pluck position” in the pluck sound itself. Because of this, it’s probably best to set the **Excitation Position Tone** to 0, so that the **Excitation Position** itself has no effect. (For more information, see “Tone” on page 253.)

Ac Guitar 2. This is similar to A. Guitar 1, but does not include the “pluck position” in the sound. As with most of the other types, it will generally work better with **Excitation Position Tone** set to -100.

Dark E. Guitar, Bright E. Guitar, Resonant E. Guitar, Dark Jazz Guitar, Bright Jazz Guitar, Brighter Jazz Guitar. With all of the E. Guitar and Jazz Guitar pluck types, set the **Excitation Position** between 5 and 35.

Square Pluck. With randomization turned up, this sounds like bright clav or harpsichord.

Midrange Pluck. This is similar to Square Pluck, but with more midrange harmonics.

Smooth Pulse. This has very few harmonics, for a mellow and full tone.

Resonant Pulse. This is similar to Smooth Pulse, but brighter and more resonant.

Dark Clav, Midrange Clav, Bright Clav. These offer variations on clavinet sounds.

Harpisichord. This type includes small amount of noise before the main pluck.

Randomization [0...100]

This adds a small amount of variation to each strike of the pluck, by adding in a small amount of the Noise Generator’s output. The tone of the randomization is affected by the **Use Saturation & Filter** parameter, below.

Use Saturation & Filter [Off, On]

This controls whether or not **Randomization**, above, is affected by the Noise Generator’s **Saturation** and **Filter Frequency** parameters.

To use simple white noise for the **Randomization**, which will generally yield the brightest pluck timbre, turn this **Off** (un-checked).

AMS [List of AMS Sources]

This selects a modulation source to control the **Randomization**. For a list of AMS sources, see “Alternate Modulation Source (AMS) List” on page 1021.

Intensity [-100...+100]

This controls the depth and direction of the **Randomization** AMS modulation.

Delay (milliseconds) [0...250]

You can delay the Pluck by up to 250ms after the initial note-on. This lets you create double-strike effects and complex attacks. For instance, try using an envelope with a slow attack time to control the volume or filter cutoff of the PCM Oscillator or Noise Generator, and then combining this with a delayed Pluck.

AMS [List of AMS Sources]

This selects a modulation source to control the **Delay**. For a list of AMS sources, see “Alternate Modulation Source (AMS) List” on page 1021.

Intensity [-250...+250]

This controls the depth and direction of the **Delay** AMS modulation.

Width [-100.0...+100.0]

This models the time that the pick is in contact with the string, which is a combination of the size and thickness of the pick, and the speed at which the pick is moving.

The width adjusts the tone of the initial string excitation; low settings emphasize lower frequencies, and high settings emphasize high frequencies.

To put it another way, **-100.0** is very “wide,” and **+100.0** is very narrow.

Low or negative width settings may cause thumpiness at the high end of the keyboard, but this can be solved using a number of different techniques. For more information, see “Tips for avoiding “thumpy” excitation,” below.

AMS 1 [List of AMS Sources]

This selects the first modulation source to control the **Width**. For a list of AMS sources, see “Alternate Modulation Source (AMS) List” on page 1021.

Intensity [-100.0...+100.0]

This controls the depth and direction of the **Width** AMS modulation.

AMS 2 [List of AMS Sources]

This selects the second modulation source to control the **Width**. For a list of AMS sources, see “Alternate Modulation Source (AMS) List” on page 1021.

Intensity [-100.0...+100.0]

This controls the depth and direction of the second **Width** AMS modulation.

Tips for avoiding “thumpy” excitation

To avoid low-end “thumps” at the top end of the keyboard:

- Make sure the duration of the excitation input is about the same as one period of the waveform. To do this when using the Pluck as the excitation, you’ll probably need to use note number or Key Tracking to scale the **Pluck Width** so that it gets more narrow (higher values) as you play higher on the keyboard.
- Similarly, when using the PCM oscillator or noise generator as the excitation, use an EG to control the level at the Excitation mixer (or the cutoff of the Excitation Filter), and then scale the EG times so

that they become shorter as you play higher on the keyboard.

- Try setting the **Excitation Position Tone** to **-100**.
- In the main mixer, use the pickups instead of the direct string output.
- Set the **Excitation Filter Type** to **Highpass**, and track its cutoff frequency with Note Number.
- Set the main **Filter Type** to **Highpass**, and track its cutoff frequency with Note Number. If you are using Filter A as a lowpass filter, set the **Routing** to **Serial** and then make Filter B the highpass filter.

4-1b: Noise Generator

The noise generator includes **Saturation**, for creating unique and chaotic noise effects, and a dedicated 1-pole filter to control noise color.

For standard white noise, set the **Saturation** to **0**, and the **Filter Frequency** to **99**.

For colored noise (such as pink noise), set the **Saturation** to **0**, and reduce the **Filter Frequency** as desired.

To create “speckled noise” such as rocket sounds and thunder, set **Saturation** to **99**, and **Filter Frequency** to **10**.

To create key contact noise (such as you might find on vintage analog synths), create speckled noise as described above, and then use a fast EG to control its volume in the mixer.

Saturation [0...100]

This control clips the noise signal, for added crunch. Subtle variations in saturation are more noticeable with very low **Filter Frequency** settings (see below), allowing you to create organic, rumbling timbres.

Filter Frequency [0...100]

This is a simple, 1-pole lowpass filter for controlling the “color” of the noise.

AMS [List of AMS Sources]

This selects the first modulation source to control the noise generator’s **Filter Frequency**. For a list of AMS sources, see “Alternate Modulation Source (AMS) List” on page 1021.

Intensity [-100...+100]

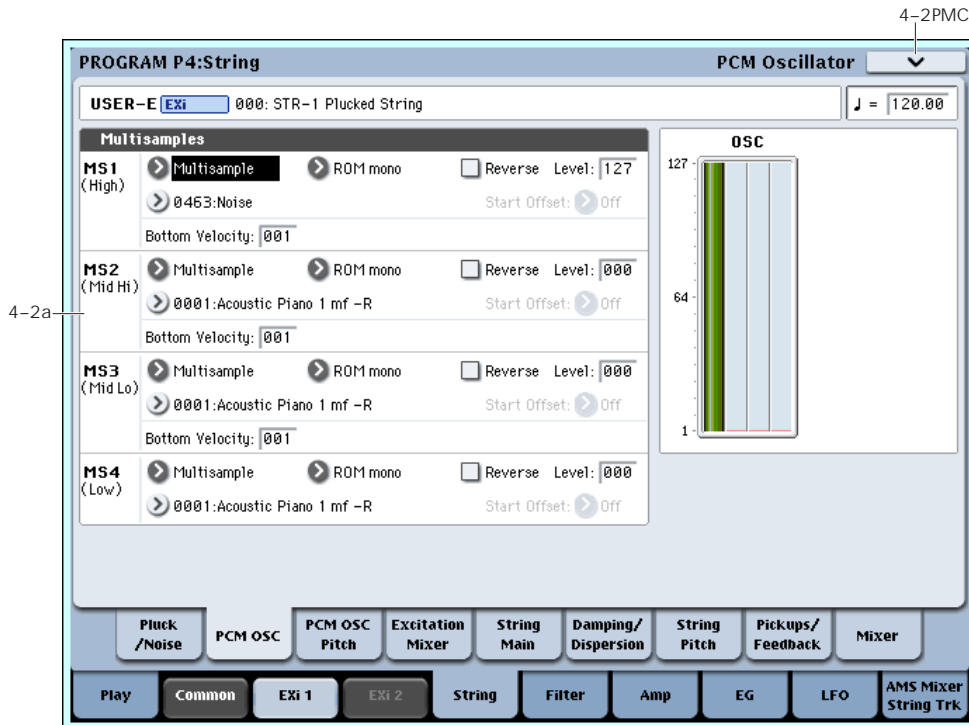
This controls the depth and direction of the **Filter Frequency** AMS modulation.

▼ 4-1: Page Menu Commands

The number before each command shows its ENTER + number-key shortcut. For more information on these shortcuts, see “ENTER + 0-9: shortcuts for menu commands” on page 142.

- **0: Write Program**. For more information, see “Write Program” on page 142.
- **1: Exclusive Solo**. For more information, see “Exclusive Solo” on page 142.

4-2: PCM Oscillator



Using PCM in the STR-1

Using PCM samples to “pluck” the string

In addition to the Pluck and the Noise Generator, you can also “pluck” the string with PCM samples. In general, this will work best if you use a fast envelope to control the level of the PCM in the Excitation Mixer, so that it becomes just a short attack transient.

For instance:

1. Follow the steps under “Creating an initialized STR-1 Program” on page 246.
2. Press the EXi 1 tab, to get to the STR-1 parameters.
3. Go to the Excitation Mixer page (P4-4).
4. Set both the Pluck and PCM Levels to 0.
5. Set the PCM Level AMS 1 source to EG 3, and the AMS1 Intensity to 50.
6. Go to the EG 3 page (P7-3).
7. Set the Start and Sustain Levels to 0, and the Attack and Break Levels to 99.
8. As a first pass, set the Attack Time to 0, the Decay Time to 10, and the Slope Time to 2.

With these settings, the **Attack Time** controls how fast the EG attacks, the **Decay Time** sets the duration, and the **Slope Time** controls the decay.

9. Use **Key Track** or **Note Number** to modulate the Decay time via AMS, so that it is shorter for higher notes, and longer for lower notes.

If you use looped PCM as the excitation, without EG control of the amplitude, it will tend to sound like bowing. In this case, using a bit of constant **Harmonic Pressure** can produce a good effect; among other things, this removes some energy from the string.

Using the string as a comb filter for PCM

You can use the string as a comb filter for the PCM Oscillator. To do so:

1. Follow the steps under “Creating an initialized STR-1 Program” on page 246.
2. Press the EXi 1 tab, to get to the STR-1 parameters.
3. On the PCM Oscillator page (P4-2), set MS1 to use Multisample 0433 POWER SAW.

You can use this technique with any Multisample, but a sawtooth waveform will make the effect particularly clear.

4. On the Excitation Mixer page (4-4), set the Pluck Level to 0, and the PCM Level to 25.
5. On the EG2 (Pitch) page (P7-2), set the Attack Time to 50, and the Decay Time to 70.
6. Set the Break and Sustain Levels to +25.
7. Set the Attack and Decay Curves to +5.
8. On the String Pitch page (P4-7), in the EG section, set the Intensity to +36.00.

EG2 (Pitch) is already selected, by default. In this setup, the string’s pitch controls the frequency of the comb filter.

9. Play a note in the lower part of the keyboard.

Notice how the Program makes a sweeping sound, with some resemblance to oscillator sync. That’s the sound of the comb filter.

10. Experiment with the String’s Decay parameter. Decay controls the resonance of the comb filter.
11. Experiment with the Damping and Dispersion parameters.

These can change the character of the comb filter in interesting ways.

Layering PCM with modeled string timbres

You can also simply layer PCM samples with string timbres. To do so, set the **Filter Routing** to **Parallel**, and then use the Mixer page to route the PCM Oscillator to Filter A, and the String to Filter B (or vice-versa). For more information, see “5-1a: Routing” on page 265, and “4-9: Mixer” on page 263.

Creating an initialized STR-1 Program

For the examples above, it can be useful to start with the default STR-1 settings. To do so:

1. In Program mode, select USER-F 000, Felix’sDaKat.
2. Press the Common tab, and then the Basic/Vector tab, to go to the Basic/Vector page (P4–4).
3. Under EXi Instrument Type, select STR-1 Plucked String.

Now, you have an initialized STR-1 Program.

4–2a: Multisamples

This section selects the Multisamples to be used for the string excitation.

Velocity splits

As mentioned above, each Oscillator has four velocity zones, named MS1 (High) through MS4 (Low). Each of these zones can play a different Multisample, and has separate settings for Level, Start Offset, and so on.

Note that, unlike the HD-1, crossfades and layers are not supported.

MS1 (High)

These are the settings for the first and highest velocity zone.

If you want to create a simple setup with only a single Multisample, just set up MS1 as desired, and then set the **Bottom Velocity** to 1.

Type [Off, Multisample]

This selects whether MS1 will play a Multisample, or nothing at all. You can use this to disable any of the four Multisamples.


Bank [ROM Mono...EXs Mono]

There are three main types of Banks: ROM, RAM, and EXs.

ROM Multisamples are the built-in “factory” sounds, and are always available.


RAM Multisamples include Akai, AIFF or WAV files loaded from disk, and samples created in Sampling mode.

EXs Multisample banks are PCM expansion sets created especially for the OASYS. Each has its own unique number; for instance, the ROM Expansion is EXs1, and the Concert Grand Piano expansion is EXs2. Only the currently loaded EXs banks will appear on this menu.

 Note that unlike the HD-1, you can only select mono Multisamples.

Multisample Select [List]

This parameter lets you select a Multisample for the velocity zone. You can use any mono Multisample, or the left or right channel of a stereo Multisample.

 Some Multisamples may have an upper limit to their keyboard range, over which they may not produce any sound.

Multisample Select menu

To select a Multisample:

1. Press the Multisample Select popup button to open the Multisample select menu.
2. Use the tabs to select a category and sub-category.
3. Select a Multisample from within that category/sub-category.
4. Press the OK button to confirm your selection, or press the Cancel button to exit without making a change.

The list shows all of the mono Multisamples in the Bank. If the Bank contains stereo multisamples, you’ll also see the left and right channels as separate, mono multisamples, with -L and -R appended to the end of the name.

Reverse [Off, On]

This lets you play the selected multisample backwards, without looping.

Note: If the individual samples within a Multisample are already set to Reverse, they will still play in reverse, regardless of this setting.


On (checked): The Multisample will play back in reverse.

Off (unchecked): The Multisample will play back normally.

Level [0...127]

This sets the basic volume level of the multisample. Use this to adjust the balance between the four velocity zones.

The Excitation Mixer, main Mixer, and Amp sections can modify this basic level extensively with envelopes, LFOs, keyboard tracking, and other modulation; for more information, see “4-4: Excitation Mixer,” on page 250, “4-9: Mixer,” on page 263, and “6-1: Amp,” on page 273.

 Depending on the multisample, high Level settings may cause distortion when playing many notes at a time. If this occurs, lower the Level.

With RAM Multisamples, each Sample also has a “+12dB” option. If this is turned on, the Sample will play back approximately 12dB louder. You can configure this parameter for each Sample in Sampling mode.

Start Offset [Off, 1st...8th]

In addition to simply starting playback from the beginning, ROM and EXs Multisamples can have up to 8 different pre-programmed alternate starting points.

Similarly, RAM Multisamples can play either from the beginning of the waveform, or from the loop start point.

Start Offsets: ROM and EXs Multisamples

With ROM and EXs Multisamples, the Start Offset specifies whether to use the normal start point (**Off**), or to use one of the alternate start points (**1st–8th**).

Some ROM and EXs Multisamples may have fewer than 8 pre-programmed points, in which case only the available points can be selected.

Start Offsets: RAM Multisamples

With RAM Multisamples, only Off and 1st are available. **Off** uses the normal start point, and **1st** uses the loop start instead. **2nd** through **8th** will be grayed out.

Bottom Velocity [1...127]

This sets the lowest velocity at which the Multisample or will sound. MS1's Bottom Velocity can be equal to, but not lower than, than that of MS2.

MS2 (Mid Hi), MS3 (Mid Lo), and MS4

(Low)

These are the settings for the second, third, and fourth velocity zones. The parameters for MS2 and MS3 are exactly the same as those for "MS1 (High)," above.

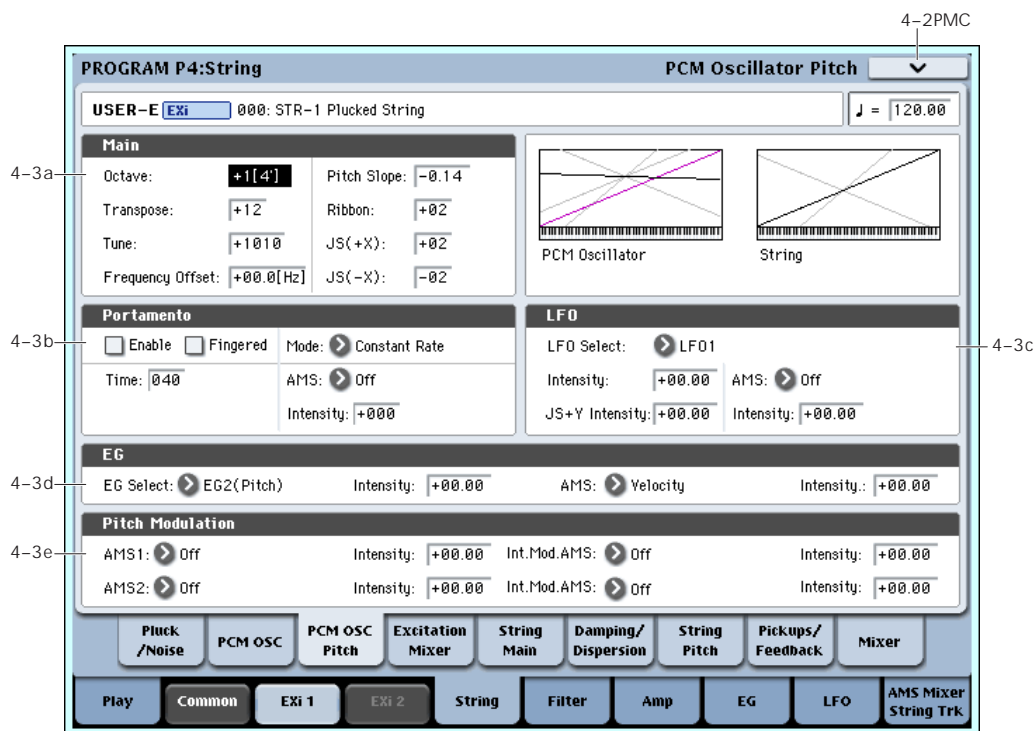
The parameters for MS4 are also similar to those for MS1, except that MS4 has no setting for Bottom Velocity (which is always fixed at 1).

▼ 4-2: Page Menu Commands

The number before each command shows its ENTER + number-key shortcut. For more information on these shortcuts, see "ENTER + 0-9: shortcuts for menu commands" on page 142.

- 0: **Write Program**. For more information, see "Write Program" on page 142.
- 1: **Exclusive Solo**. For more information, see "Exclusive Solo" on page 142.

4-3: PCM Oscillator Pitch



This section controls the pitch modulation for the PCM oscillator.

Important: when using the PCM Oscillator as an excitation for the string, the "pitch" of the PCM will affect the *timbre* of the string, and not the pitch of the overall sound.

On the other hand, when the string is used as a resonator or comb filter (by setting the string's **Decay** and **Damping** to moderate values), the PCM Oscillator *will* control the overall pitch of the sound.

4-3a: Main

Octave [-2[32'], -1[16'], +0[8'], +1[4']]

This sets the basic pitch of the PCM Oscillator, in octaves. The default is +0[8'].

Transpose [-12...+12]

This adjusts the pitch in semitones, over a range of ±1 octave.

Tune [-1200...+1200]

This adjusts the pitch in cents, over a range of ±1 octave. A cent is 1/100 of a semitone.

Frequency Offset [-10.0Hz ... +10.0Hz]

This adjusts the pitch by increments of 0.1 Hz. **Frequency Offset** is different from **Tune** in that, when used to detune the two oscillators, it can create a constant beat frequency across the range of the keyboard.

Pitch Slope [-1.00...+0.00...+2.00]

Normally, this should be set to the default of +1.00.

Positive (+) values cause the pitch to rise as you play higher on the keyboard, and **negative (-)** values cause the pitch to *fall* as you play higher on the keyboard.

When this is set to **0**, playing different notes on the keyboard won't change the pitch at all; it will be as if you're always playing C4. This can be useful for special effects sounds, for instance.

If you want to create more complex effects, you can use one of the Key Track generators as a source for Pitch Modulation AMS.

Ribbon [-60...+60 semitones]

You can use the ribbon controller for pitch-bend. This parameter specifies, in semitones, the ribbon's pitch-bend range.

Positive (+) values make the pitch rise when you press the ribbon controller to the right of center, and **negative (-)** values will cause the pitch to fall.

When you lift off of the ribbon, the pitch will snap back to the center (unless you're using the SW1/2 "Ribbon Lock" feature). So, by tapping on the right edge of the ribbon and then releasing quickly, you can create guitar-style "hammer-on" effects.

JS+X [-60...+60 semitones]

This sets the maximum amount of pitch bend, in semitones, when you move the joystick to the right. For normal pitch bend, set this to a positive value.

JS-X [-60...+60 semitones]

This sets the maximum amount of pitch bend, in semitones, when you move the joystick to the left. For normal pitch bend, set this to a negative value.

4-3b: Portamento

Portamento lets the pitch glide smoothly between notes, instead of changing abruptly.

Portamento and MIDI

If Portamento is either enabled for both the String and the PCM, or off for both, then MIDI CCs 5 (Portamento Time) and 65 (Portamento on/off) affect both the String and the PCM.

If Portamento is enabled for only one of the two, only that element can be affected by the MIDI CCs. The other element will always have Portamento off, regardless of the MIDI CCs.

Enable [Off, On]

On (checked): Turns on Portamento, so that pitch glides smoothly between notes.

Off (unchecked): Turns off Portamento. This is the default state.

Fingered [Off, On]

This parameter allows you to control Portamento through your playing style. When it's enabled, playing legato will turn on Portamento, and playing detached will turn it off again.

This option is only available when Portamento Enable is turned on.

On (checked): Turns on Fingered Portamento.

Off (unchecked): Turns off Fingered Portamento.

Mode [Constant Rate, Constant Time]

Constant Rate means that Portamento will always take the same amount of time to glide a given distance in pitch - for instance, one second per octave. Put another way, gliding several octaves will take much longer than gliding a half-step.

Constant Time means that Portamento will always take the same amount of time to glide from one note to another, regardless of the difference in pitch. This is especially useful when playing chords, since it ensures that each note in the chord will end its glide at the same time.

Time [000...127]

This controls the portamento time. Higher values mean longer times, for slower changes in pitch. When **Time** is set to **0**, the pitch will be reached instantly—just as if Portamento **Enable** was turned **Off**.

AMS [List of AMS Sources]

This selects an AMS source to control the **Portamento Time**. For a list of AMS sources, see "Alternate Modulation Source (AMS) List" on page 1021.

The modulation occurs only at note-on. This means that you can change the time for the *next* pitch glide, but you can't change any glides which are already in progress.

Intensity [-127...+127]

This controls the depth and direction of the **Portamento Time** AMS modulation.

4-3c: LFO**LFO Select** [LFO 1, LFO 2, LFO 3, LFO 4, Common LFO]

This selects an LFO to modulate the PCM Oscillator's pitch.

The **LFO Intensity**, **JS+ Y Intensity**, and **AMS** are all summed together to produce the final amount of LFO pitch modulation.

LFO Intensity [-48.00...+48.00]

This controls the initial effect of the LFO on the pitch, in semitones, before any JS+Y or AMS modulation.

Negative (-) settings will invert the phase of the LFO.

Both the String and PCM Pitch LFO Intensities are scaled by MIDI CC#77.

JS+Y Intensity [-48.00...+48.00]

Moving the joystick “up” from the center detent position, away from yourself, produces the JS+Y controller. You can use this to scale the amount of the LFO applied to the pitch. This parameter sets the maximum amount of LFO modulation added by JS+Y, in semitones.

As this value is **increased**, moving the joystick in the +Y direction will cause the LFO to produce deeper pitch modulation.

Negative (-) settings will invert the phase of the LFO. You can also use this to reduce the initial amount of the LFO, as set by **LFO1 Intensity**, above.

AMS [AMS Sources]

This selects an AMS modulation source to scale the amount of the LFO applied to pitch.

For a list of AMS sources, see “Alternate Modulation Source (AMS) List” on page 1021.

Intensity [-48.00...+48.00]

This controls the depth and direction of the LFO AMS modulation, in semitones.

4-3d: Pitch EG

EG Select [EG 1 (Filter), EG 2 (Pitch), EG 3, EG 4, Amp EG]

This selects an EG to modulate the PCM Oscillator pitch.

There are four assignable EGs, in addition to the Amp EG. Each of these can be used as a modulation source to control a wide variety of parameters.

In the midst of all this flexibility, we thought it would also be good to provide a little structure. With this in mind, EG 1 is named EG 1 (Filter) and EG 2 is labeled EG 2 (Pitch).

Please take these names as suggestions, rather than restrictions. If you like, you’re free to use these EGs to control any EG or AMS destination, or to use other EGs to control Filter Frequency and Pitch.

Intensity [-48.00...+48.00]

This controls the initial effect of the Pitch EG on the PCM Oscillator, in half-steps, before any AMS modulation.

The Pitch EG’s shape can swing all the way from +99 to -99. When the Intensity is set to a **positive (+)** value, positive values from the EG raise the pitch, and negative values lower the pitch.

When the Intensity is set to a **negative (-)** value, the effect of the EG is reversed; positive EG values mean *lower* pitches, and negative EG values mean *higher* pitches.

AMS [AMS Sources]

This selects an AMS modulation source to scale the amount of the Pitch EG applied to the PCM Oscillator.

For a list of AMS sources, see “Alternate Modulation Source (AMS) List” on page 1021.

Intensity [-48.00...+48.00]

This controls the depth and direction of the pitch EG AMS modulation. The AMS modulation and the initial Intensity are added together to determine the Pitch EG’s final effect.

4-3e: Pitch Modulation

AMS 1 [List of AMS Sources]

This selects the first modulation source for controlling the PCM Oscillator’s pitch. For a list of AMS sources, see “Alternate Modulation Source (AMS) List” on page 1021.

Intensity [+/-48.00 semitones]

This controls the depth and direction of the AMS 1 pitch modulation, in semitones.

Intensity Mod AMS [List of AMS Sources]

You can modulate AMS 1’s Intensity from another AMS source. This selects that source.

Intensity [+/-48.00 semitones]

This controls the depth and direction of the Intensity Mod AMS, in semitones. The result is summed with the main AMS 1 Intensity to produce the final pitch modulation amount.

AMS 2 [List of AMS Sources]

This selects a second modulation source for controlling the PCM Oscillator’s pitch. For a list of AMS sources, see “Alternate Modulation Source (AMS) List” on page 1021.

Intensity [+/-48.00 semitones]

This controls the depth and direction of the AMS 2 pitch modulation, in semitones.

Intensity Mod AMS [List of AMS Sources]

You can modulate AMS 2’s Intensity from another AMS source. This selects that source.

Intensity [+/-48.00 semitones]

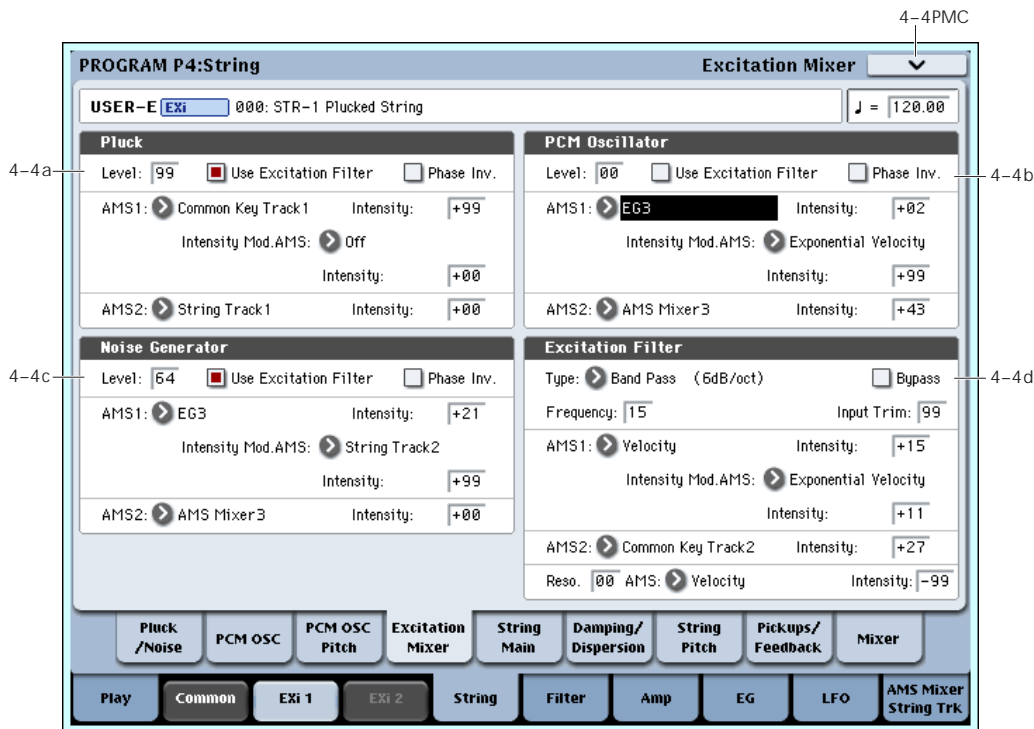
This controls the depth and direction of the Intensity Mod AMS, in semitones. The result is summed with the main AMS 2 Intensity to produce the final pitch modulation amount.

▼ **4-3: Page Menu Commands**

The number before each command shows its ENTER + number-key shortcut. For more information on these shortcuts, see “ENTER + 0-9: shortcuts for menu commands” on page 142.

- 0: **Write Program**. For more information, see “Write Program” on page 142.
- 1: **Exclusive Solo**. For more information, see “Exclusive Solo” on page 142.

4-4: Excitation Mixer



4-4a: PCM Oscillator

Level [0...100]

This controls the PCM Oscillator's input level to the String.

Phase Invert [Off, On]

This inverts the phase of the PCM Oscillator's input to the String. If you use two inputs, and one has an inverted phase, it's as if they were pushing the string in opposite directions.

Use excitation filter [Off, On]

This check-box sets whether or not the signal goes through the Excitation Filter, which controls the tone of the signal going into the string.

AMS 1 [List of AMS Sources]

This selects the first modulation source to control the **PCM Oscillator Level**. For a list of AMS sources, see "Alternate Modulation Source (AMS) List" on page 1021.

Intensity [-100...+100]

This controls the depth and direction of the **PCM Oscillator Level** AMS modulation.

Intensity Mod AMS [List of AMS Sources]

This selects an AMS source to modulate the intensity of AMS 1.

Intensity [-100...+100]

This controls the depth and direction of the **Intensity Mod AMS**.

AMS 2 [AMS Sources]

This selects a second modulation source to control the **PCM Oscillator Level**. For a list of AMS sources, see "Alternate Modulation Source (AMS) List" on page 1021.

Intensity [-100...+100]

This controls the depth and direction of **AMS 2**.

4-4b: Pluck

These parameters control the Pluck Table's input level to the String. They are identical to those for the PCM Oscillator; for more information, see "4-4a: PCM Oscillator" on page 250.

4-4c: Noise Generator

These parameters control the Noise Generator's input level to the String. They are identical to those for the PCM Oscillator; for more information, see "4-4a: PCM Oscillator" on page 250.

4-4d: Excitation Filter

This is a 2-pole, resonant multimode filter, for tailoring the excitation to the string.

Note: MIDI CCs 74 (Cutoff) and 71 (Resonance) do not affect this filter.

Filter Type [Low Pass, High Pass, Band Pass, Band Reject]

The filter will produce very different results depending on the selected filter type.

Low Pass. This cuts out the parts of the sound which are **higher** than the cutoff frequency. Low Pass is the most common type of filter, and is used to make bright timbres sound darker.

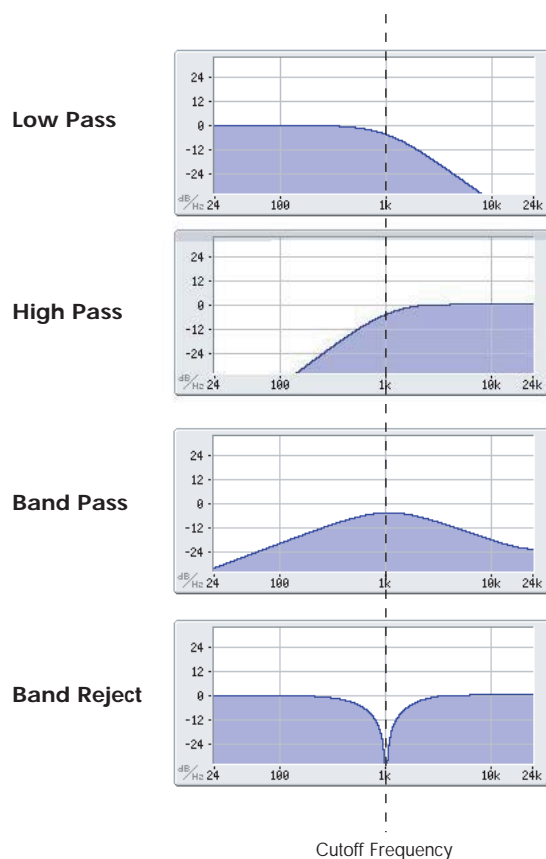
High Pass. This cuts out the parts of the sound which are **lower** than the cutoff frequency. You can use this to make timbres sound thinner or more buzzy.

Band Pass. This cuts out all parts of the sound, both highs and lows, except for the region around the cutoff frequency. Since this filter cuts out both high and low frequencies, its effect can change dramatically depending on the cutoff setting and the oscillator's multisample.

With low resonance settings, you can use the Band Pass filter to create telephone or vintage phonograph sounds. With higher resonance settings, it can create buzzy or nasal timbres.

Band Reject. This filter type—also called a notch filter—cuts only the parts of the sound directly around the cutoff frequency. Try modulating the cutoff with an LFO to create phaser-like effects.

Filter Types and Cutoff Frequency



Bypass [Off, On]

This lets you bypass the filter completely.

If **Bypass** is **Off**, the filter functions normally.

When **Bypass** is **On**, the filter has no effect on the excitation signal.

Trim [00...100]

This adjusts the volume level at the input to the filter. If you notice that the sound is distorting, especially with high Resonance settings, you can turn the level down here.

Note that the filter will not clip internally.

Frequency [00...100]

This controls the cutoff frequency of Filter A, in increments of 1/10 of an octave. The specific effect of the cutoff frequency will change depending on the selected **Filter Type**, as described above.

AMS 1 [List of AMS Sources]

This selects the first modulation source for controlling the **Frequency**. For a list of AMS sources, see “Alternate Modulation Source (AMS) List” on page 1021.

Intensity [-100...+100]

This controls the depth and direction of the AMS 1 **Frequency** modulation.

Intensity Mod AMS [List of AMS Sources]

You can modulate AMS 1’s Intensity from another AMS source. This selects that source.

Intensity [-100...+100]

This controls the depth and direction of the Intensity Mod AMS. The result is summed with the main AMS 1 Intensity to produce the final **Frequency** modulation amount.

AMS 2 [List of AMS Sources]

This selects a second modulation source for controlling the **Frequency**. For a list of AMS sources, see “Alternate Modulation Source (AMS) List” on page 1021.

Intensity [-100...+100]

This controls the depth and direction of the AMS 2 **Frequency** modulation.

Resonance [00...100]

Resonance emphasizes the frequencies around the cutoff frequency.

When this is set to **0**, there is no emphasis, and frequencies beyond the cutoff will simply diminish smoothly.

At medium settings, the resonance will alter the timbre of the filter, making it sound more nasal, or more extreme.

At very high settings, the resonance can be heard as a separate, whistling pitch.

To make the resonance track the keyboard pitch, see “Key Follow,” on page 270.

AMS [AMS Sources]

This selects a modulation source to control the **Resonance** amount. For a list of AMS sources, see “Alternate Modulation Source (AMS) List” on page 1021.

Intensity [-100...+100]

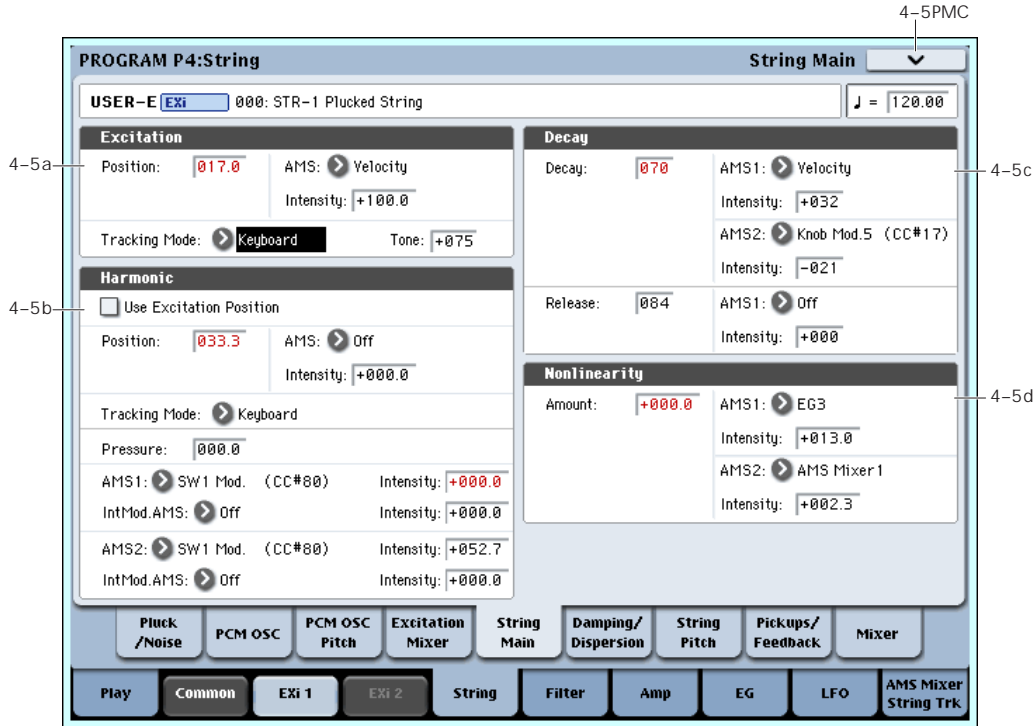
This controls the depth and direction of the **Resonance** modulation.

▼ 4-4: Page Menu Commands

The number before each command shows its ENTER + number-key shortcut. For more information on these shortcuts, see “ENTER + 0-9: shortcuts for menu commands” on page 142.

- 0: **Write Program**. For more information, see “Write Program” on page 142.
- 1: **Exclusive Solo**. For more information, see “Exclusive Solo” on page 142.

4-5: String Main



4-5a: Excitation

The **Excitation** is the force that makes the string start to vibrate. For a physical string, this might be a guitar pick, a fingernail, a hammer on a clavinet, a plectrum on a harpsichord, and so on.

Position [0...100.0]

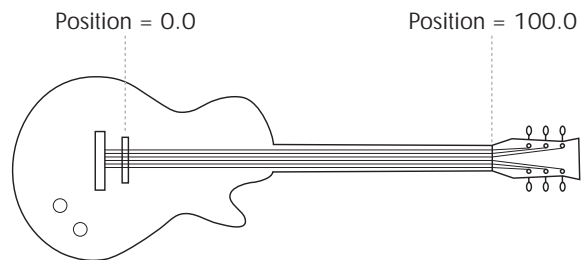
This models the position of the excitation (such as the pluck) along the string, which has a strong effect on the timbre.

Important: the **Tone** parameter, below, must be non-zero in order for **Position** to have any effect.

0.0 is one end of the string, at the bridge; 100.0 is the other end of the string, at the nut (just before the headstock). Usually, values between 8.0 and 25.0 should work well.

50.0 is the middle of the string. The timbres of different values are approximately symmetric around this position, except for very near the ends of the string. In other words, 60.0 produces a similar timbre to 40.0, 75.0 is similar to 25.0, and so on. The delay between the excitation and the pickups will change, however.

Excitation Position



How Position affects the timbre

Depending upon the **Position**, some overtones will be emphasized, and others de-emphasized. At specific positions, certain overtones will disappear completely, as detailed below.

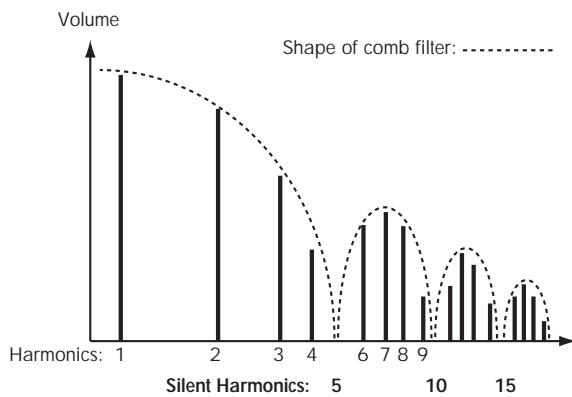
You can also think of the **Position** as a fraction of the total string length. For instance, 50.0 means that the excitation is half-way along the string; 33.3 means that excitation is 1/3 of the way along the string; 25.0 is 1/4 of the way along the string, and so on.

Reaching back into math class for a moment, the number under the fraction is called the denominator. For instance, the denominator of 1/5 is 5.

As a rule of thumb, harmonics which are multiples of the denominator will be silent. For instance, if the **Position** is set to 20.0, the ratio is 1/5, and so every fifth harmonic will be silent: 5, 10, 15, etc. This is like a comb filter, with successive, evenly-spaced notches.

The graphic below shows the shape of this comb filter, and the resulting basic harmonic structure. (Comb filters are named because their shape looks a little like the teeth of a comb.)

Harmonic structure with Position = 20.0 (ratio = 1/5)



The table below shows a few more settings which cancel out specific harmonics:

Effect of Excitation Position on harmonic structure

Position	Ratio of string length	Effect
50.0	1/2	Odd harmonics are silent, like a square-wave.
33.3	1/3	Every third harmonic is silent: 3, 6, 9 etc.
25.0	1/4	Every fourth harmonic is silent: 4, 8, 12 etc.
20.0	1/5	Every fifth harmonic is silent: 5, 10, 15 etc.

You can also adjust the positions of the two Pickups, which produce similar comb filtering effects. (For more information, see “4-8a: Pickup 1” on page 260.) The filtering produced by the excitation position and the two pickups is cumulative, and can produce complex patterns of peaks and valleys in the overall frequency response.

AMS [List of AMS Sources]

This selects a modulation source to control the **Position**. Modulation is applied only at note-on; while the note is sounding, changing the modulation has no effect. For a list of AMS sources, see “Alternate Modulation Source (AMS) List” on page 1021.

Intensity [-100.0...+100.0]

This controls the depth and direction of the **Position** modulation.

Tracking Mode [String Track, Keyboard]

This controls the relationship between the pickup **Position** and the pitch.

String Track scales the position according to the current String, as set in the String Track section.

Keyboard scales the position according to pitch, without taking the String settings into account. This might be more appropriate for clav sounds, for instance.

Tone [-100...+100]

This controls the affect of the **Position** on the overall tone. When **Tone** is set to 0, **Position** has no effect.

-100 is generally the most realistic, although other settings may give good results depending on the particular excitation signal. -100 also works well to counteract the low-end “thump” which can be caused by low-frequency excitation signals, including plucks with very low (or negative) **Width** values.

Other **Tone** settings will make the comb filter described under **Position**, above, work differently. Settings between -100 and 0 will reduce the effect of the filter, until—at 0—it has no effect at all. Positive settings will make the filter work in reverse, reinforcing harmonics instead of eliminating them.

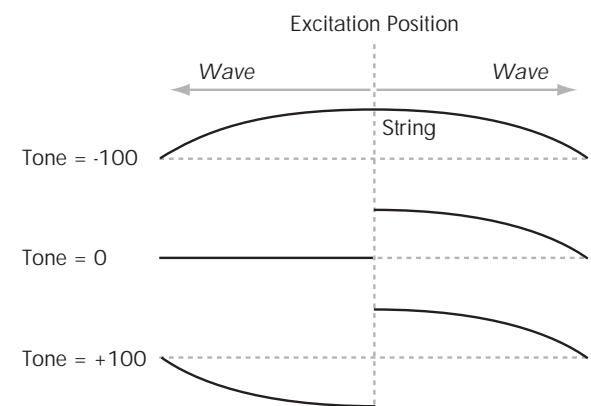
What does Tone do?

When you pluck a real string, the string vibrates outward in both directions from the excitation position. These two vibrations bounce off their respective ends of the string, return in the opposite direction, and interact with each other along the way, affecting the timbre of the string.

In the real world, this can't be changed—but the Tone parameter lets you bend the physics a bit. This is useful, in part, because some of the things you can use to “pluck” the string—such as a PCM sample—aren't things you could use in the real world, either. The Tone parameter gives you another tool adjust the way that these unusual excitations affect the timbre.

Put simply, Tone lets you pluck the same string twice, in the same place, with the waves from each pluck moving in only one direction. One of these plucks—think of it as the one that moves the wave “forward”—always works in the physical way. Tone controls the pluck that moves the wave “backwards.”

“Plucking” the string with different Tone settings



4-5b: Harmonic

This models pressing down lightly (or firmly) in the middle of the string, like playing harmonics on a guitar.

Use Excitation Position [Check-box]

This makes the harmonic use the same position as the excitation, including AMS modulation. Using this option creates an interesting hybrid pluck/chime timbre.

When this is checked, the rest of the Position parameters will be grayed out.

Position [0...100.0]

This controls the position at which the string is being pressed down. As when playing harmonics on a real string, the harmonic will be loudest when the position aligns with the harmonic series.

When the Harmonic **Tracking Mode** is set to **Keyboard**, it's easy to make the position match a specific harmonic, as shown below. When **Tracking Mode** is set to **String**, the values below are correct for the open-string notes only; on other notes, the harmonics will line up with slightly higher values.

Harmonic Position and the Harmonic Series, when Tracking Mode = Keyboard

Position Value	Harmonic	Pitch
100.0	Fundamental	Unison
50.0	1st	1 octave up
33.3	2nd	1 octave + fifth
25.0	3rd	2 octaves up
20.0	4th	2 octaves + maj. third
16.6	5th	2 octaves + fifth
14.2	6th	2 octaves + flat seventh
12.5	7th	3 octaves up

If **Use Excitation Position** is On, this parameter is grayed out.

AMS [List of AMS Sources]

This selects a modulation source to control the **Position**. For a list of AMS sources, see "Alternate Modulation Source (AMS) List" on page 1021.

If **Use Excitation Position** is On, this parameter is grayed out.

Intensity [-100.0...+100.0]

This controls the depth and direction of the **Position** modulation.

If **Use Excitation Position** is On, this parameter is grayed out.

Tracking Mode [String Track, Keyboard]

This controls the relationship between the harmonic **Position** and the pitch.

String Track scales the position according to the current String, as set in the String Track section.

Keyboard scales the position according to pitch, without taking the String settings into account. This might be more appropriate for clav sounds, for instance.

If **Use Excitation Position** is On, this parameter is grayed out.

Pressure [0.0...100.0]

This controls how hard the string is being pressed down. Non-zero settings can create interesting special effects—but for standard use, this should be left at 0.0, and then modulated via AMS. For instance:

1. Follow the instructions under "Creating an initialized STR-1 Program" on page 246.
2. Assign EG3 to Harmonic AMS1, and set the Intensity to +100.0.
3. On the EG3 page (P7-3), set the Break and Sustain levels to +00.
4. Adjust the Decay Time between 0 and 20, and listen to the way the sound changes.

This controls the amount of time that the string is being pressed down. As you increase this time, the harmonic tone will become more and more prominent. Around 18-20, the harmonic tone takes over completely. As you increase from 20 to 50, the tone becomes more pure, and less bright.

AMS 1 [List of AMS Sources]

This selects the first modulation source to control the **Pressure**. Often, it will make sense to use an envelope here. For a list of AMS sources, see "Alternate Modulation Source (AMS) List" on page 1021.

Intensity [-100.0...+100.0]

This controls the depth and direction of the **Pressure** modulation.

Intensity Mod AMS [AMS Sources]

This selects a AMS modulation source to scale the intensity of **Pressure AMS 1**. For a list of AMS sources, see "Alternate Modulation Source (AMS) List" on page 1021.

Intensity [-100.0...+100.0]

This controls the depth and direction of the **Intensity Mod AMS**. Even if the main AMS **Intensity** is set to 0, **Intensity Mod AMS** can still control the final amount of AMS over the full +/-100 range.

AMS 2 [List of AMS Sources]

This selects the second modulation source to control the **Pressure**. For a list of AMS sources, see "Alternate Modulation Source (AMS) List" on page 1021.

Intensity [-100.0...+100.0]

This controls the depth and direction of the **Pressure** modulation.

Intensity Mod AMS [AMS Sources]

This selects a AMS modulation source to scale the intensity of **Pressure AMS 2**. For a list of AMS sources, see "Alternate Modulation Source (AMS) List" on page 1021.

Intensity [-100.0...+100.0]

This controls the depth and direction of the **Intensity Mod AMS**. Even if the main AMS **Intensity** is set to 0, **Intensity Mod AMS** can still control the final amount of AMS over the full +/-100 range.

4-5c: Decay

Decay [0...100]

This controls the overall decay time of the string without affecting frequency content. This interacts with **Damping**, which controls the decay time for high frequencies. For more information, see “4-6a: Damping” on page 256.

Note: the **Amp EG** still controls the output level of the STR-1 as a whole, so the final decay time will be a combination of the **String Decay** and the **Amp EG**. As a general rule, the **Amp EG** can make the overall decay time shorter than the **String Decay**, but not longer.

For instance, if the **String Decay** is set to a high value (for a long decay), but the **Amp EG Decay** is short, the final result will be a short decay.

For more information, see “6-3: Amp EG” on page 276.

AMS 1 [List of AMS Sources]

This selects the first modulation source to control the **Decay**. For a list of AMS sources, see “Alternate Modulation Source (AMS) List” on page 1021.

Intensity [-100...+100]

This controls the depth and direction of **AMS1**.

AMS 2 [List of AMS Sources]

This selects a second modulation source to control the **Decay**. For a list of AMS sources, see “Alternate Modulation Source (AMS) List” on page 1021.

Intensity [-100...+100]

This controls the depth and direction of **AMS 2**.

Release [0...100]

This sets the overall release time for the string—the time that it takes to fade away after note-off.

Note: the **Amp EG** still controls the output level of the STR-1 as a whole, so the final release time will be a combination of the **String Release** and the **Amp EG**. For more information, see “Decay,” above.

AMS [List of AMS Sources]

This selects a modulation source to control the **Release**. For a list of AMS sources, see “Alternate Modulation Source (AMS) List” on page 1021.

Intensity [-100...+100]

This controls the depth and direction of the **Release** modulation.

4-5d: Nonlinearity

Amount [-100.0...100.0]

This models the instability of the string’s bridge. Greater nonlinearity means a less rigid bridge. At higher levels, this causes the characteristic buzzing sound of some non-western stringed instruments, such as the sitar.

AMS1 [List of AMS Sources]

This selects the first modulation source to control the **Nonlinearity**. For a list of AMS sources, see “Alternate Modulation Source (AMS) List” on page 1021.

Intensity [-100.0...+100.0]

This controls the depth and direction of the **Nonlinearity** modulation.

AMS2 [List of AMS Sources]

This selects a second modulation source to control the **Nonlinearity**. For a list of AMS sources, see “Alternate Modulation Source (AMS) List” on page 1021.

Intensity [-100.0...+100.0]

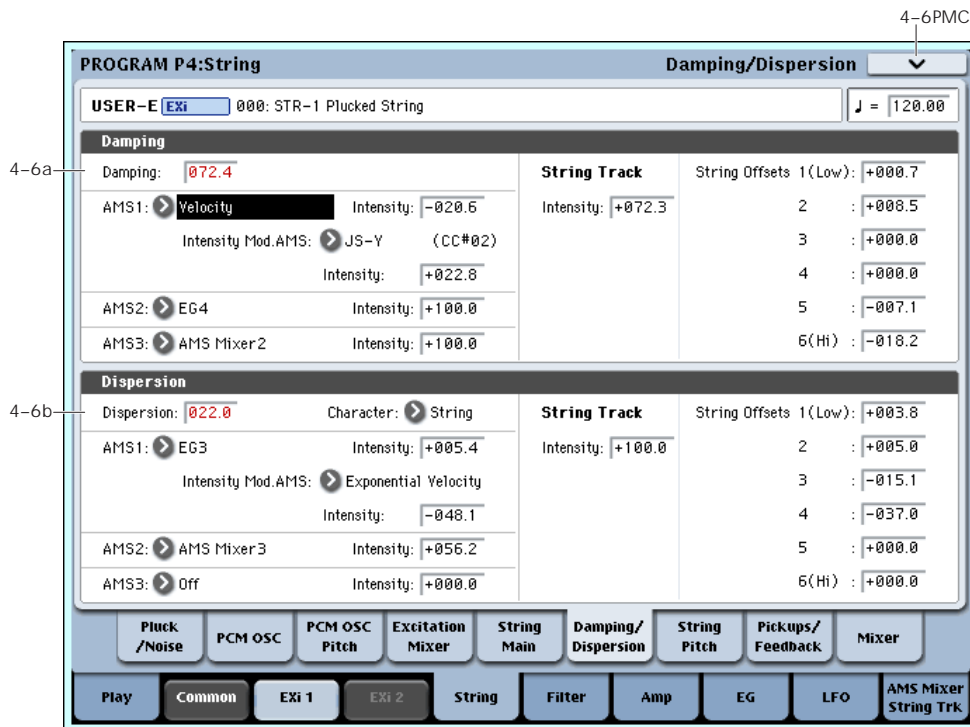
This controls the depth and direction of the second **Nonlinearity** modulation.

▼ 4-5: Page Menu Commands

The number before each command shows its ENTER + number-key shortcut. For more information on these shortcuts, see “ENTER + 0-9: shortcuts for menu commands” on page 142.

- 0: **Write Program**. For more information, see “Write Program” on page 142.
- 1: **Exclusive Solo**. For more information, see “Exclusive Solo” on page 142.

4-6: Damping and Dispersion



4-6a: Damping

Damping [0...100.0]

This controls the decay time for the string's high frequencies. Higher settings mean a shorter high frequency decay time, for a bright attack and a more mellow sustained tone. Lower settings let the string ring brightly for a longer period of time.

Damping interacts with the **Decay** parameter, which controls the overall decay time. For more information, see "4-5c: Decay" on page 255.

To create a comb-filtered effect with PCM or audio input, instead of a string model, set **Damping** to a moderate value.

AMS 1 [List of AMS Sources]

This selects the first modulation source to control the **Damping**. For a list of AMS sources, see "Alternate Modulation Source (AMS) List" on page 1021.

Intensity [-100.0...+100.0]

This controls the depth and direction of the **Damping** AMS modulation.

Intensity Mod AMS [List of AMS Sources]

This selects an AMS source to modulate the intensity of AMS 1.

Intensity [-100.0...+100.0]

This controls the depth and direction of the **Intensity Mod AMS**.

AMS 2 [List of AMS Sources]

This selects a second modulation source to control the **Damping**. For a list of AMS sources, see "Alternate Modulation Source (AMS) List" on page 1021.

Intensity [-100.0...+100.0]

This controls the depth and direction of AMS 2.

AMS 3 [List of AMS Sources]

This selects a third modulation source to control the **Damping**. For a list of AMS sources, see "Alternate Modulation Source (AMS) List" on page 1021.

Intensity [-100.0...+100.0]

This controls the depth and direction of AMS 3.

String Track

String Track Intensity [-100.0...+100.0]

This controls the overall depth and direction of **String Tracking's** effect on the **Damping**. You can adjust the offsets for each string using the **Strings 1...6** parameters, as described below.

String 1...6 [AMSource] [-100.0...+100.0]

These set the individual **Damping** offsets for the six Strings, as set under "9-9b: Strings" on page 281. These values are also available for modulating other parameters via AMS; they appear in the AMS list as Damping String Track.

4-6b: Dispersion

Dispersion [0...100.0]

This models the rigidity of the string. Higher values correspond to thicker-gauge strings, and increase the inharmonicity of the string. ("Inharmonicity" means that the pitches of the overtones become out of tune with the fundamental.) At extreme values, it will create bell-like timbres, as if you were hitting a bar of metal.

Dispersion can be modulated by three AMS sources, which are added to the Dispersion setting.

Character [Bell, String]

This changes the way that the upper harmonics become detuned as **Dispersion** is increased.

With the **Bell** setting, as you increase the **Dispersion** amount, the lower harmonics will go out of tune gradually, but the upper harmonics will do so very steeply. The higher the harmonic, the more out-of-tune it will become. The resulting inharmonicity is similar to the sound of a bell.

With the **String** setting, the upper harmonics will still become more out of tune than the lower harmonics, but with a more gradual slope. Up to moderately high **Dispersion** settings, this retains a string-like character.

AMS 1 [List of AMS Sources]

This selects the first modulation source to control the **Dispersion**. For a list of AMS sources, see "Alternate Modulation Source (AMS) List" on page 1021.

Intensity [-100.0...+100.0]

This controls the depth and direction of the **Dispersion** AMS modulation.

Intensity Mod AMS [List of AMS Sources]

This selects an AMS source to modulate the intensity of AMS 1.

Intensity [-100.0...+100.0]

This controls the depth and direction of the **Intensity Mod AMS**.

AMS 2 [List of AMS Sources]

This selects a second modulation source to control the **Dispersion**. For a list of AMS sources, see "Alternate Modulation Source (AMS) List" on page 1021.

Intensity [-100.0...+100.0]

This controls the depth and direction of AMS 2.

AMS 3 [List of AMS Sources]

This selects a third modulation source to control the **Dispersion**. For a list of AMS sources, see "Alternate Modulation Source (AMS) List" on page 1021.

Intensity [-100.0...+100.0]

This controls the depth and direction of AMS 3.

String Track

String Track Intensity [-100.0...+100.0]

This controls the overall depth and direction of **String Track's** effect on **Dispersion**. You can adjust the offsets for each individual string using the **String 1...6** parameters, as described below.

String 1...6 AMSSource [-100...+100]

These set the individual **Dispersion** offsets for the six Strings, as set under "9-9b: Strings" on page 281. For instance, you might set the lower strings to greater values, to model typical guitar strings.

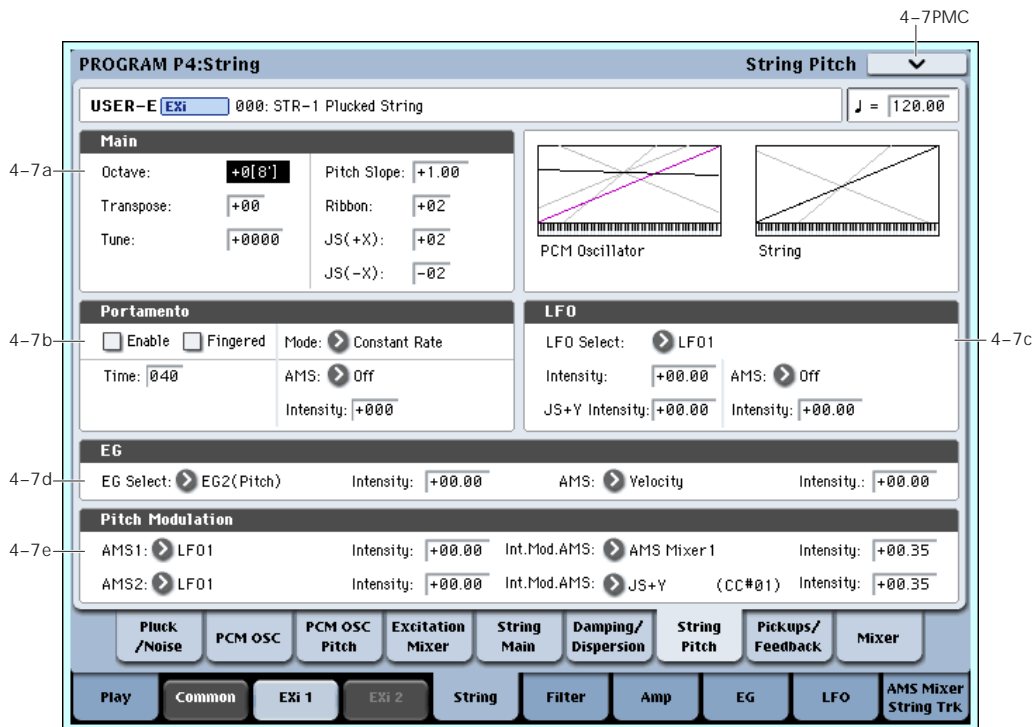
These values are also available for modulating other parameters via AMS; they appear in the AMS list as **Disp. String Track**.

▼ 4-6: Page Menu Commands

The number before each command shows its ENTER + number-key shortcut. For more information on these shortcuts, see "ENTER + 0-9: shortcuts for menu commands" on page 142.

- 0: **Write Program**. For more information, see "Write Program" on page 142.
- 1: **Exclusive Solo**. For more information, see "Exclusive Solo" on page 142.

4-7: String Pitch



4-7a: Main

Octave [-2[32'], -1[16'], +0[8'], +1[4']

This sets the basic pitch of the String, in octaves. The default is +0[8'].

Transpose [-12...+12]

This adjusts the pitch in semitones, over a range of ± 1 octave.

Tune [-1200...+1200]

This adjusts the pitch in cents, over a range of ± 1 octave. A cent is 1/100 of a semitone.

Pitch Slope [-1.00...+0.00...+2.00]

Normally, this should be set to the default of +1.00.

Positive (+) values cause the pitch to rise as you play higher on the keyboard, and **negative (-)** values cause the pitch to *fall* as you play higher on the keyboard.

When this is set to **0**, playing different notes on the keyboard won't change the pitch at all; it will be as if you're always playing C4. This can be useful for special effects sounds, for instance.

If you want to create more complex effects, you can assign key tracking as an AMS source.

Ribbon [-60...+60 semitones]

You can use the ribbon controller for pitch-bend. This parameter specifies, in semitones, the ribbon's pitch-bend range.

Positive (+) values make the pitch rise when you press the ribbon controller to the right of center, and **negative (-)** values will cause the pitch to fall.

When you lift off of the ribbon, the pitch will snap back to the center (unless you're using the SW1/2 "Ribbon Lock" feature). So, by tapping on the right edge of the ribbon and then releasing quickly, you can create guitar-style "hammer-on" effects.

JS+ X [-60...+60 semitones]

This sets the maximum amount of pitch bend, in semitones, when you move the joystick to the right. For normal pitch bend, set this to a positive value.

JS- X [-60...+60 semitones]

This sets the maximum amount of pitch bend, in semitones, when you move the joystick to the left. For normal pitch bend, set this to a negative value.

4-7b: Portamento

Portamento lets the pitch glide smoothly between notes, instead of changing abruptly.

Portamento and MIDI

If Portamento is either enabled for both the String and the PCM, or off for both, then MIDI CCs 5 (Portamento Time) and 65 (Portamento on/off) affect both the String and the PCM.

If Portamento is enabled for only one of the two, only that element can be affected by the MIDI CCs. The other element will always have Portamento off, regardless of the MIDI CCs.

Enable [Off, On]

On (checked): Turns on Portamento, so that pitch glides smoothly between notes.

Off (unchecked): Turns off Portamento. This is the default state.

Fingered [Off, On]

This parameter allows you to control Portamento through your playing style. When it's enabled, playing legato will turn on Portamento, and playing detached will turn it off again.

This option is only available when Portamento Enable is turned on.

On (checked): Turns on Fingered Portamento.

Off (unchecked): Turns off Fingered Portamento.

Mode [Constant Rate, Constant Time]

Constant Rate means that Portamento will always take the same amount of time to glide a given distance in pitch - for instance, one second per octave. Put another way, gliding several octaves will take much longer than gliding a half-step.

Constant Time means that Portamento will always take the same amount of time to glide from one note to another, regardless of the difference in pitch. This is especially useful when playing chords, since it ensures that each note in the chord will end its glide at the same time.

Time [000...127]

This controls the portamento time. Higher values mean longer times, for slower changes in pitch. When **Time** is set to **0**, the pitch will be reached instantly—just as if Portamento **Enable** was turned **Off**.

AMS [List of AMS Sources]

This selects an AMS source to control the **Portamento Time**. For a list of AMS sources, see "Alternate Modulation Source (AMS) List" on page 1021.

The modulation occurs only at note-on. This means that you can change the time for the *next* pitch glide, but you can't change any glides which are already in progress.

Intensity [-127...+127]

This controls the depth and direction of the **Portamento Time** AMS modulation.

4-7c: LFO

LFO Select [LFO 1, LFO 2, LFO 3, LFO 4, Common LFO]

This selects an LFO to modulate the String's pitch.

The **LFO Intensity**, **JS+ Y Intensity**, and **AMS** are all summed together to produce the final amount of LFO pitch modulation.

LFO Intensity [-48.00...+48.00]

This controls the initial effect of the LFO on the pitch, in semitones, before any JS+Y or AMS modulation.

Negative (-) settings will invert the phase of the LFO.

Both the String and PCM Pitch LFO Intensities are scaled by MIDI CC#77.

JS+Y Intensity [-48.00...+48.00]

Moving the joystick "up" from the center detent position, away from yourself, produces the JS+Y controller. You can use this to scale the amount of the

LFO applied to the pitch. This parameter sets the maximum amount of LFO modulation added by JS+Y, in semitones.

As this value is **increased**, moving the joystick in the +Y direction will cause the LFO to produce deeper pitch modulation.

Negative (-) settings will invert the phase of the LFO. You can also use this to reduce the initial amount of the LFO, as set by **LFO1 Intensity**, above.

AMS [AMS Sources]

This selects an AMS modulation source to scale the amount of the LFO applied to pitch.

For a list of AMS sources, see "Alternate Modulation Source (AMS) List" on page 1021.

Intensity [-48.00...+48.00]

This controls the depth and direction of the LFO AMS modulation, in semitones.

4-7d: Pitch EG

EG Select [EG 1 (Filter), EG 2 (Pitch), EG 3, EG 4, Amp EG]

This selects an EG to modulate the String pitch.

There are four assignable EGs, in addition to the Amp EG. Each of these can be used as a modulation source to control a wide variety of parameters.

In the midst of all this flexibility, we thought it would also be good to provide a little structure. With this in mind, EG 1 is named EG 1 (Filter) and EG 2 is labeled EG 2 (Pitch).

Please take these names as suggestions, rather than restrictions. If you like, you're free to use these EGs to control any EG or AMS destination, or to use other EGs to control Filter Frequency and Pitch.

Intensity [-48.00...+48.00]

This controls the initial effect of the Pitch EG on the String, in half-steps, before any AMS modulation.

The Pitch EG's shape can swing all the way from +99 to -99. When the Intensity is set to a **positive (+)** value, positive values from the EG raise the pitch, and negative values lower the pitch.

When the Intensity is set to a **negative (-)** value, the effect of the EG is reversed; positive EG values mean *lower* pitches, and negative EG values mean *higher* pitches.

AMS [AMS Sources]

This selects an AMS modulation source to scale the amount of the Pitch EG applied to the String.

For a list of AMS sources, see "Alternate Modulation Source (AMS) List" on page 1021.

Intensity [-48.00...+48.00]

This controls the depth and direction of the pitch EG AMS modulation. The AMS modulation and the initial Intensity are added together to determine the Pitch EG's final effect.

4-7e: AMS

AMS 1 [List of AMS Sources]

This selects the first modulation source for controlling the String's pitch. For a list of AMS sources, see "Alternate Modulation Source (AMS) List" on page 1021.

Intensity [+/-48.00 semitones]

This controls the depth and direction of the AMS 1 pitch modulation, in semitones.

Intensity Mod AMS [List of AMS Sources]

You can modulate AMS 1's Intensity from another AMS source. This selects that source.

Intensity [+/-48.00 semitones]

This controls the depth and direction of the Intensity Mod AMS, in semitones. The result is summed with the main AMS 1 Intensity to produce the final pitch modulation amount.

AMS 2 [List of AMS Sources]

This selects a second modulation source for controlling the String's pitch. For a list of AMS sources, see "Alternate Modulation Source (AMS) List" on page 1021.

Intensity [+/-48.00 semitones]

This controls the depth and direction of the AMS 2 pitch modulation, in semitones.

Intensity Mod AMS [List of AMS Sources]

You can modulate AMS 2's Intensity from another AMS source. This selects that source.

Intensity [+/-48.00 semitones]

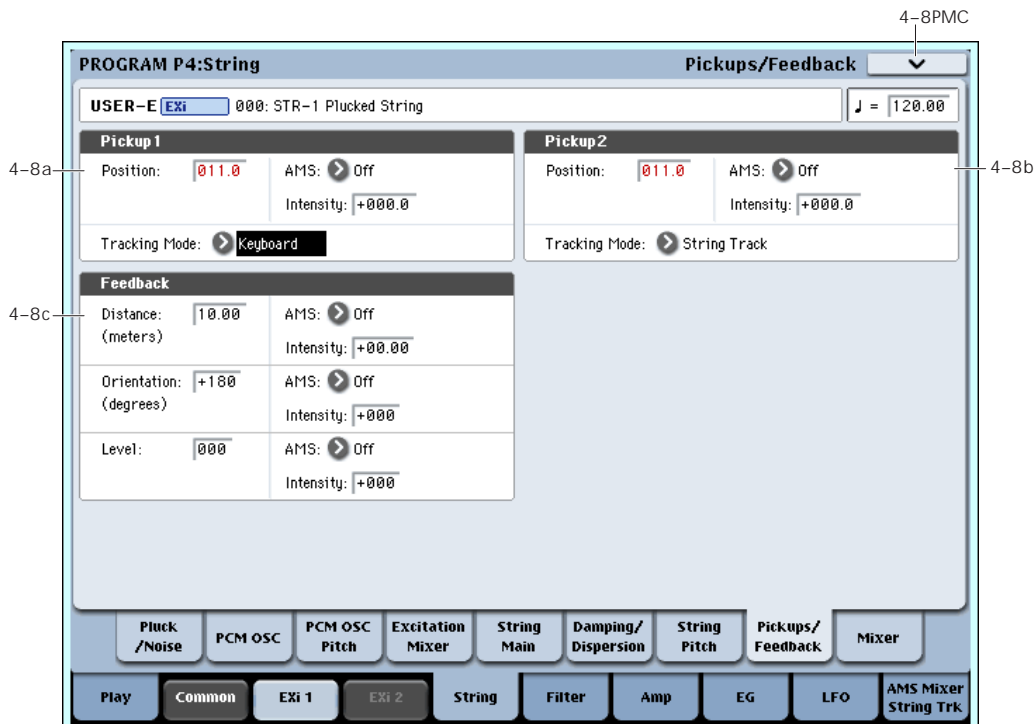
This controls the depth and direction of the Intensity Mod AMS, in semitones. The result is summed with the main AMS 2 Intensity to produce the final pitch modulation amount.

▼ 4-7: Page Menu Commands

The number before each command shows its ENTER + number-key shortcut. For more information on these shortcuts, see "ENTER + 0-9: shortcuts for menu commands" on page 142.

- 0: **Write Program**. For more information, see "Write Program" on page 142.
- 1: **Exclusive Solo**. For more information, see "Exclusive Solo" on page 142.

4-8: Pickups and Feedback



4-8a: Pickup 1

Position [0...100.0]

This adjusts the location of the pickup along the string. You can modulate this via AMS, to create effects similar to chorusing. Unlike the **Excitation Position**,

you can modulate the **Pickup Position** while the note is sounding. Typically, values between 8.0 and 25.0 will work well.

The effect of the **Pickup Position** is similar to that of the **Excitation Position**. The comb filtering produced by the excitation and the two pickups is cumulative, and can produce complex patterns of peaks and valleys in the frequency response.

The position is approximately symmetric around 50 for all of the notes when **Tracking Mode** is set to **Keyboard**; in other words, a value of 60 is roughly the same as 40. When **Tracking Mode** is set to **String**, however, the point of symmetry varies for each note.

For more information, see “How Position affects the timbre” on page 252.

Harmonic and Pickup Positions

If the **Pickup Position** is the same as the **Harmonic Position**, the pickup won't produce much sound when **Harmonic Pressure** is applied.

Pickup Position and Note

The note being played defines another position along the string. For instance, with a guitar, the note is the position of the finger on the fretboard, as it presses down on the string. This creates a temporary end point for the string. At this end point, the string vibrates very little; beyond it, the string doesn't vibrate at all.

Pickups don't “hear” the entire string; they only hear the part of the string directly above them. If that part of the string isn't vibrating (for instance, if it's being held down!), there's very little for a pickup to listen to—and thus the pickup won't produce much sound, if it produces any at all.

For example, let's say that you were listening only to **Pickup 1**.

Set the **Pickup Position** to 50 (the middle of the string),^b and the **Tracking Mode** to **String Track**. The open note of the top string, E4, will sound fine. As you play higher notes, however, the sound will become thinner, until it becomes very quiet at E5.

What happened here?

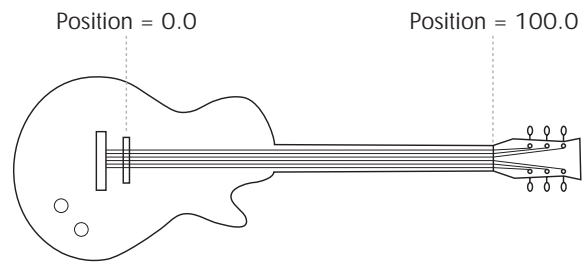
The pickup stays in same location, right in the middle of the string. With each semitone, the point at which the string is being pressed down moves up one fret. When you reach an octave up (at E5), the string is being pressed down in the middle of the string, right over the pickup.

If you play even higher, the pickup produces no sound since it is now outside the part of the string that is vibrating.^b (The STR-1 model assumes that^b your finger can hold down the string perfectly, so that no vibrations get past it.)

The higher the **Pickup Position**, the lower the range in which this can occur. The normal range of a guitar is much less than that of a 76- or 88-note keyboard, and higher pickup positions may make sense (and make sound!) only when playing within that normal guitar range.

Also, note that this can only happen when the **Tracking Mode** is set to **String Track**.

Pickup Position



AMS

[List of AMS Sources]

This selects a modulation source to control the **Position**. Try using an LFO, for instance. For a list of AMS sources, see “Alternate Modulation Source (AMS) List” on page 1021.

Intensity

[-100.0...+100.0]

This controls the depth and direction of the **Position** AMS modulation.

Tracking Mode

[String Track, Keyboard, Off]

This controls the relationship between the pickup **Position** and the pitch.

String Track scales the pickup position according to the current String, as set in the String Tracking section.

Keyboard scales the pickup position according to pitch, without taking the String settings into account. This might be more appropriate for clav sounds, for instance.

Off disables pitch-related scaling. This setting works well when sweeping the position via AMS (such as by an LFO) for chorusing effects, as described below.

Creating “chorusing” with the pickups

For a chorus-like effect, set the pickup **Tracking Mode** to **Off**, and modulate the pickup position with an LFO. With the pickup **Tracking Mode** set to **Keyboard**, the modulation depth varies with note, so that the depth is large on the low end of the keyboard and small at the top. With the pickup **Tracking Mode** set to **String**, the depth will step to a new value at each open string.

4-8b: Pickup 2

This is the second pickup. It has the same parameters as Pickup 1, above.

4-8c: Feedback

This lets you route audio from elsewhere in OASYS through the string. You can use any of the audio inputs, any of the audio outputs, the REC buses, the FX Control buses, or the outputs of any of the Insert, Master, or Total Effects.

The main purpose of this is to process the STR-1 through one or more Insert Effects, such as an overdrive or amp model, and then send that audio back into the STR-1, for traditional electric guitar feedback effects.

All three feedback parameters—**Distance**, **Orientation**, and **Level**—can be modulated in real-time. You can use this to model the classic effect of holding an electric guitar near an amp until it feeds back, and then varying the pitch of the feedback by changing the guitar’s orientation in relation to, and distance from, the amp.

You can also route live or recorded audio through the string an/or filters, in realtime—and we’re sure that you’ll be able to think of other creative uses!

Source and Channel

The feedback source and channel (left, right, or L+R summation) are selected by the Input Source and Channel parameters in the current Program, Combination Timbre, or Song Track.

For more information, see “4-2: EXi Audio Input” on page 168 (Program mode), “2-6: EXi Audio Input” on page 422 (Combination mode), and “2-6: EXi Audio Input” on page 530 (Sequencer mode).

Distance (meters) [0.23...10.00]

This models the distance of the guitar from the amp. Usually, it’s best to set this very low, but higher settings may produce interesting effects.

AMS [List of AMS Sources]

This selects a modulation source to control the **Distance**. For a list of AMS sources, see “Alternate Modulation Source (AMS) List” on page 1021.

Intensity [-10.00...+10.00]

This controls the depth and direction of the **Distance** AMS modulation.

Orientation (degrees) [-180...+180]

This models turning the guitar away from the amp. Turning the guitar primarily affects the tone of the feedback, but also affects the pitch and the volume.

AMS [List of AMS Sources]

This selects a modulation source to control the **Orientation**. For a list of AMS sources, see “Alternate Modulation Source (AMS) List” on page 1021.

Intensity [-180...+180]

This controls the depth and direction of the **Orientation** AMS modulation.

Level [0...100]

This controls the overall gain of the feedback into the string. Unlike the other feedback parameters, this can be different for each voice.

AMS [List of AMS Sources]

This selects a modulation source to control the **Level**. For a list of AMS sources, see “Alternate Modulation Source (AMS) List” on page 1021.

Intensity [-100...+100]

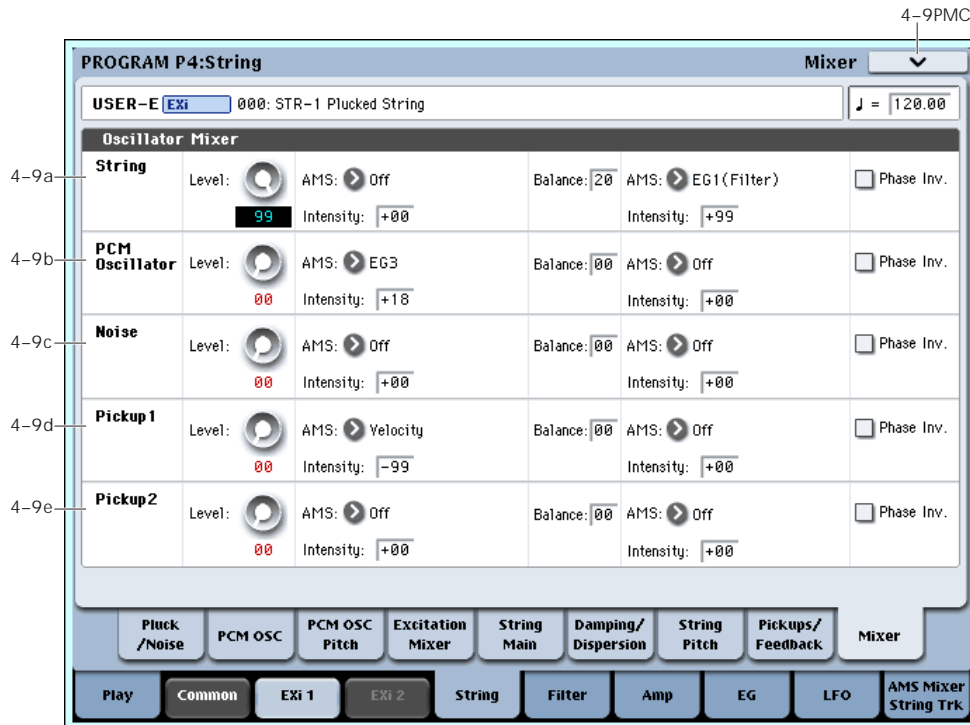
This controls the depth and direction of the **Level** AMS modulation.

▼ 4-8: Page Menu Commands

The number before each command shows its ENTER + number-key shortcut. For more information on these shortcuts, see “ENTER + 0-9: shortcuts for menu commands” on page 142.

- **0: Write Program**. For more information, see “Write Program” on page 142.
- **1: Exclusive Solo**. For more information, see “Exclusive Solo” on page 142.

4-9: Mixer



The Mixer page controls the volume levels and filter routing for the main String output, as well as the direct outputs (bypassing the string) of the PCM oscillator and Noise Generator. For instance, you can:

- Control the volume levels for the String, the PCM Oscillator, and the Noise Generator.
- Modulate these volume levels via AMS.
- When the **Filter Routing** is set to either **Serial** or **Parallel**, you can route each of the five elements through Filter A, Filter B, or a combination of the two—and then modulate that routing via AMS. For instance, you can create a layer by setting the **Filter Routing** to **Parallel**, and then sending the PCM Oscillator to Filter A, and the String to Filter B.

4-9a: String

Level [0...100]

This controls the volume level for the String.

AMS [List of AMS Sources]

This selects an AMS source to control the **String Level**. For a list of AMS sources, see “Alternate Modulation Source (AMS) List” on page 1021.

Intensity [-100...+100]

This controls the depth and direction of the **String Level** AMS modulation.

Balance [0...100]

This controls the filter routing for the String. It applies only when the **Filter Routing** is set to either **Serial** or **Parallel**; otherwise, it is grayed out.

0 is the default, and means that the String goes into Filter A. If the **Filter Routing** is set to **Serial**, it will also pass through Filter B.

99 means that the String goes into Filter B.

In between, the String will go to a combination of both filters. By modulating the **Balance** via AMS, you can crossfade between routing through Filter A and Filter B. For more information, see “Interaction between the filters and the mixer,” on page 265.

AMS [List of AMS Sources]

This selects an AMS source to control the **String Balance**. For a list of AMS sources, see “Alternate Modulation Source (AMS) List” on page 1021.

Intensity [-100...+100]

This controls the depth and direction of the **String Balance** AMS modulation.

Phase Invert [Off, On]

This inverts the phase of the String.

4-9b: PCM Oscillator

This controls the volume level and balance for the PCM Oscillator. It has the same parameters as described under “4-9a: String,” above.

4-9c: Noise

The Noise Generator has the same mixer parameters as described under “4-9a: String,” above.

4-9d: Pickup 1

Pickup 1 has the same mixer parameters as described under “4-9a: String,” above.

Try inverting the phase for one of the two pickups; this can produce an interesting effect.

4-9e: Pickup 2

Pickup 2 has the same mixer parameters as described under “4-9a: String,” above.

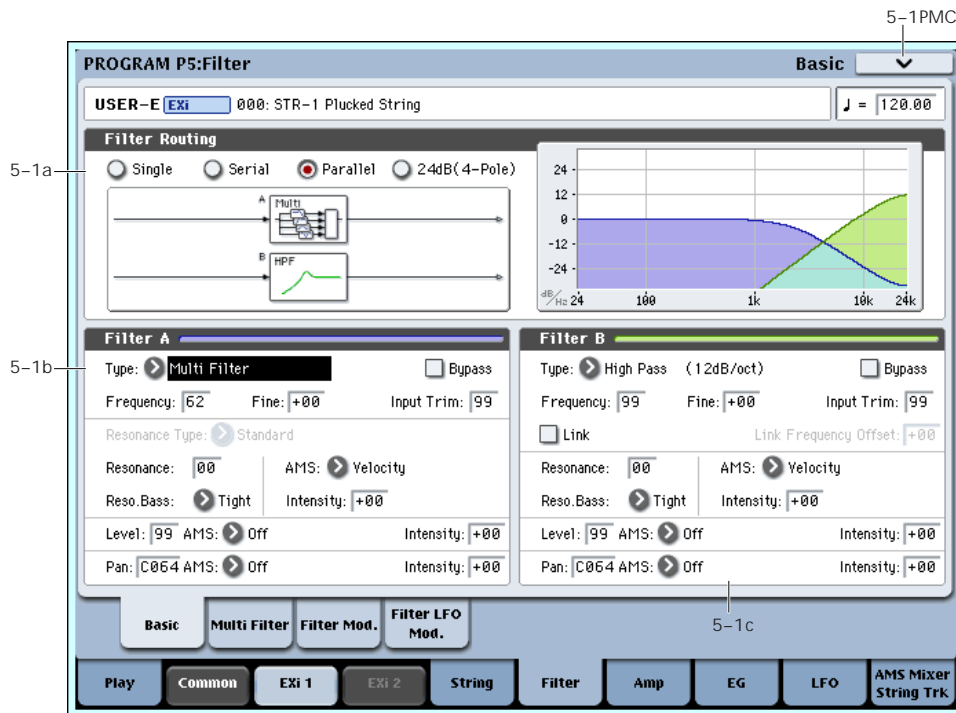
▼ 4-9: Page Menu Commands

The number before each command shows its ENTER + number-key shortcut. For more information on these shortcuts, see “ENTER + 0-9: shortcuts for menu commands” on page 142.

- 0: **Write Program**. For more information, see “Write Program” on page 142.
- 1: **Exclusive Solo**. For more information, see “Exclusive Solo” on page 142.

Program P5: Filter

5-1: Filter Basic



Interaction between the filters and the mixer

When the **Filter Routing** is set to either **Single** or **24dB/oct**, the routing from the String section into the Filter section is fairly simple. There's only a single filter, and that filter processes the entire sound.

Things can get more interesting when the **Filter Routing** is set to **Serial** or **Parallel**. In these modes, The Mixer page's **Balance** parameters let you separately control the filter routing for each of the five inputs: the String, the PCM Oscillator, the Noise Generator, Pickup1, and Pickup2.

When an input's **Balance** is set to 0, it goes into Filter A. (Note that if the **Filter Routing** is set to **Serial**, the signal will also pass through Filter B.)

If the input's **Balance** is set to 99, it goes directly into Filter B, regardless of whether the routing is set to **Serial** or **Parallel**.

Standard serial configuration

To create a standard serial filter configuration:

1. Set the **Filter Routing** to **Serial**.

This connects the output of Filter A to the input of Filter B.

2. Set all of the mixer's **Balance** controls to 0.

This makes all of the inputs go to Filter A first, and then through Filter B.

Standard parallel configuration

To create a standard parallel filter configuration:

1. Set the **Filter Routing** to **Parallel**.

2. Set all of the mixer's **Balance** controls to 50.

This routes all of the inputs to both filters, at equal volumes.

Dual signal paths

You can also send the String through Filter A, and the PCM Oscillator through Filter B (or vice-versa), to create a layered sound. For instance:

1. Set the **Filter Routing** to **Parallel**.

2. Set the **String's Balance** to 0.

This routes the String to Filter A.

3. Set the **PCM Oscillator's Balance** to 99.

This routes the PCM Oscillator to Filter B.

Anywhere in-between

If an input's **Balance** is set between 1 and 98, it will go to a combination of both filters—so that many “in between” filter effects are available.

Finally, by modulating an input's **Balance** via AMS, you can crossfade between routing through Filter A and Filter B.

5-1a: Routing

Filter Routing [Single, Serial, Parallel, 24dB/oct]

There are two filters, Filter A and Filter B. This parameter controls whether one or both of the filters are used, and if both are used, it controls how they are connected to each other.

Single. This uses only Filter A as a single 2-pole, 12dB/octave filter (6dB for Band Pass and Band Reject). When this option is selected, the controls for Filter B will be grayed out.

Serial. This uses both filters. The output of Filter A is processed through Filter B.

Parallel. This also uses both Filter A and Filter B. Unlike Serial, above, the outputs of the two filters are kept separate, with individual control over both level and pan.

24dB/oct. This merges both filters to create a single 4-pole, 24dB/octave filter (12dB for Band Pass and Band Reject). In comparison to Single, this option produces a sharper roll-off beyond the cutoff frequency, as well as a slightly more delicate resonance. Many classic analog synths used this general type of filter.

When **24dB/oct** is selected, only the controls for Filter A are active; the controls for Filter B will be grayed out. Also, note that the **Multi Filter** is not available in this mode.

5-1b: Filter A

Filter Type [Low Pass, High Pass, Band Pass, Band Reject, Multi Filter]

The filter will produce very different results depending on the selected filter type. The selections will change slightly according to the selected **Filter Routing**, to show the correct cutoff slope in dB per octave.

Low Pass. This cuts out the parts of the sound which are **higher** than the cutoff frequency. Low Pass is the most common type of filter, and is used to make bright timbres sound darker.

High Pass. This cuts out the parts of the sound which are **lower** than the cutoff frequency. You can use this to make timbres sound thinner or more buzzy.

Band Pass. This cuts out all parts of the sound, both highs and lows, except for the region around the cutoff frequency. Since this filter cuts out both high and low frequencies, its effect can change dramatically depending on the cutoff setting and the oscillator's multisample.

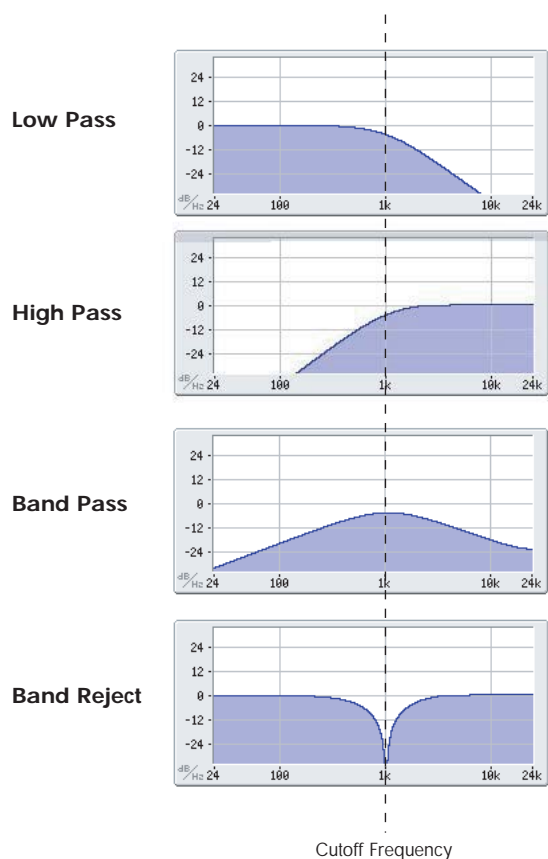
With low resonance settings, you can use the Band Pass filter to create telephone or vintage phonograph sounds. With higher resonance settings, it can create buzzy or nasal timbres.

Band Reject. This filter type—also called a notch filter—cuts only the parts of the sound directly around the cutoff frequency. Try modulating the cutoff with an LFO to create phaser-like effects.

Multi Filter. This is a complex filter which is capable of all of the above filter types, and many more besides. For more information, see “5-2: Multi Filter,” on page 268.

The Multi Filter is available only for Filter A, and only when the Filter Routing is set to **Single**, **Serial** or **Parallel**.

Filter Types and Cutoff Frequency



Bypass [Off, On]

This lets you bypass Filter A completely.

If **Bypass** is **Off**, Filter A functions normally.

When **Bypass** is **On**, Filter A has no effect on the input signal.

Trim [00...99]

This adjusts the volume level at the input to Filter A. If you notice that the sound is distorting, especially with high Resonance settings, you can turn the level down here, or at the Output Level.

Note that the filter will not clip internally, so there is no difference between adjusting the Input Trim and the Output Level. Either of these controls will allow you to minimize clipping later in the signal chain, such as may occur in some effects.

Output Level [00...99]

This controls the output level of Filter A. You can use this to balance the volumes of Filters A and B when the Routing is set to Parallel, or to turn down the volume to avoid clipping later in the signal chain.

AMS [AMS Sources]

This selects a modulation source to control the **Output Level**. For a list of AMS sources, see “Alternate Modulation Source (AMS) List” on page 1021.

Intensity [-99...+99]

This controls the depth and direction of the **Output Level** modulation.

Frequency [00...99]

This controls the cutoff frequency of Filter A, in increments of 1/10 of an octave. The specific effect of the cutoff frequency will change depending on the selected **Filter Type**, as described above.

Frequency Fine [-99...+99]

This provides fine control of the filter cutoff frequency. Each step of this parameter is equal to 1/100 of a step of the main **Frequency** parameter, above.

Resonance Type [Standard, High]

This controls the strength of the filter resonance when the **Filter Routing** is set to **24dB/oct**. When the routing is set to **Single**, **Serial**, or **Parallel**, this parameter is grayed out.

Standard provides the resonance character of a typical analog 4-pole filter.

High creates a more pronounced resonance.

Resonance Bass [Tight, Full]

This controls the character of the filter resonance at low cutoff frequencies. Its effect is most noticeable with high **Resonance** settings.

Tight produces a more restrained resonance, similar to a classic, American, wood-paneled monophonic synthesizer.

Full produces a wide, boomy resonance, reminiscent of a famous five-voice American synthesizer.

Resonance [00...99]

Resonance emphasizes the frequencies around the cutoff frequency.

When this is set to **0**, there is no emphasis, and frequencies beyond the cutoff will simply diminish smoothly.

At medium settings, the resonance will alter the timbre of the filter, making it sound more nasal, or more extreme.

At very high settings, the resonance can be heard as a separate, whistling pitch.

To make the resonance track the keyboard pitch, see “Key Follow,” on page 270.

Resonance Mod by AMS [AMS Sources]

This selects a modulation source to control the Resonance amount. For a list of AMS sources, see “Alternate Modulation Source (AMS) List” on page 1021.

Intensity [-99...+99]

This controls the depth and direction of the **Resonance** modulation.

Pan [Random, L001...C064...R127]

This controls the stereo pan for Filter A’s output. It is available only when **Filter Routing** is set to **Parallel**.

When the **Filter Routing** is set to **Single**, **Serial**, or **24dB/oct**, the Pan parameters will be grayed out.

AMS [AMS Sources]

This selects an AMS source to modulate **Pan**. For a list of AMS sources, see “Alternate Modulation Source (AMS) List” on page 1021.

Intensity [-99...+99]

This controls the depth and direction of the **Pan** AMS modulation.

5-1c: Filter B

Filter B is available when the **Filter Routing** is set to **Serial** or **Parallel**. Otherwise, its parameters will be grayed out.

Filter B is almost the same as Filter A, but without the **Multi Filter** mode, and with the addition of the **Link** controls, as described below. For all other parameters, please see the descriptions under “5-1b: Filter A,” on page 266.

Link [Off, On]

When **Link** is **On**, most of Filter B’s parameters are grayed out, and are instead controlled by the settings for Filter A.

Specifically, Filter B will use Filter A’s settings for **Resonance**, **Resonance Bass**, and all Frequency and Resonance modulation settings. Filter B’s **Frequency** is also linked to that of Filter A, with an optional frequency offset via the **Link Frequency Offset** parameter, below.

The **Bypass**, **Type**, **Input Trim**, **Output Level**, **Output Level AMS**, **Pan**, and **Pan AMS** parameters are still controlled separately.

Link Frequency Offset [-99...+99]

This offsets Filter B’s Frequency from that of Filter A, and applies only when **Link** is **On**.

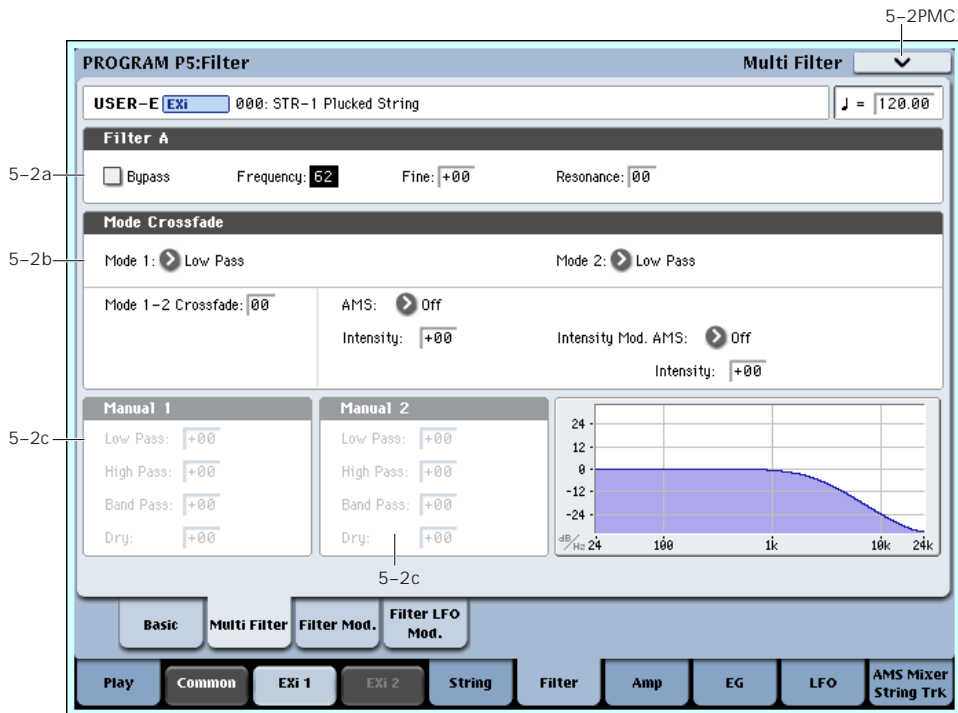
When **Link** is **Off**, this parameter is grayed out.

▼ 5-1: Page Menu Commands

The number before each command shows its ENTER + number-key shortcut. For more information on these shortcuts, see “ENTER + 0-9: shortcuts for menu commands” on page 142.

- **0: Write Program.** For more information, see “Write Program” on page 142.
- **1: Exclusive Solo.** For more information, see “Exclusive Solo” on page 142.

5-2: Multi Filter



This page is available only when the **Filter A Type** is set to **Multi Filter**.

What's a Multi Filter?

Standard multimode filters generate lowpass, highpass, and bandpass filters simultaneously - but only allow you to use one of them at a time.

The Multi Filter gives you access to all three filter modes simultaneously, in any combination, along with the dry input signal. You can choose from a large number of preset combinations, or create your own complex filter modes using the Manual controls.

This is capable of some cool sounds in and of itself, but things really get interesting when you use the Crossfade controls. These allow you to crossfade between two of these filter settings (Mode 1 and Mode 2), using AMS sources such as EGs, LFOs, or real-time controllers.

5-2a: Filter A

Bypass	[Off, On]
Frequency	[00...99]
Fine	[-99...+99]
Resonance	[00...99]

These are the same as the similarly-named parameters on the Filter Basic page, as described under "5-1b: Filter A" on page 266.

Edits to the values on this page will be reflected on the Filter Basic page, and vice-versa.

5-2b: Mode Crossfade

Mode 1 [List of filter types]

This sets the filter type for Mode 1.

Low Pass, **High Pass**, **Band Pass**, and **Band Reject** are the standard filter types. For more information, see "Filter Type," on page 266.

The following types combine two or more filters at equal volumes. **Dry** is the un-filtered input signal. The minus sign ("-") indicates when the phase of a filter is reversed: **LP+BP**, **LP-BP**, **LP-HP**, **BP+HP**, **BP-HP**, **Dry+LP**, **Dry-LP**, **Dry+BP**, **Dry-BP**, **Dry+LP-HP**, **Dry+LP-BP**, **Dry+BP-LP**, **Dry+BP-HP**, **Dry+HP-LP**, **Dry+HP-BP**, **LP+HP+BP**.

All On uses the Low Pass, High Pass, Band Pass, and Dry signals at equal volumes.

Manual 1 lets you create your own mix of the filters. For more information, see "5-2c: Manual 1," below.

Mode 2 [List of filter types]

Mode 2 has the same selections as Mode 1, except that the list ends with Manual 2 instead of Manual 1.

Mode 1-2 Crossfade [0...99]

This fades between the Mode 1 and Mode 2 settings.

0 is all **Mode 1**, 99 is all **Mode 2**, and 1-98 are intermediate values between the two Modes.

AMS [AMS Sources]

This selects a modulation source to control the **Mode 1-2 Crossfade**. For a list of AMS sources, see "Alternate Modulation Source (AMS) List" on page 1021.

Intensity [-99...+99]

This controls the depth and direction of the **Mode 1-2 Crossfade** modulation.

Intensity Mod AMS [List of AMS Sources]

This selects an AMS source to modulate the intensity of the main **Mode 1-2 Crossfade** AMS.

For instance, you can set **AMS** to use one of the LFOs, and then set the **Intensity Mod AMS** to JS -Y. You can then use the joystick to modulate the amount of the LFO.

Intensity [-99...+99]

This controls the depth and direction of the **Intensity Mod AMS**.

5-2c: Manual 1

These parameters let you create your own mix of the filters. When **Mode 1** is set to **Manual 1**, it will use these settings.

You may wonder why Band Reject is not included here. This is because it's not a filter mode per se. Instead, it's created by an equal combination of High Pass and Low Pass. Try it and see!

Lowpass [-99...+99]

This controls the volume of the Lowpass filter output. Negative values invert the phase.

Highpass [-99...+99]

This sets the volume of the Highpass filter output.

Bandpass [-99...+99]

This controls the volume of the Bandpass filter output.

Dry [-99...+99]

This sets the volume of the dry signal.

5-2d: Manual 2

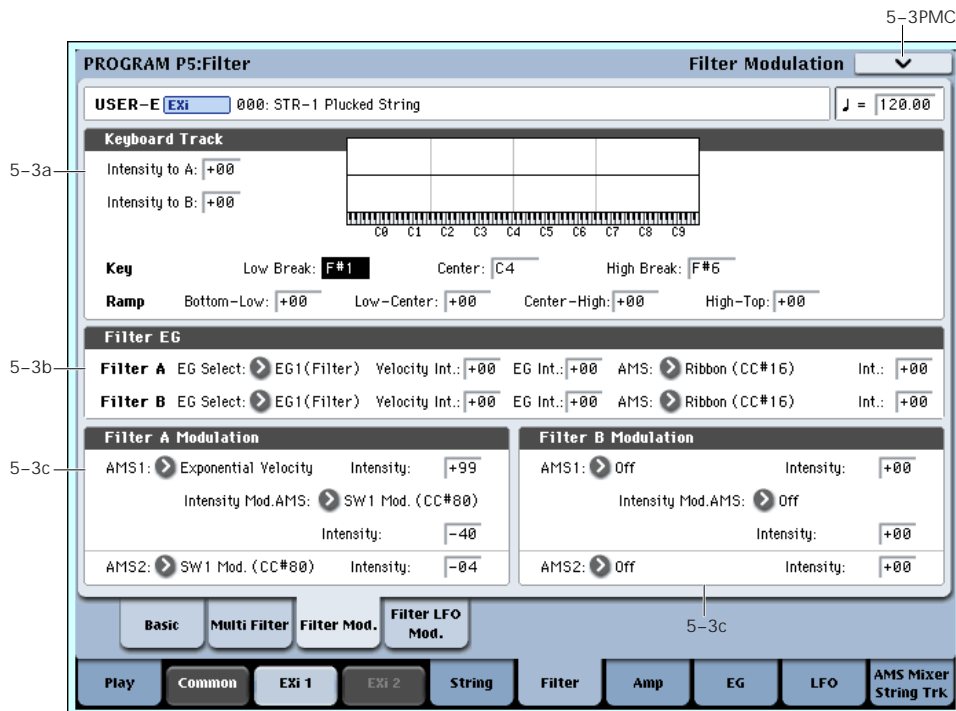
The Manual 2 parameters are identical to those of Manual 1, as described above.

5-2: Page Menu Commands

The number before each command shows its ENTER + number-key shortcut. For more information on these shortcuts, see "ENTER + 0-9: shortcuts for menu commands" on page 142.

- 0: **Write Program**. For more information, see "Write Program" on page 142.
- 1: **Exclusive Solo**. For more information, see "Exclusive Solo" on page 142.

5-3: Filter Modulation



This page contains all of the settings for **Filter Frequency** modulation (except for the LFOs, which are on their own page). Among other things, you can:

- Set up complex keyboard tracking shapes, and control how the tracking affects filter cutoff.

- Control the effect of the Filter Envelope on filter cutoff.
- Assign AMS modulation for filter cutoff.

Filter B is available when the **Filter Routing** is set to **Serial** or **Parallel**. Otherwise, the parameters for Filter B will be grayed out.

5-3a: Keyboard Track AMSource

Most acoustic instruments get brighter as you play higher pitches. At its most basic, keyboard tracking recreates this effect by increasing the cutoff frequency of a lowpass filter as you play higher on the keyboard. Usually, some amount of key tracking is necessary in order to make the timbre consistent across the entire range.

The OASYS keyboard tracking can also be much more complex, since it allows you to create different rates of change over up to four different parts of the keyboard.

The STR-1's Filter keyboard tracking parameters are identical to the HD-1's. For more detailed explanations of the parameters, please see "3-2a: Keyboard Track," on page 64.

There is one difference between the two, however: the STR-1's Filter tracking is affected by Portamento, so that it changes smoothly during glides.

Intensity to A [-99...+99]

This controls how much the keyboard tracking will affect Filter A's cutoff frequency. The overall effect of the Keyboard Track is a combination of this **Intensity** value and the overall Keyboard Track shape.

Intensity to B [-99...+99]

This controls how much the keyboard tracking will affect Filter B's cutoff frequency.

Intensity to B applies only when the **Filter Routing** is set to **Serial** or **Parallel**, and when **Link** is **Off**. In **Single** and **24dB/oct** modes, or if **Link** is **On**, this parameter is grayed out.

Key**Low Break** [C-1...G9]

This sets the breakpoint note between the two lower ramps.

Center [C-1...G9]

This sets the center of the keyboard tracking. At this key, the keyboard tracking has no effect on the filter frequency, or on any AMS destinations.

High Break [C-1...G9]

This sets the breakpoint note between the two higher ramps.

Ramp

The effect on the filter cutoff is a combination of the ramp values, as set below, and the Intensity to A and B parameters. When Intensity is set to +99, a ramp of 50 changes the filter frequency by 1 octave for every octave of the keyboard, and a ramp of +99 changes the frequency by 2 octaves for every octave of the keyboard.

+Inf and -Inf are special settings which create abrupt changes for split-like effects. When a ramp is set to +Inf or -Inf, the keyboard tracking will go to its extreme highest or lowest value over the span of a single key.

For more detailed explanations, please see "3-2a: Keyboard Track," on page 64

Bottom-Low [-Inf, -99...+99, +Inf]

This sets the slope between the bottom of the MIDI note range and the Low Break key. For normal key track, use negative values.

Low-Center [-Inf, -99...+99, +Inf]

This sets the slope between the Low Break and Center keys. For normal key track, use negative values.

Center-High [-Inf, -99...+99, +Inf]

This sets the slope between the Center and High Break keys. For normal key track, use positive values.

High-Top [-Inf, -99...+99, +Inf]

This sets the slope between the High Break key and the top of the MIDI note range. For normal key track, use positive values.

Key Follow

To create the classic Key Follow effect, in which the filter frequency tracks the pitch of the keyboard:

1. Set the **Filter Frequency** to 30.
2. Set the **Keyboard Track Intensity** to +99.
3. Set the **Bottom-Low** and **Low-Center** ramps to -50.
4. Set the **Center-High** and **High-Top** ramps to +50.
5. Set the **Center Key** to C4.

The settings for the Low Break and High Break keys don't matter in this case.

5-3b: Filter EG

The EGs modulate the Filter A and B cutoff frequencies over time. You can control how strongly they will affect the filters in three different ways:

- Set an initial amount of EG modulation, using the EG Intensity parameters.
- Use velocity to scale the amount of the EG applied to the filter.
- Use any AMS source to scale the amount of the EG applied to the filter.

You can use all three of these at once, and the results are added together to produce the total EG effect.

To set up the EGs themselves, including attack and release times, levels, and so on, see "7-1: EG 1 (Filter)," on page 279.

Filter A**EG Select** [EG 1 (Filter), EG 2 (Pitch), EG 3, EG 4, Amp EG]

This selects an EG to modulate Filter A's Frequency.

There are four assignable EGs, in addition to the Amp EG. Each of these can be used as a modulation source to control a wide variety of parameters.

In the midst of all this flexibility, we thought it would also be good to provide a little structure. With this in mind, EG 1 is named EG 1 (Filter) and EG 2 is labeled EG 2 (Pitch).

Please take these names as suggestions, rather than restrictions. If you like, you're free to use these EGs to control any EG or AMS destination, or to use other EGs to control Filter Frequency and Pitch.

Velocity Intensity [-99...+99]

This lets you use velocity to scale the amount of the EG applied to Filter A.

EG Intensity [-99...+99]

This controls the initial effect of the EG on Filter A's cutoff frequency, before any velocity or AMS modulation.

AMS [AMS Sources]

This selects an AMS modulation source to scale the amount of the EG applied to Filter A.

For a list of AMS sources, see "Alternate Modulation Source (AMS) List" on page 1021.

Intensity [-99...+99]

This controls the depth and direction of the AMS modulation.

Filter B

The EG parameters for Filter B are the same as those for "Filter A," above.

When **Link** is **On**, or when the Filter Routing is set to **Single** or **24dB/oct**, all of these parameters are grayed out.

When **Link** is **On**, or when the Filter Routing is set to **Single** or **24dB/oct**, all of these parameters are grayed out.

▼ **5-3: Page Menu Commands**

The number before each command shows its ENTER + number-key shortcut. For more information on these shortcuts, see "ENTER + 0-9: shortcuts for menu commands" on page 142.

- **0: Write Program.** For more information, see "Write Program" on page 142.
- **1: Exclusive Solo.** For more information, see "Exclusive Solo" on page 142.

5-3c: Filter Modulation

Filter A Frequency

AMS 1 [AMS Sources]

This selects the first modulation source to control Filter A's **Frequency**. For a list of AMS sources, see "Alternate Modulation Source (AMS) List" on page 1021.

Intensity [-99...+99]

This controls the depth and direction of the **Frequency** modulation.

Intensity Mod AMS [List of AMS Sources]

This selects an AMS source to modulate the intensity of **AMS 1**.

Intensity [-99...+99]

This controls the depth and direction of the **Intensity Mod AMS**.

AMS 2 [AMS Sources]

This selects a second modulation source to control Filter A's **Frequency**. For a list of AMS sources, see "Alternate Modulation Source (AMS) List" on page 1021.

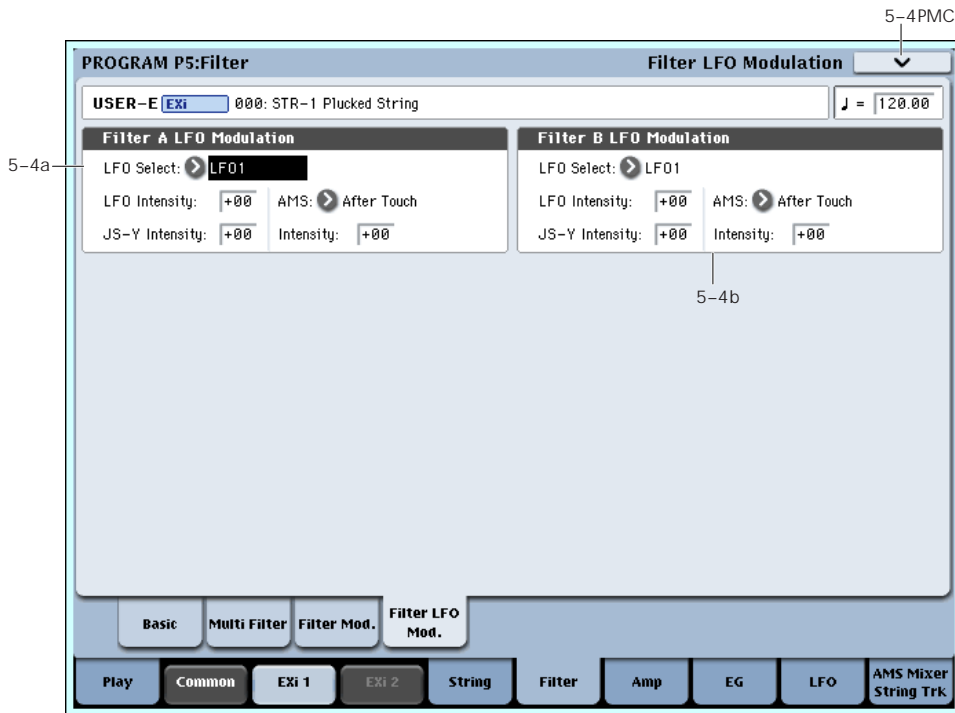
Intensity [-99...+99]

This controls the depth and direction of **AMS 2**.

Filter B Frequency

The settings for Filter B are the same as those for "Filter A Frequency," above.

5-4: Filter LFO Mod



There are three LFO-to-Frequency controls for each filter: a basic amount (**LFO Intensity**), joystick -Y control of LFO amount (**JS- Y Intensity**), and AMS control of LFO amount (**AMS Intensity**). The three controls are summed together to determine the final LFO amount.

5-4a: Filter A

LFO Select [LFO 1, LFO 2, LFO 3, LFO 4, Common LFO]

This selects an LFO to modulate Filter A’s cutoff frequency.

The **LFO Intensity**, **JS -Y Intensity**, and **AMS** are all summed together to produce the final amount of LFO pitch modulation.

LFO Intensity [-99...+99]

This controls the initial effect of the LFO on Filter A’s cutoff frequency, before any JS+Y or AMS modulation.

Negative (-) settings will invert the phase of the LFO.

JS -Y Intensity [-99...+99]

Moving the joystick “down” from the center detent position, towards yourself, produces the JS -Y controller. You can use this to scale the amount of the LFO applied to Filter A.

This parameter sets the maximum amount of LFO modulation added by JS -Y.

AMS [AMS Sources]

This selects an AMS modulation source to scale the amount of the LFO applied to Filter A’s cutoff frequency.

For a list of AMS sources, see “Alternate Modulation Source (AMS) List” on page 1021.

Intensity [-99...+99]

This controls the depth and direction of the LFO AMS modulation.

5-4b: Filter B

The settings for Filter B are the same as those for “5-4a: Filter A,” above.

When **Link** is **On**, or when the Filter Routing is set to **Single** or **24dB/oct**, all of these parameters are grayed out.

▼ 5-4: Page Menu Commands

The number before each command shows its ENTER + number-key shortcut. For more information on these shortcuts, see “ENTER + 0-9: shortcuts for menu commands” on page 142.

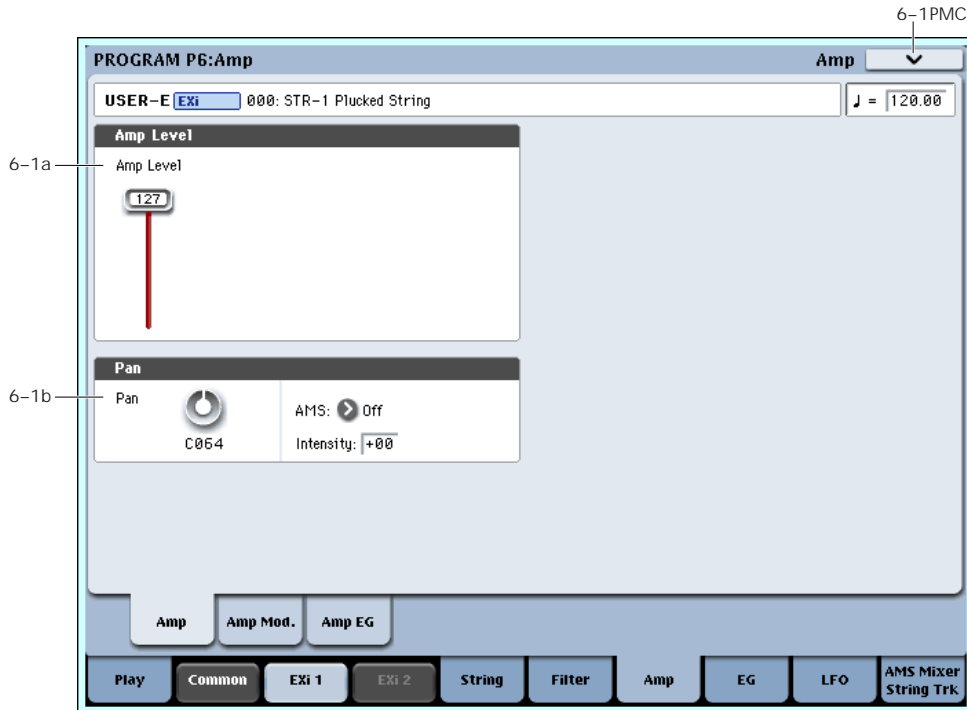
- 0: **Write Program**. For more information, see “Write Program” on page 142.
- 1: **Exclusive Solo**. For more information, see “Exclusive Solo” on page 142.

Program P6: Amp

These pages let you control the sound's volume (also called "amplitude," or "amp" for short), pan, and the dedicated amp envelopes and keyboard tracking generators. For instance, you can:

- Set the pan position and pan modulation.
- Control amp level and modulation, including keyboard tracking, the amp envelope, LFO modulation, and AMS control.

6-1: Amp



This page controls the basic settings for the Amp section. Here, you can:

- Set the initial volume level.
- Control the pan position and pan modulation.

6-1a: Amp Level

Amp Level [0...127]

This controls the basic volume level of the STR-1, before keyboard tracking, velocity, and other modulation.

The Control Surface and volume

You can also control the volumes of EXi 1 and 2 directly from the Control Surface sliders. These volume levels are separate parameters, in addition to the individual EXi Amp Levels. To do so:

1. Press the Control Surface Timbre/Track button.
2. Move Slider 1 to set the volume for EXi 1, and Slider 2 for EXi 2.

MIDI and volume

MIDI You can control the Program's overall volume via MIDI using both Volume (CC#7) and Expression (CC#11). When used one at a time, the two controllers work in exactly the same way: a MIDI value of 127 is equal to the Amp Level setting, and lower values reduce the volume.

If both CC#7 and CC#11 are used simultaneously, the one with the *lower* value determines the maximum volume, and the one with the higher value scales down from that maximum.

6-1b: Pan

Pan [Random, L001...C064...R127]

This controls the stereo pan of the EXi. A setting of **L001** places the sound at the far left, **C064** in the center, and **R127** to the far right.

When this is set to **Random**, the pan position will be different for each note-on.

You can also set this Pan parameter directly from the Control Surface knobs. To do so:

1. Press the Control Surface Timbre/Track button.
2. Set the MIXER KNOBS switch to INDIVIDUAL PAN.
3. Move Knob 1 to set the pan for EXi 1, and Knob 2 to set the pan for EXi 2.

MIDI You can also control pan via MIDI Pan (CC#10). A CC#10 value of 0 or 1 places the sound at the far left, 64 places the sound at the location specified by the "Pan" parameter, and 127 places the sound at the far right.

Note: you can select Random pan only from the on-screen UI, and not from MIDI or the Control surface.

AMS

[AMS Sources]

This selects an AMS source to modulate **Pan**. For a list of AMS sources, see “Alternate Modulation Source (AMS) List” on page 1021.

Intensity

[-99...+99]

This controls the depth and direction of the AMS modulation for **Pan**.

For example, if **Pan** is set to C064 and **AMS** is set to Note Number, **positive (+)** intensities will cause the sound to move toward the right as you play higher than C4, and toward the left as you play lower than C4.

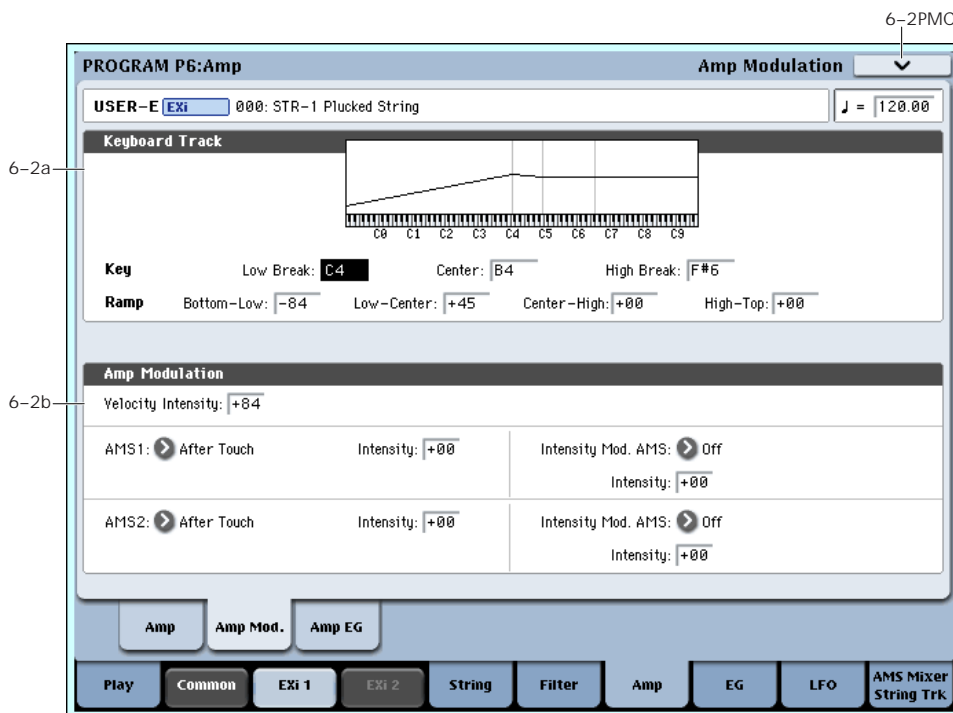
Negative (-) intensities will have the opposite effect.

▼ **6-1: Page Menu Commands**

The number before each command shows its ENTER + number-key shortcut. For more information on these shortcuts, see “ENTER + 0-9: shortcuts for menu commands” on page 142.

- **0: Write Program.** For more information, see “Write Program” on page 142.
- **1: Exclusive Solo.** For more information, see “Exclusive Solo” on page 142.

6-2: Amp Modulation



This page contains the settings for the STR-1’s Amp level modulation. Among other things, you can:

- Set up complex keyboard tracking shapes to control the Amp level.
- Assign AMS modulation for the Amp level.
- Control the effect of the LFOs on the Amp level.

The total effects of the modulation can increase the volume to a maximum of two times louder than the Amp Level setting.

6-2a: Keyboard Track AMSource

Keyboard tracking lets you vary the volume as you play up and down the keyboard. Usually, some amount of key tracking is necessary in order to make the volume consistent across the entire range.

The STR-1’s Amp keyboard tracking parameters are identical to the HD-1’s. For more detailed explanations of the parameters, please see “4-2a: Keyboard Track,” on page 76.

There is one difference between the two, however: the STR-1’s Amp tracking is affected by Portamento, so that it changes smoothly during glides.

Key

Low Break [C-1...G9]

This sets the breakpoint note between the two lower ramps.

Center [C-1...G9]

This sets the center of the keyboard tracking. At this key, the keyboard tracking has no effect on the volume, or on any AMS destinations.

High Break [C-1...G9]

This sets the breakpoint note between the two higher ramps.

Ramp

Bottom-Low [-Inf, -99...+99, +Inf]

This sets the slope between the bottom of the MIDI note range and the Low Break key. For normal key track, use negative values.

Ramp	Change in level
-Inf	Silent in one half-step
-99	Silent in one whole-step
-95	Silent in one octave
-48	Silent in two octaves
-25	Silent in four octaves
00	no change
+25	x2 in four octaves
+50	x2 in two octaves
+99	x2 in one octave
+Inf	x2 in one half-step

Low-Center [-Inf, -99...+99, +Inf]

This sets the slope between the Low Break and Center keys. For normal key track, use negative values.

Center-High [-Inf, -99...+99, +Inf]

This sets the slope between the Center and High Break keys. For normal key track, use positive values.

High-Top [-Inf, -99...+99, +Inf]

This sets the slope between the High Break key and the top of the MIDI note range. For normal key track, use positive values.

6-2b: Amp Modulation

You can modulate the Amp level by velocity and two AMS sources. Each of the AMS sources also has its own secondary intensity modulation.

This modulation scales the basic Amp level and Amp EG level parameters. If these original levels are low, the maximum volume available with modulation will also be reduced.

Note that there is an upper limit to Amp modulation. Once the volume level reaches double the programmed Amp Level and Amp EG level settings, it cannot be increased any further.

Velocity Intensity [-99...+99]

With **positive (+)** values, the volume will increase as you play harder.

With **negative (-)** values, the volume will decrease as you play harder.

AMS1 [AMS Sources]

This selects the first modulation source for the Amp level. For a list of AMS sources, see "Alternate Modulation Source (AMS) List" on page 1021.

Intensity [-99...+99]

This sets the initial amount of AMS1. The **Intensity Mod AMS** then adds to this initial amount.

Intensity Mod AMS [AMS Sources]

This selects a secondary AMS modulation source to scale the intensity of AMS1.

For a list of AMS sources, see "Alternate Modulation Source (AMS) List" on page 1021.

Intensity [-99...+99]

This controls the depth and direction of the **Intensity Mod AMS**. Even if the main AMS1 Intensity is set to 0, Intensity Mod AMS can still control the final amount of AMS A over the full +/-99 range.

For example, if AMS1 is set to LFO1, and Intensity Mod AMS is set to **After Touch**, positive settings mean that aftertouch will increase the amount of LFO modulation.

AMS2 [AMS Sources]

This selects a second modulation source for the Amp level. For a list of AMS sources, see "Alternate Modulation Source (AMS) List" on page 1021.

Intensity [-99...+99]

This sets the initial amount of AMS2. The **Intensity Mod AMS** then adds to this initial amount.

Intensity Mod AMS [AMS Sources]

This selects a secondary AMS modulation source to scale the intensity of AMS2.

For a list of AMS sources, see "Alternate Modulation Source (AMS) List" on page 1021.

Intensity [-99...+99]

This controls the depth and direction of the **Intensity Mod AMS**. Even if the main AMS2 Intensity is set to 0, Intensity Mod AMS can still control the final amount of AMS A over the full +/-99 range.

AMS3 [AMS Sources]

This selects a third modulation source for the Amp level. For a list of AMS sources, see "Alternate Modulation Source (AMS) List" on page 1021.

Intensity [-99...+99]

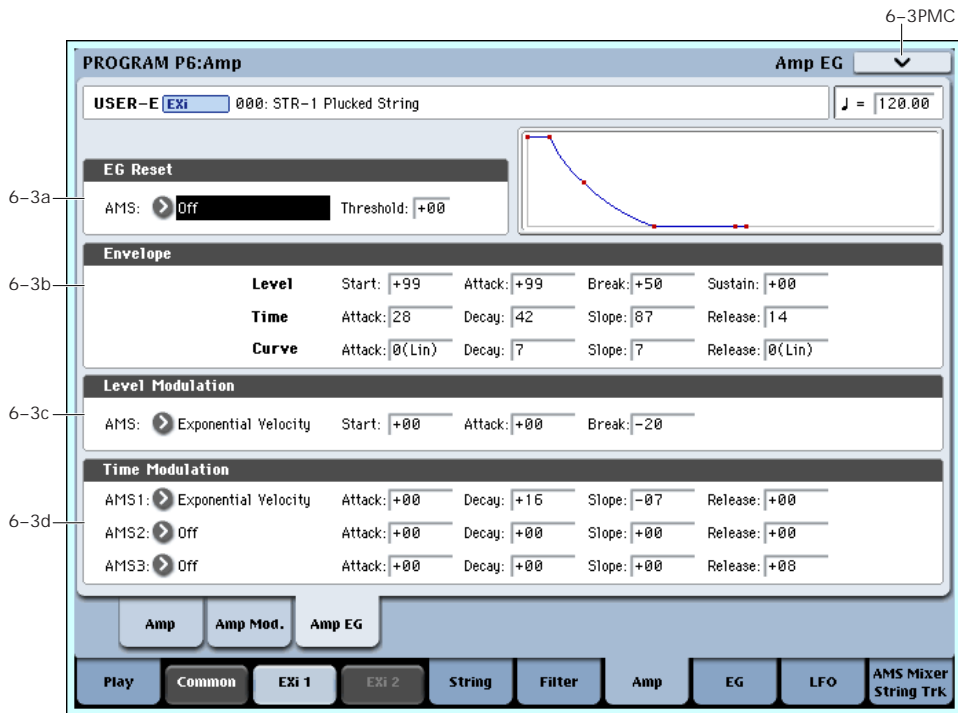
This sets the initial amount of AMS3.

▼ 6-2: Page Menu Commands

The number before each command shows its ENTER + number-key shortcut. For more information on these shortcuts, see "ENTER + 0-9: shortcuts for menu commands" on page 142.

- 0: **Write Program**. For more information, see "Write Program" on page 142.
- 1: **Exclusive Solo**. For more information, see "Exclusive Solo" on page 142.

6-3: Amp EG AMSSource



The STR-1's Amp EG is identical to the HD-1's. For more detailed explanations of the Amp EG features, please see "4-3: Amp1 EG," on page 79.

Other envelopes can be used as additional controls via AMS, if desired.

6-3a: EG Reset

AMS [AMS Sources]

This selects an AMS source to reset the EG to the start point. For instance, you can use a tempo-synced LFO to trigger the EG in a repeating rhythm. This reset is in addition to the initial note-on, which always causes the EG to start.

Note: Once the Amp EG is in its Release segment, it cannot be reset. (Otherwise, the sound might keep playing forever!)

For a list of AMS sources, see "Alternate Modulation Source (AMS) List" on page 1021.

Threshold [-99...+99]

This sets the AMS level which will trigger the EG reset. Among other things, you can use this to adjust the exact point in an LFO's phase at which the EG will be reset, effectively controlling its "groove" against other rhythmic effects.

When the threshold is **positive**, the EG triggers when passing through the threshold moving upwards. When the threshold is **negative**, the EG triggers when passing through the threshold moving downwards.

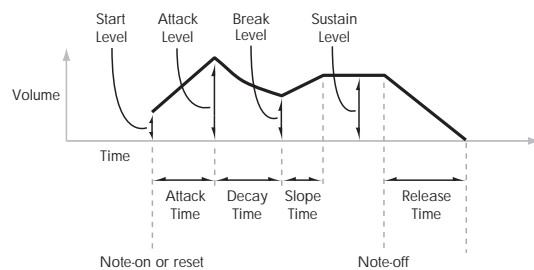
Note: with some LFO shapes, and with faster LFO speeds, the LFO may not always reach the extreme values of +99 or -99. In this case, setting the **Threshold** to these values may cause inconsistent behavior, or

may mean that the EG doesn't reset at all. If this happens, reduce the **Threshold** until the EG triggers consistently.

6-3b: Amp EG

These parameters specify how the amp EG will change over time.

Amp EG



Level

Start [00...99]

This sets the initial volume level at note-on.

Attack [00...99]

This sets the level at the end of the Attack time.

Break [00...99]

Break, short for Break Point, sets the level at the end of the Decay time.

Sustain [00...99]

This sets the level at the end of the Slope time. Once it reaches the Sustain level, the EG will stay there until note-off (unless it is reset via AMS).

Time

Higher values mean longer times. For a chart showing equivalents in milliseconds, please see “Time” on page 80.

Attack [00...99]

This sets how long the EG takes to move from the Start level to the Attack level.

The minimum attack time is 2/3 of a millisecond—as fast as the most punchy of classic analog synths.

For the fastest possible attack time, you can set the Start level to +99; in this case, the EG will start instantaneously at its maximum value.

Decay [00...99]

This sets the time it takes to move from the Attack level to the Break level.

Slope [00...99]

This sets how long the EG takes to move from the Break level to the Sustain level. Once it reaches the Sustain level, the EG will stay there until note-off (unless it is reset via AMS).

Release [00...99]

This sets how long it takes the EG to move from the Sustain level to silence.

Curve

Classic analog synth envelopes created curved shapes naturally. The OASYS goes a step further than vintage synths, however, and lets you control the amount of curvature separately for each of the four envelope segments.

When you change the curvature, the EG times remain the same. However, greater curvature will tend to *sound* faster, because the value changes more quickly at the beginning.

You may find that different amounts of curvature are suitable for segments which go up and segments which go down.

For instance, a curve of 3 is a good default setting for upward segments, such as Attack. On the other hand, a curve of 6 or more is good for downward segments, such as Decay and Release.

Attack [0 (Linear), 1...9, 10 (Exp/Log)]

This sets the curvature of the Attack segment - the transition from the Start level to the Attack level.

Decay [0 (Linear), 1...9, 10 (Exp/Log)]

This sets the curvature of the Decay segment - the transition from the Attack level to the Break level.

Slope [0 (Linear), 1...9, 10 (Exp/Log)]

This sets the curvature of the Slope segment - the transition from the Break level to the Sustain level.

Release [0 (Linear), 1...9, 10 (Exp/Log)]

This sets the curvature of the Release segment - the transition from the Sustain level to the Release level.

6-3c: Level Modulation

These settings let you use an AMS source to control the Level parameters of the EG. The Start, Attack, and Break levels share a single AMS source, but can each have different modulation intensities.

Note: Once the EG has started a segment between two points, that segment can no longer be modulated. For instance, if the EG is in the middle of the Decay time, you can no longer modulate either the Decay time or the Break level.

This also means that modulating the Start level, Attack level, or Attack time will not affect notes that are already sounding, unless the EG is then reset via AMS.

AMS [AMS Sources]

This selects an AMS source to control the EG’s Level parameters.

For a list of AMS sources, see “Alternate Modulation Source (AMS) List” on page 1021.

Start [-99...+99]

This controls the depth and direction of the AMS modulation for the Start level.

Attack [-99...+99]

This controls the depth and direction of the AMS modulation for the Attack level.

Break [-99...+99]

This controls the depth and direction of the AMS modulation for the Break level.

6-3d: Time Modulation

These settings let you use three different AMS sources to control the Time parameters of the EG. For each of the three AMS sources, the Attack, Decay, Slope, and Release times each have their own modulation intensities.

AMS1 [AMS Sources]

Selects the first AMS source to control the EG’s Time parameters. Velocity and Keyboard Track can both be useful here, for instance.

For a list of AMS sources, see “Alternate Modulation Source (AMS) List” on page 1021.

Attack [-99...+99]

This controls the depth and direction of the AMS modulation for the Attack time.

When the AMS source is at its maximum value—for instance, when Velocity is at 127—a setting of +8 will make the segment time almost twice as long, and a setting of -8 will cut the segment time almost in half.

Decay [-99...+99]

This controls the depth and direction of the AMS modulation for the Decay time.

Slope [-99...+99]

This controls the depth and direction of the AMS modulation for the Slope time.

Release [-99...+99]

This controls the depth and direction of the AMS modulation for the Release time.

AMS2 and AMS3

These select the second and third AMS sources, respectively, for controlling the EG's Time parameters. Each has its own intensities for Attack, Decay, Slope, and Release. The parameters of both AMS2 and AMS 3 are identical to those of AMS1, above.

▼ 6-3: Page Menu Commands

The number before each command shows its ENTER + number-key shortcut. For more information on these shortcuts, see "ENTER + 0-9: shortcuts for menu commands" on page 142.

- 0: **Write Program**. For more information, see "Write Program" on page 142.
- 1: **Exclusive Solo**. For more information, see "Exclusive Solo" on page 142.
- 2: **Copy Envelope**. For more information, see "Copy Envelope" on page 216.
- 3: **Swap Envelope**. For more information, see "Swap Envelope" on page 216.

Program P7: EG 1-4

The STR-1 has four assignable EGs, in addition to the Amp EG. Each of these can be used as an AMS modulation source to control a wide variety of parameters.

There are also two parameters with dedicated EG modulation inputs: Frequency for Filters A and B. Any of the four EGs can be used for these modulation routings.

In the midst of all this flexibility, we thought it would also be good to provide a little structure. With this in mind, EG 1 is named EG 1 (Filter), and EG2 is named EG 2 (Pitch).

Please take these names as suggestions, rather than restrictions. If you like, you're free to use these envelopes to control any EG or AMS destination, or to use other EGs to control Filter Frequency or Pitch.

7-1: EG 1 (Filter) AMSource

7-2: EG 2 (Pitch) AMSource

7-3: EG 3 AMSource

7-4: EG 4 AMSource

The STR-1's EGs 1-4 are identical to the AL-1's EG1. For detailed explanations, please see "7-1: EG 1 (Filter)," on page 203.

Program P8: LFO 1-4

The STR-1 has four assignable LFOs, in addition to the EXi Program's Common LFO. Each of these can be used as an AMS modulation source to control a wide variety of parameters.

8-1: LFO 1 AMSource

8-2: LFO 2 AMSource

8-3: LFO 3 AMSource

8-4: LFO 4 AMSource

The STR-1's LFOs 1-4 are identical to those of the AL-1. For detailed explanations, please see "8-2: LFO 1," on page 209.

Program P9: AMS Mixers and String Track

AMS Mixers

The AMS Mixers combine two AMS sources into one, or process an AMS source to make it into something new.

For instance, they can add two AMS sources together, or use one AMS source to scale the amount of another. You can also use them to modify the response of realtime controllers.

The AMS Mixer outputs appear in the list of AMS sources, just like other controllers.

This also means that the original, unmodified inputs to the AMS Mixers are still available as well. For instance, if you use Aftertouch as an input to a AMS Mixer, you

can use the processed version of the Aftertouch to control one AMS destination, and the original version to control another.

Finally, you can cascade the AMS Mixers together—for instance, you can use AMS Mixer 1 as an input to AMS Mixer 2.

String Track

The **String Track** tracking generators allow you to scale parameters based on the string on which the note is played. This helps to model the sonic characteristics of the different strings, such as different materials (as with the nylon and steel strings of an acoustic guitar), different gauges of strings, and so on.

9-1: AMS Mixers 1-2 AMSource

9-2: AMS Mixers 3-4 AMSource

The STR-1's AMS Mixers are identical to those of the AL-1 (although the STR-1 has four, to the AL-1's two). For detailed explanations, please see "9-1: AMS Mixer," on page 213.

9-9: String Track AMSource

9-9PMC

PROGRAM P9:AMS Mixer/String Track **String Track**

USER-E | EXi | 000: STR-1 Plucked String | J = 120.00

Fret Position

9-9a Fret Position: **Open** AMS: Velocity Intensity: +00

Strings

9-9b 1 (Low): E2 2: A2 3: G3 4: G3 5: E4 6: G6

String Track

9-9c

String Track 1	1: -024.0	2: -030.0	3: -100.0	4: +000.0	5: +000.0	6: +000.0
String Track 2	1: -049.7	2: -027.5	3: +000.0	4: +000.0	5: +000.0	6: +000.0

AMS Mixer 1/2 AMS Mixer 3/4 String Track

Play Common EXi 1 EXi 2 String Filter Amp EG LFO AMS Mixer String Trk

Multi-stringed instruments, such as guitars, often include strings of different thicknesses, or strings created using different techniques or materials. For instance, strings may be:

- Round-wound, flat-wound, or un-wound
- Steel, brass, copper, or nylon
- Thicker (heavy-gauge) or thinner (light-gauge)

For instance, electric guitars may use wound low strings along with un-wound high strings. Similarly, classical guitars generally use nylon treble strings along with wound-metal bass strings.

This means that some strings may sound very distinct from others, quite aside from the differences in pitch. It's almost as if each string was a sub-instrument of its own.

In order to physically model these differences, it's sometimes helpful to modulate certain parameters separately for each string, such as **Damping**, **Decay**, **Dispersion**, **Inharmonicity**, etc.

String Track lets you do exactly this. It's a variation of keyboard tracking, which divides the keyboard into 6 zones, corresponding to 6 strings. You can then set four different offsets for each string: one each for **Damping** and **Dispersion**, and then the two general-purpose **String Track 1** and **2**. All four can be used as AMS sources throughout the STR-1.

Fret Number AMS Source

Strings may also change in timbre as you move up the neck, playing higher and higher notes. To model this, you can use an additional AMS source, **Fret Number**.

Fret Number provides the distance up the neck for the current note. When the note is an "open string," **Fret Number's** value is zero. As notes move up the fretboard, **Fret Number** increases. Once the next "open string" is reached, **Fret Number** goes back to zero, and starts over again.

9-9a: Fret Position AMSource

Fret Position [Open, 1...48]

This controls the position at which the notes are played along the neck. This can have a significant effect on the timbre, since it may change the string on which a note is played.

To do this, **Fret Position** shifts the relationship between notes played on the keyboard (or via MIDI) and the selected String pitches. This changes the break-points for all of the String Track generators at once.

This means that as the **Fret Position** increases, the same note will be played in higher positions on the neck, using lower strings.

The current fret position (in other words, the combination of **Fret Position** and its AMS) is itself available as the AMS source named, appropriately, **Fret Position**.

AMS [List of AMS Sources]

This selects a modulation source to control the **Fret Position**. For a list of AMS sources, see "Alternate Modulation Source (AMS) List" on page 1021.

Intensity [-48...+48]

This controls the depth and direction of the **Fret Position** AMS modulation.

9-9b: Strings

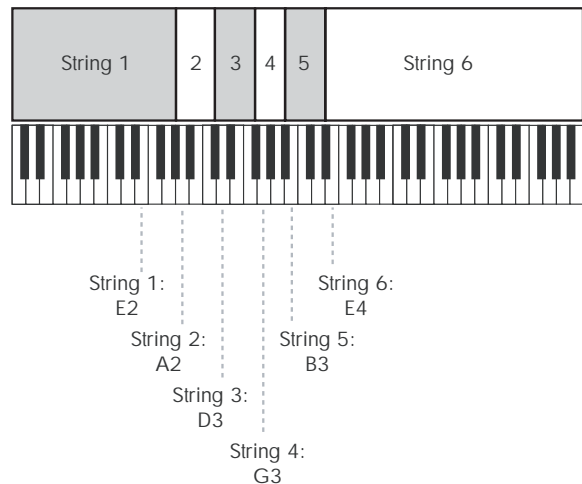
Strings 1-6 [C-1...G9]

These six parameters set the pitches of the strings, from the lowest pitch (String 1) to the highest pitch (String 6). These define keyboard zones, as shown below.

The same String settings are used for all String Track generators, including those for Damping and Dispersion. They are also used for the Excitation, Harmonic, and Pickup positions when their **Tracking Mode** parameters are set to **String Track**.

For more information, see "4-5a: Excitation" on page 252, "4-5b: Harmonic" on page 253, "4-6a: Damping" on page 256, "4-6b: Dispersion" on page 257, "4-8a: Pickup 1" on page 260, and "4-8b: Pickup 2" on page 261.

String Track - strings and zones



9-9c: String Track 1 AMSource

(Strings) 1...6 [-100.0...+100.0]

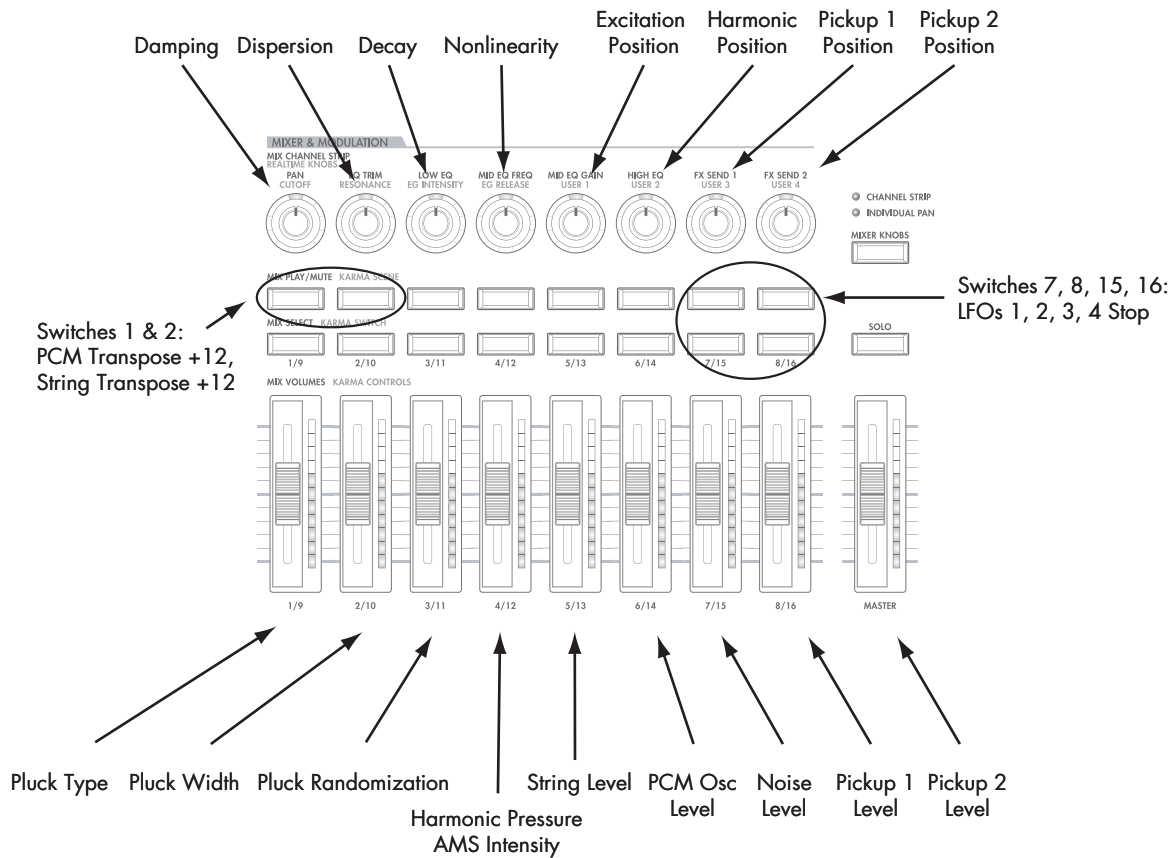
These set individual offsets for the six Strings. You can use these to modulate any AMS destination; they appear in the AMS list as String Track 1.

9-9d: String Track 2 AMSource

This is a second set of individual String offsets, which appear in the AMS list as String Track 2. The parameters are identical to those of "9-9c: String Track 1," above.

STR-1: Tone Adjust

STR-1 Tone Adjust Default Settings



Tone Adjust provides an elegant physical interface to the STR-1's parameters. Most of the factory sounds use the default layout, as shown above. You can also customize the layout for individual sounds, if desired.

For more information about Tone Adjust, please see "0-9f: Tone Adjust," on page 26.

STR-1 Tone Adjust parameters

The STR-1 supports all of the Common Tone Adjust parameters, as described under "0-9f: Tone Adjust," on page 26. It also adds a number of its own additional parameters, which apply only to the STR-1.

Note that these additional parameters are separate for each EXi, as opposed to being shared by both EXi in the Program.

All of the additional parameters are listed below. Tone Adjust parameters may affect the internal parameters in one of two ways: they may be **Relative**, in which case they scale the existing parameter value, or **Absolute**, in which case they over-write the existing value. Unless otherwise noted, all of the STR-1 parameters are **Absolute**.

The full name of the currently selected parameter is shown in the status line at the top of the Control Surface page, as well as in the popup menu. Some parameters with longer names may show an abbreviation for the slider, knob, and switch labels.

Pluck

- Pluck Type

- Pluck Randomization
- Pluck Delay
- Pluck Width
- Pluck Width AMS1 Intensity

Noise

- Noise Saturation
- Noise Filter Frequency

PCM Oscillator

- PCM Osc MS Select (PROG/0...16383)
- PCM Osc MS Bank (MS: ROM Mono...EXs7 Mono)
- PCM Osc MS Min # (meta)
- PCM Osc MS Max # (meta)
- PCM Osc Start Offset
- PCM Osc Reverse

PCM Pitch

- PCM Tune (-1200...+1200, relative)
- PCM Transpose (-12...+12, relative)
- PCM Pitch Slope
- PCM Pitch LFO AMS Intensity

Excitation Mixer

- Excitation PCM Oscillator level
- Excitation Pluck Level
- Excitation Noise Level

Excitation Filter

- Excitation Filter Type
- Excitation Filter Frequency
- Excitation Filter Resonance

String

- Excitation Position
- Harmonic Position
- Harmonic Pressure AMS1 Intensity
- Decay
- Nonlinearity
- Damping
- Dispersion

String Pitch

- String Tune (-1200...+1200, relative)
- String Transpose (-12...+12, relative)
- String Pitch Slope
- String Pitch LFO AMS Intensity

Pickups

- Pickup 1 Position
- Pickup 2 Position

Feedback

- Feedback Level AMS Intensity
- Feedback Distance AMS Intensity
- Feedback Orientation AMS Intensity

Mixer

- String Level
- PCM Oscillator Level
- Noise Level
- Pickup 1 Level
- Pickup 2 Level

Filter A

In addition to the standard Tone Adjust filter parameters, the STR-1 adds the following:

- Filter A Type
- Filter A Cutoff
- Filter A Resonance
- Filter A EG Intensity
- Filter A LFO Intensity

Filter B

Filter B has the same Tone Adjust parameters as Filter A, above.

Amp

- Amp AMS 1 Intensity
- Amp AMS 2 Intensity

EGs

In addition to supporting the standard Tone Adjust EG parameters, the STR-1 adds the following separate controls for both EG3 and EG4:

- Attack time (relative)
- Decay & Slope time (relative)
- Sustain level (relative)
- Release time (relative)

LFOs

In addition to supporting the standard Tone Adjust LFO parameters, the STR-1 adds the following separate controls:

- LFO 1, 2, 3, and 4 Waveform
- LFO 1, 2, 3, and 4 Shape
- LFO 3 Speed (relative)
- LFO 3 Fade (relative)
- LFO 3 Delay (relative)
- LFO 3 Stop
- LFO 4 Speed (relative)
- LFO 4 Fade (relative)
- LFO 4 Delay (relative)
- LFO 4 Stop

EXi: MS-20EX

MS-20EX Overview

The MS-20EX is a flexible, semi-modular virtual analog synthesizer. At its heart is a faithful re-creation of the original KORG MS-20, including both its features and its distinctive, often aggressive timbral signature.

To this core, we added features first introduced in the KORG Legacy MS-20 plug-in. Then, we added significant patch-panel modifications inspired by the MS-20's big brother, the MS-50, plus many other OASYS-only enhancements. Features include:

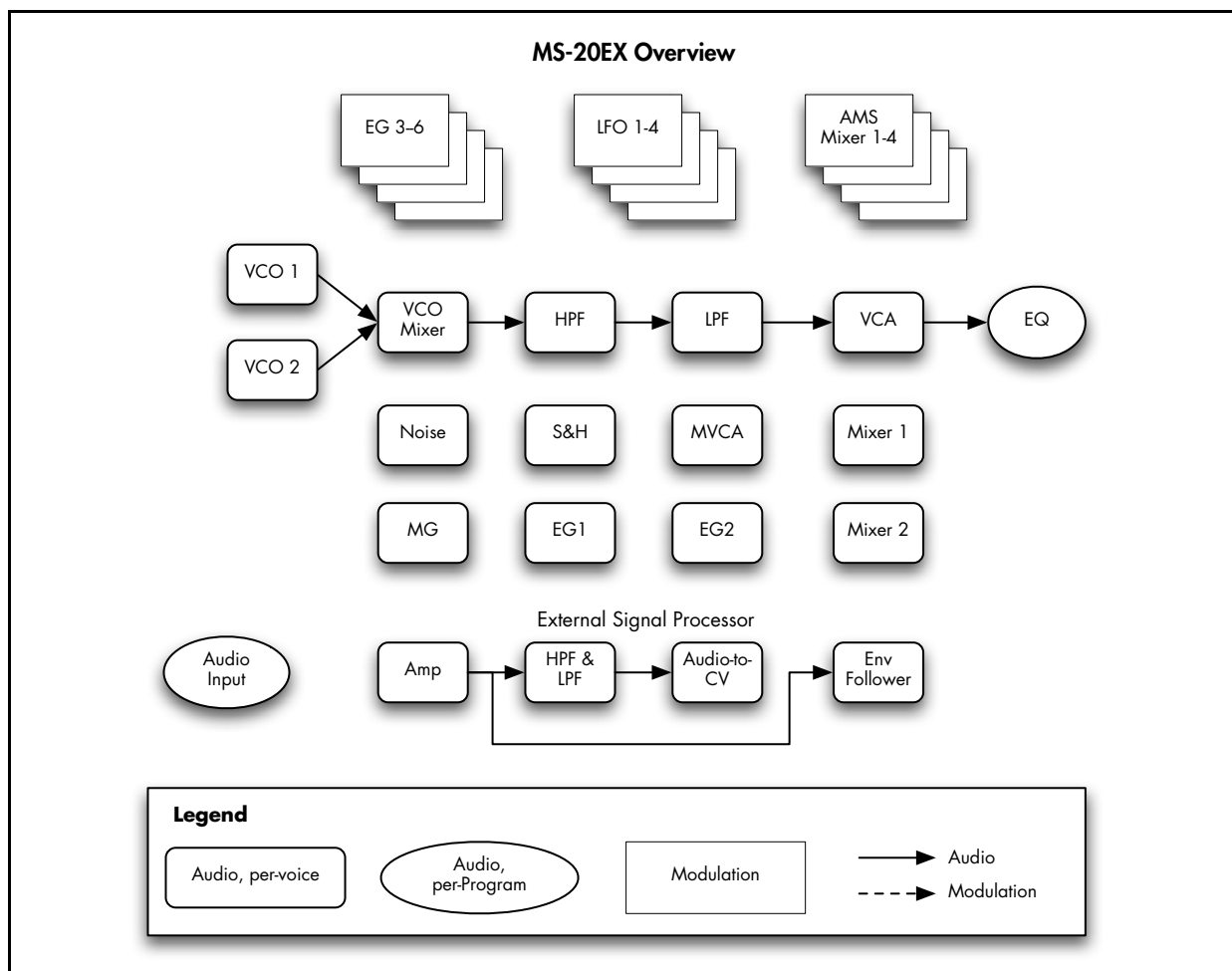
- Korg's proprietary CMT (Component Modeling Technology)
- Up to 48-voice polyphony
- Two oscillators (including ring modulation), noise generator, and resonant, self-oscillating highpass and lowpass filters
- Many modifications to the Patch Panel, including separate access to VCOs 1 & 2, LPF, HPF, BPF, and VCA
- Two new patchable 2-in, 1-out audio-rate mixers, for combining and scaling audio and control signals
- Original MS-20 HADSR and DAR envelopes, plus four additional multi-stage EGs

- Original MS-20 MG and sample-and-hold, plus four additional LFOs
- AMS modulation of all original MS-20 parameters, along with four AMS Mixers
- Live audio input
- External Signal Processor, with dedicated filters, triggering, and audio-to-CV conversion
- Access to all standard EXi Program features, including the Common LFO, Common Step Sequencer, Key Track 1 & 2, KARMA, EQ, and effects—as well as layering with any other EXi (including using two MS-20EXs together!)

MS-20EX uses EXi fixed resources

The MS-20EX takes up a very small amount of processing power, even if you're not playing any notes on the keyboard. This amount is around 1/12 that of the CX-3, but if other EXi are using large amounts of fixed resources, the number of MS-20EX that you can load may be limited. Each EXi in each Program counts towards the maximum; for instance, a Program with two MS-20EX's counts as two, not as one.

For more information, see "CX-3 & STR-1: Limitations on EXi fixed resources" on page 382.



Unsupported EXi Common parameters

The MS-20EX supports all of the EXi Common parameters, except for two of the voice allocation options: **Poly Legato** and **Mono Mode** (Normal/Use Legato Offset).

All of the other voice allocation options are fully supported, including Mono, Mono Legato, Unison, etc.

On-screen knobs and switches, and the Parameter Details area

Parameter Details

The LCD displays include graphic knobs for all of the main MS-20EX parameters. These let you view and edit parameters quickly and easily.

You can program any original MS-20 sound using only these knobs. If you want more flexibility and control, however, the MS-20EX offers four additional EGs and LFOs, four AMS mixers, access to the EXi Program's Common LFO, Common Step Sequencer, and Vector features, and AMS modulation for almost every original MS-20 parameter.

The entryway to these advanced features is the Parameter Details area, located in the lower right-hand part of the screen. This shows information for the selected knob or switch, including its parameter group and parameter name, its exact value, and its AMS assignments:

Parameter Details area



Editing on/off switches

To edit an on/off switch, such as the MG KEY SYNC button, simply:

1. Touch the switch to toggle the value.

Assigning AMS modulation

Most parameters support modulation via AMS. Sources and intensities can be edited in the Parameter Details area:

1. Touch the knob.

If the parameter supports AMS modulation, the Parameter Details area will show one or more AMS sources and intensities.

2. Edit the AMS settings in the Parameter Details area.

Note: the graphic knobs always show their stored value. Absolute Tone Adjust settings edit these values, just as if you were editing the parameters themselves, and so the graphics will show the results. However, AMS modulation does not edit the stored value, and so the graphics do not include the results of AMS.

Note also that AMS can sometimes modulate parameters outside the range of the stored values, as if you were pushing the parameter beyond the ends of the knob.

Using the graphic parameters

Editing knobs

To edit knobs:

1. Touch the knob.

A yellow square will appear around the knob, showing that it has been selected. The Parameter Details area will change to show the name and value of the current parameter, along with other related information.

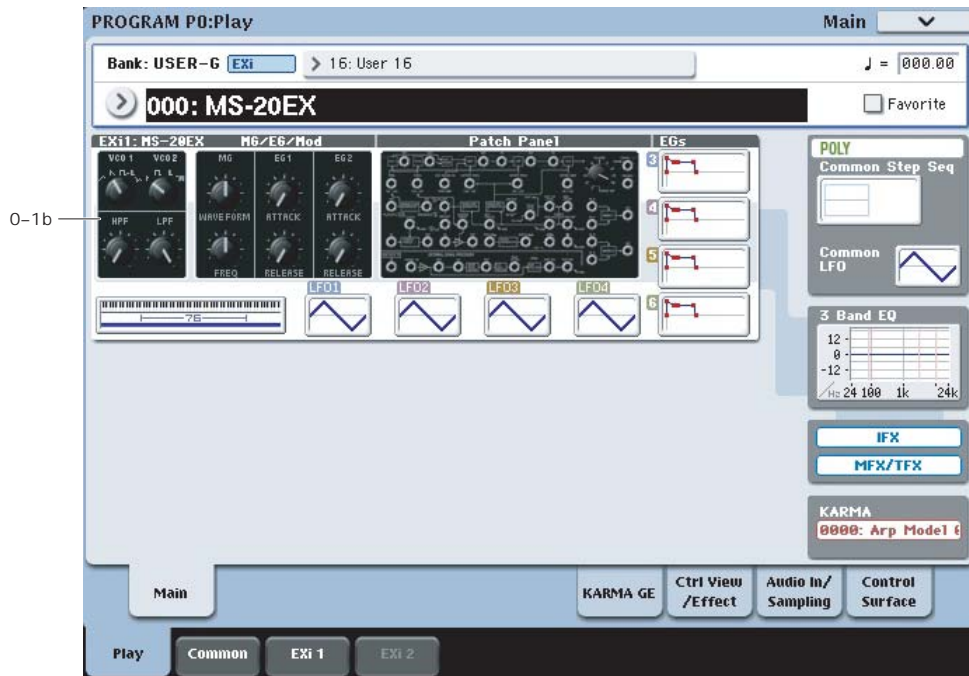
2. Use any of the data-entry controls to edit the value.

You can use the value slider, the inc/dec buttons, the rotary dial, or the numeric keypad.

As you edit the value, notice that the graphic knob moves, and that the value in the Parameter Details area changes as well.

EXi Program P0: Play

0-1: Main



This is the main page of Program mode. For a full description of this page and all of its functions, please see “EXi Program P0: Play” on page 159. This section describes only the overview display, which differs for each individual EXi.

0-1b: Overview and Page Jump

This part of the page shows an overview of the most important settings for the Program’s two EXi instruments. The specific parameters will vary, depending on which EXi are being used. The specific parameters for the MS-20EX are described below.

The graphics give you a quick way to check all of these settings at a glance. They also let you jump instantly to any of the displayed parameters. Just touch one of the sections, and you’ll jump to the page containing its parameters. For instance, if you touch the Filter graphic, you’ll go to the Oscillator and Filter page.

Tip: Pressing EXIT several times will always bring you back to this page.

Oscillators and Filters

This section shows the waveforms for Oscillators 1 and 2, and the cutoff frequencies for the Highpass and Lowpass filters. Touch this area to jump directly to the Oscillators & Filters page.

MG/EG/Mod

This section shows the waveform and frequency of the MG, and the Attack and Release times for EGs 1 and 2. Touch this area to jump directly to the MG, EG, & Modulation page.

Patch Panel

This section shows a miniature overview of the Patch Panel, with its cables and jacks. Touch this area to jump directly to the Patch Panel page.

EGs and LFOs

EG 3...6 Graphics

These show the shapes of the four multi-stage EGs. Touch any of them to jump directly to the corresponding edit page.

LFO 1...4 Graphics

These show the waveforms and shapes of the four LFOs. Touch any of them to jump directly to the corresponding edit page.

Key Zone

Key Zone

This shows the key zones for EXi1 and EXi2, as set on the Common section’s Program Basic page, in relation to the entire MIDI note range. The range of the 76-note or 88-note keyboard is also shown, as appropriate.

Press this area to jump to the Program Basic page.

Common

The graphics along the right side of the screen show the most important Common parameters, which are shared by both EXi in the Program. This section will always show the same parameters, regardless of which EXi are being used.

Common Voice Assign Mode

This shows the voice assign mode of the Program—either POLY or MONO.

Press this area to jump to the Program Basic page.

Common Step Sequencer

This shows a graphic overview of the Common Step Sequencer.

Press this area to jump to the Common Step Sequencer page.

Common LFO Graphic

This shows the waveform of the Common LFO.

Press this area to jump to the Common LFO page.

3 Band EQ Graphic

This shows the mid-sweepable 3-band EQ.

Press this area to jump to the EQ page.

IFX, MFX/TFX

Press the IFX area to jump to the IFX Routing page.

Press the MFX/TFX area to jump to the MFX Routing page.

KARMA GE Name

This shows the name of the selected KARMA GE.

Press this area to jump to the GE Setup/Key Zones page.

Program P4: Oscillators & Filters

4-1: Oscillators & Filters



4-1a: Oscillators

VOLTAGE CONTROLLED OSCILLATOR 1

WAVE FORM [^, ▽, □ ↔ □, 〰]

This sets the basic timbre of Oscillator 1.

^ (Triangle Wave): This is a very basic waveform with few harmonics and a soft, rounded tone color. You can create a sine wave by processing the Triangle Wave through the Lowpass Filter. The original MS-20 manual notes that Triangle waves are “excellent for flute, vibes and other such effects.”

Note: The Triangle is a little more computationally intensive than the other waveforms, so using it will result in slightly lower polyphony.

▽ (Sawtooth): This is the foundation of the traditional, buzzy analog synth sound. The original MS-20 manual describes it this way: “A waveform rich in all the harmonics, and one of the most useful to the synthesist. Used for string, brass, voice and other harmonically rich sounds.”

□ ↔ □ (Square/Pulse Wave): This is a variable waveform shape, whose timbre depends upon the **PW** setting, as described below.

〰 (White Noise): This is an un-pitched sound, containing equal amounts of all frequencies. The original MS-20 manual suggests using this for “wind, surf, gunshot, percussion, and other such effects.”

PW [0.00...10.00 (50%...0%)]

This adjusts the pulse width when Oscillator 1’s **Waveform** is set to **Square/Pulse**.

0.00 produces a square wave. Increasing the value produces narrower pulses, until at 10.00 the pulse is so narrow as to be silent.

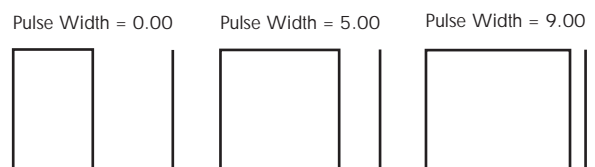
The original MS-20 didn’t support pulse-width modulation, except by sweeping the knob manually. With the MS-20EX, however, you can modulate **PW** via **AMS**. Try using a medium-speed triangle LFO, or a sweeping EG.

More on Pulse Width

Pulse waveforms are simple, rectangular shapes. The Pulse Width sets the percentage of the waveform spent in the “up” position. A few examples are shown in the diagram below. Note that a square wave is just a pulse wave with **PW/PWM** set to 0.00.

The width controls the timbre of the oscillator, from pure and hollow at 0.00 (a square wave) to thin, reedy, and nasal at higher settings.

At the maximum setting of 10.00, the Pulse wave will be silent, since this eliminates the “pulse” altogether.




SCALE [32', 16', 8', 4']


Adjusts the pitch of Oscillator 1 in steps of an octave. With each halving of the "feet" value, the pitch goes up one octave. For example, 4' is one octave higher than 8', and 16' is one octave lower than 8'.

VOLTAGE CONTROLLED OSCILLATOR 2**WAVE FORM** [ ,  ,  , RING]

This sets the basic timbre of Oscillator 2.

 (**Sawtooth**): This produces the traditional, buzzy analog synth sound. For more information, see "WAVE FORM" on page 289.

 (**Square Wave**): This is a hollow-sounding waveform, containing only odd-numbered harmonics present. The original MS-20 manual notes that this is used to "simulate reed instruments and other closed pipe sounds."

 (**Pulse Wave**): This is a relatively narrow pulse waveform, with a nasal tone quality and strong upper harmonics. The original MS-20 manual suggests that it be used to "simulate double reed instruments (e.g., the oboe) and certain plucked string sounds (e.g., harpsichord and clavinet)."

RING (Ring Modulator): This setting combines the two VCOs to create sums and differences of all their harmonics, creating a complex tone. The original MS-20 manual describes it this way: "The result is a clangorous, "metallic" sound which is useful for gong, chime and other such effects. **VCO 1** and **VCO 2 SCALE**, **PITCH**, and **PW** all affect the resulting sound, and should be used judiciously to create the desired effect."

PITCH [-12.00...+12.00]

This adjusts the pitch of Oscillator 2 up and down by one octave, in one-cent steps. You can create thicker sounds by moving this slightly away from 0.00, so that the two oscillators beat against one another.

SCALE [16', 8', 4', 2']

This adjusts the pitch of Oscillator 2 in steps of an octave. Note that the range is one octave higher than that of Oscillator 1.

PORTAMENTO**TIME** [0.00...10.00]

This controls the amount of time it takes to glide from one pitch to the next.

 This is scaled by MIDI CC#5. You can also enable and disable Portamento using MIDI CC#65 ("Portamento Switch").

Assigning SW1 or SW2 to Portamento On/Off

You can use the two assignable switches, SW1 and SW2, to turn portamento on and off.

To do so:

1. Go to Program page 1-8, Controller Setup.
2. Under Panel Switch Assign, set either SW1 or SW2 to Portamento SW (CC#65).

Now, the selected switch will enable and disable Portamento. It will also send the MIDI Portamento controller, CC#65.

 Even if you don't assign SW1/2 to Portamento, you can still use MIDI Controller #65 to turn Portamento on and off.

FINE TUNE**FINE TUNE** [-5.00...+5.00]

This adjusts the pitch of the oscillators, in steps of 1/5 of a cent (for a total range of +/- 1 semitone).

FREQUENCY MODULATION

Each of the FREQUENCY MODULATION controls affects both VCO 1 and VCO 2.

MG/T.EXT [0.00...10.00]

If nothing is connected to the patch panel's **TOTAL** input jack, this adjusts the depth of pitch modulation from the MG's Triangle Wave.

If a cable is connected to the **TOTAL** input jack, this controls the depth of pitch modulation from that signal.

For more information, see "TOTAL input jack" on page 299.

 This is scaled by MIDI CC#77.

EG1/EXT [0.00...10.00]

If nothing is connected to the patch panel's **FREQ** jack, this controls the depth of pitch modulation from EG 1.

If a cable is connected to the **FREQ** jack, this controls the depth of pitch modulation from that signal.

With nothing connected to the **FREQ** jack, try increasing the **EG1/EXT** value, and then play a note on the keyboard. Notice that the pitch of the note rises and falls corresponding to EG 1's **DELAY**, **ATTACK**, and **RELEASE** controls.

With the normalled connection to EG1, the pitch always starts low, rises to the played note, and then falls again on release. The setting of the **EG1/EXT** knob determines the low point of this modulation, while the high point stays constant.

You can create a different effect by manually patching the **EG1 OUT** jack into the **FREQ** jack. In this case, the pitch will start at the played note, rise up to the **EG1/EXT** setting, and then fall back to the played note.

VCO Mixer

This mixer controls the levels of the two VCOs into the Highpass Filter.

Note that both filters will show some amount of saturation and overdrive when their input levels are high, and **PEAK** settings are moderate or high. You can control the resulting tone by raising or lowering the VCO levels in this mixer.

VCO 1 LEVEL [0.00...10.00]

This adjusts the volume of Oscillator 1.

VCO 2 LEVEL [0.00...10.00]

This adjusts the volume of Oscillator 2.

4-1b: High Pass Filter

HPF

This filter cuts out the parts of the sound which are **lower** than the cutoff frequency. You can use this to make timbres sound thinner or more buzzy, or to enhance bass sounds (see “Using the HPF as a sub-oscillator for bass sounds,” below).

FREQUENCY [0.00... 10.00]

This controls the cutoff frequency of the Highpass Filter.

PEAK [0.00... 10.00]

Peak controls the resonance of the filter, which emphasizes the frequencies around the cutoff frequency.

When this is set to 0, there is no emphasis, and frequencies beyond the cutoff will simply diminish smoothly.

At medium settings, the resonance will alter the timbre of the filter, making it sound more nasal, or more extreme.

At very high settings, the resonance can be heard as a separate, whistling pitch. Near the maximum setting, the filter will self-oscillate.

PEAK and filter saturation

If the input level is high, raising the **PEAK** setting will cause increasing amounts of saturation and overdrive, creating a more aggressive tone. To control this, raise or lower the input level at the source—for instance, in the VCO MIXER.

Using the HPF as a sub-oscillator for bass sounds

With **PEAK** set relatively high, and **FREQUENCY** turned down low, the HPF can—somewhat counter-intuitively—be used to enhance low-end harmonics, creating thunderously deep bass sounds. To do so:

1. **Start with a simple bass sound.**
 2. **On the Patch Panel, connect the KBD CV OUT to the HPF CUTOFF FREQ input.**
- This allows the HPF to track the keyboard.
3. **Set the HPF PEAK to around 7 or 8.**
 4. **Set the HPF FREQUENCY very low, but not quite at 0.**
 5. **Set the EG2/EXT knob to about 5.**
 6. **While playing the sound, adjust the FREQUENCY and EG2/EXT settings so that the filter resonance tracks the pitch correctly in the intended playing range.**

With this setup, the resonance will only match the oscillator pitches over about one and a half octaves.

CUTOFF FREQUENCY MODULATION (HPF)

MG/T.TEXT [0.00... 10.00]

If nothing is connected to the patch panel’s **TOTAL** input jack, this adjusts the depth to which the MG will modulate the filter cutoff frequency.

If a cable is connected to the **TOTAL** input jack, this controls the depth of modulation from that signal.

For more information, see “TOTAL input jack” on page 299.

EG2/EXT [0.00... 10.00]

If nothing is connected to the HPF’s **CUTOFF FREQ** input jack, this adjusts the depth to which EG 2 will modulate the filter cutoff frequency.

If a cable is connected to the HPF’s **CUTOFF FREQ** input jack, this controls the depth of modulation from that signal.

4-1c: Low Pass Filter

LPF

The Lowpass Filter cuts out the parts of the sound which are **higher** than the cutoff frequency. This is the most common type of filter, and is used to make bright timbres sound darker.

FREQUENCY [0.00... 10.00]

This controls the cutoff frequency of the Lowpass Filter.

MIDI This is scaled by MIDI CC#74.

PEAK [0.00... 10.00]

Peak controls the resonance of the filter, which emphasizes the frequencies around the cutoff frequency. For more information, see “PEAK,” above.

MIDI This is scaled by MIDI CC#71.

CUTOFF FREQUENCY MODULATION (LPF)

MG/T.TEXT [0.00... 10.00]

If nothing is connected to the **TOTAL** input jack, this adjusts the depth to which the MG will modulate the filter cutoff frequency.

If a cable is connected to the **TOTAL** input jack, this controls the depth of modulation from that signal.

For more information, see “TOTAL input jack” on page 299.

EG2/EXT [0.00... 10.00]

If nothing is connected to the LPF’s **CUTOFF FREQ** input jack, this adjusts the depth to which EG 2 will modulate the filter cutoff frequency.

If a cable is connected to the LPF’s **CUTOFF FREQ** input jack, this controls the depth of modulation from that signal.

MIDI This is scaled by MIDI CC#79.

4-1d: PITCH

BEND RANGE [0.00... 12.00]

This sets the maximum amount of pitch bend up and down, in semitones and cents, as controlled by JS X. To use another AMS source for pitch bend, modulate the **TRANSCOPE** parameter instead.

BEND RANGE is not modulatable via AMS.

TRANSCOPE [-24.00...+24.00]

This controls the coarse tuning, in half-steps and cents, up or down two octaves. You can modulate this smoothly via AMS.

4-1e: PAN & ANALOG**PAN** [Random, L001...C064...R127]

This controls the stereo pan of the MS-20EX, at the very end of the signal chain. A setting of **L001** places the sound at the far left, **C064** in the center, and **R127** to the far right.

When this is set to **Random**, the pan position will be different for each note-on.

You can also set this Pan parameter directly from the Control Surface knobs. To do so:

1. Press the Control Surface Timbre/Track button.
2. Set the MIXER KNOBS switch to INDIVIDUAL PAN.
3. Move Knob 1 to set the pan for EXi 1, and Knob 2 to set the pan for EXi 2.

MIDI You can also control pan via MIDI Pan (CC#10). A CC#10 value of 0 or 1 places the sound at the far left, 64 places the sound at the location specified by the “Pan” parameter, and 127 places the sound at the far right.

Note: you can select Random pan only from the on-screen UI, and not from AMS, MIDI or the Control surface.

ANALOG [0.00...10.00]

This models the instability of an analog system by adding subtle randomization to the VCO and VCF frequencies.

This parameter is not modulatable.

4-1f: Parameter Details

When you touch a knob, a yellow square appears around it, showing that it has been selected.

This area shows details for the selected knob, including its parameter group and parameter name, its exact value, and its AMS assignments.

Individual parameters and AMS

The **BEND RANGE** and **ANALOG** parameters are not modulatable. **VCO1/2 WAVE FORM**, **VCO 1/2 SCALE**, and **PAN** have only one AMS source and Intensity, without Intensity Modulation. The rest of the parameters on this page can be modulated by two AMS sources, as described below.

(Parameter group)

This shows the group of the parameter (such as **VCO MIXER**).

(Parameter name) [range depends on parameter]

This shows the name and exact value of the parameter. You can edit the parameter value with any of the standard data-entry controls.

AMS [List of AMS Sources]

This selects a modulation source to control the selected parameter. For a list of AMS sources, see “Alternate Modulation Source (AMS) List” on page 1021.

Intensity [range depends on parameter]

This controls the depth and direction of the AMS modulation. For unipolar parameters, the range is the same as that of the selected parameter, in both positive and negative directions. For instance, if the parameter range is 0.00...10.00, the Intensity range will be -10.00...+10.00.

For bipolar parameters, including **VCO 2 PITCH**, **FINE TUNE**, **TRANSCOPE**, and **MIXERS 1 & 2 LEVELS A & B**, the range is twice that of the original parameter. For instance, if the original parameter range is -12.00...+12.00, the Intensity range will be -24.00...+24.00. This allows full modulation of the parameter, regardless of the initial setting.

In some cases, you can use AMS to modulate the parameter outside of its original range, for a wider range of values.

Int. Mod AMS [List of AMS Sources]

You can modulate the main AMS Intensity from another AMS source. This selects that source.

For a list of AMS sources, see “Alternate Modulation Source (AMS) List” on page 1021.

Intensity [range depends on parameter]

This controls the depth and direction of the Intensity Mod AMS. The result is summed with the main AMS Intensity to produce the final modulation amount.

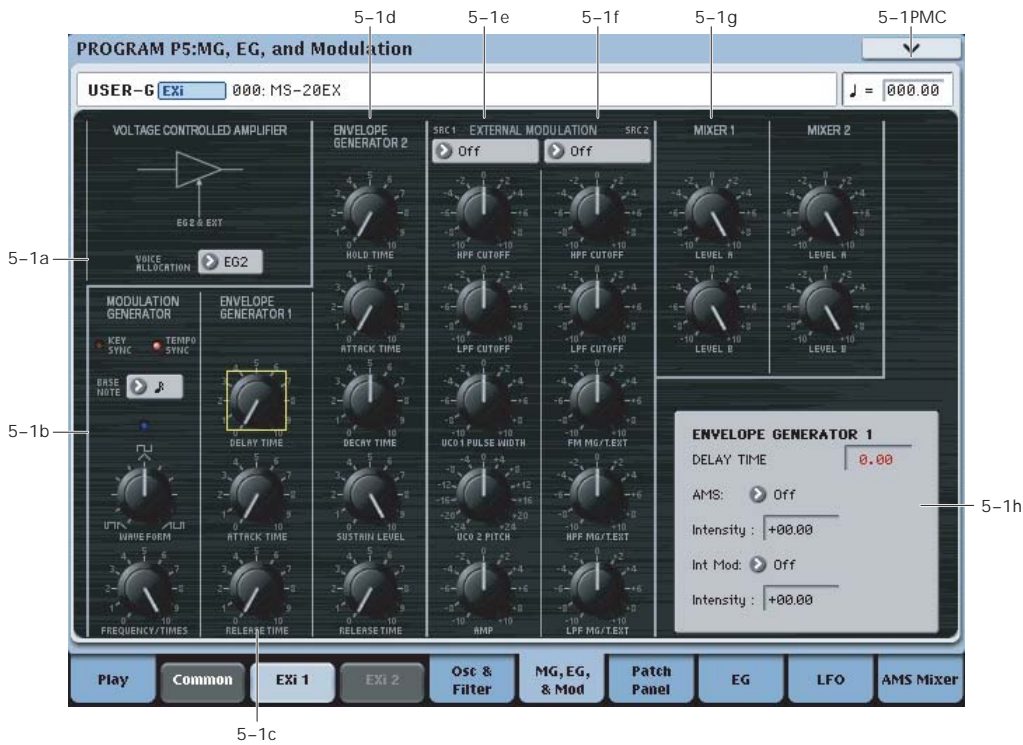
▼ 4-1: Page Menu Commands

The number before each command shows its ENTER + number-key shortcut. For more information on these shortcuts, see “ENTER + 0-9: shortcuts for menu commands” on page 142.

- 0: **Write Program**. For more information, see “Write Program” on page 142.
- 1: **Exclusive Solo**. For more information, see “Exclusive Solo” on page 142.

Program P5: MG, EG, & Modulation

5-1: MG, EG, & Modulation



5-1a: VOLTAGE CONTROLLED AMPLIFIER

VOICE ALLOCATION [EG1...EG6]

When the EG selected here completes its release stage, the voice will be silenced, and its processor resources freed.

Normally, you should leave this at the default setting, EG2.

If EGs other than EG2 are modulating volume (see below), then select the volume-related EG with the longest release time.

Note: the EG selected here cannot be retrigged once it enters its release phase.

What does this mean, and when is it useful?

OASYS allocates processing power automatically as you play and release notes. In order to do this, the system needs to know when a voice has finished playing.

With most EXi, the system does this by looking at the dedicated Amp EG; when the Amp EG completes its release, the system knows that the voice has finished.

The MS-20EX is more complicated than most EXi. Depending on the Patch Panel and AMS settings, several EGs may act together to control the output volume. For instance:

- EG 1 and EGs 3-6 may be routed to the Patch Panel's VCA INITIAL GAIN input
- EGs 3-6 may control the VOLUME knob via AMS

- Via AMS, EGs 3-6 may also control the levels of other modulation sources (such as EGs 1 & 2, the MG, LFOs, etc.) routed through MIXER 1 or MIXER 2, and then patched to the VCA INITIAL GAIN input

To handle all of these possible cases, instead of using a fixed "Amp EG" to determine when the voice is finished playing, the VOICE ALLOCATION parameter lets you select which EG to use.

For best results with any of these special-case setups, set VOICE ALLOCATION to use the volume-related EG with the longest release time.

5-1b: MODULATION GENERATOR (MG)

AMSOURCE

The MG is shared between all MS-20EX voices, similar to the Common LFO. For per-voice modulation, use LFOs1-4 instead.

The saw/triangle and pulse/square waveforms are both generated all of the time, and available separately on the Patch Panel. Each is also available as an AMS source, named MG Tri and MG Pulse, respectively. Note that the AMS versions will have slightly softer edges than the signals available on the Patch Panel, and via the External Modulation sections.

TEMPO SYNC

[ON, OFF]

Touch the text/LED area to turn TEMPO SYNC on and off.

On (LED lit): When **TEMPO SYNC** is **On**, the MG synchronizes to the system tempo, as set by either the Tempo knob or MIDI Clock. The MG speed is controlled by the combination of the **BASE NOTE** and **FREQUENCY/TIMES** parameters, below.

Off (LED dark): When **TEMPO SYNC** is **Off**, the **FREQUENCY/TIMES** knob determines the speed of the MG, and the **BASE NOTE** setting has no effect.

This parameter is not modulatable via AMS.

KEY SYNC [ON, OFF]

Touch the text/LED area to turn **KEY SYNC** on and off.

If this setting is **ON**, the phase is reset for the first note-on in each legato phrase. Subsequent notes in a chord, or notes played legato, do not cause the phase to be reset.

This parameter is not modulatable via AMS.

BASE NOTE [1/1...1/32]

When **TEMPO SYNC** is **ON**, this sets the basic speed of the MG, relative to the system tempo. The values range from a 32nd note to a whole note, including triplets. This value is then multiplied by the **FREQUENCY/TIMES** knob, below.

When **TEMPO SYNC** is **OFF**, this parameter has no effect.

This parameter is not modulatable via AMS.

WAVE FORM [□ ▽ ... ▽ ▽ ▽ ... ▽ ▽ ▽]

This controls the waveform of the **MODULATION GENERATOR**. The MG always generates both the Rectangle and Sawtooth/Triangle waveforms, and each is available simultaneously via the Patch Panel. The **WAVE FORM** knob controls the pulse width of the Rectangle wave, and makes the Sawtooth/Triangle “lean” from left to right, as shown in the graphics.

FREQUENCY/TIMES [0.00...10.00/16...1]

If **TEMPO SYNC** is **OFF**, this controls the frequency of the MG.

If **TEMPO SYNC** is **ON**, this multiplies the length of the **BASE NOTE**. For instance, if the **BASE NOTE** is set to a sixteenth note, and Times is set to 3, the MG will cycle over a dotted eighth note. Note that higher values mean a faster MG.

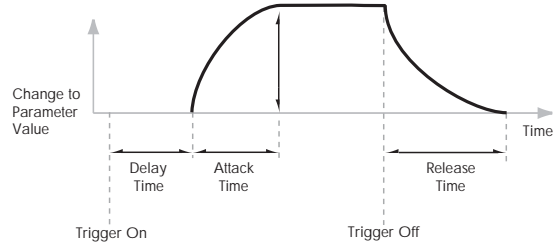
Frequency/Times LED

This LED gives a visual indication of the LFO speed. Note that the LED is **on** when the MG’s pulse/square waveform is **low**. Initially, this seems like the opposite of what one might expect. When using the MG to trigger the EGs, however, this makes perfect sense: the EGs start when the LED goes on, and release when the LED goes off.

5-1c: ENVELOPE GENERATOR 1

By default, EG 1 is triggered by note-ons. However, you can use the Patch Panel’s **TRIG IN** or **EG 1 TRIG IN** jacks to trigger it from a different source, such as the MG, AMS sources, or the ESP’s **TRIG OUT** jack. For more information, see “TRIG IN jack” on page 301.

EG1 is normalled to VCO frequency modulation (scaled by the **EG1/EXT** knob), as well as the MVCA control input (see “6-1f: Modulation VCA (MVCA)” on page 302).



DELAY TIME [0.00...10.00]

Adjusts the time from when the trigger occurs (e.g., note-on) until the **ATTACK TIME** starts.

For standard attack-release behavior, set the **DELAY TIME** to 0.00.

ATTACK TIME [0.00...10.00]

Adjusts the time from the end of the **DELAY TIME** until the EG reaches its maximum value.

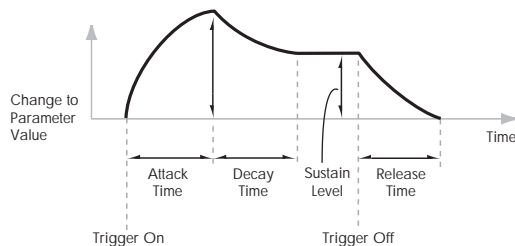
RELEASE TIME [0.00...10.00]

Adjusts the time from when the trigger is released (e.g., note-off) until the level decays to zero.

5-1d: ENVELOPE GENERATOR 2

By default, EG 2 is triggered by note-ons. However, you can use the Patch Panel’s **TRIG IN** jack to trigger it from a different source, such as the MG, AMS sources, or the ESP’s **TRIG OUT** jack. For more information, see “TRIG IN jack” on page 301.

EG 2 is hard-wired to the VCA, and also normalled to control the HPF and LPF. You can easily use other EGs for the filters, via AMS; using other EGs for the VCA is possible but slightly more tricky, as described under “Using EGs 3-6 to control the amplitude” on page 295.

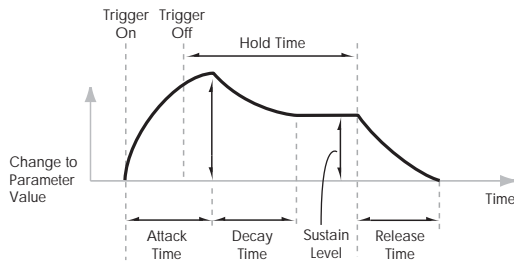


HOLD TIME [0.00...10.00]

Adjusts the time for which the input state of the trigger signal (e.g., note-on) is held after the trigger is released.

If the EG is triggered by a very short pulse, it may not have time to complete its attack and decay times before going into release. Increasing the **HOLD TIME** effectively makes the trigger pulse longer, giving the EG more time to complete its attack and decay.

EG 2 HOLD TIME



ATTACK TIME [0.00...10.00]

Adjusts the time from the EG trigger (e.g., note-on) until the EG reaches its maximum value.

MIDI This is scaled by MIDI CC#73.

DECAY TIME [0.00...10.00]

Adjusts the time the EG takes to descend from the peak to the sustain level. It also controls the rate at which **SUSTAIN LEVEL**, below, responds to AMS modulation.

MIDI This is scaled by MIDI CC#75.

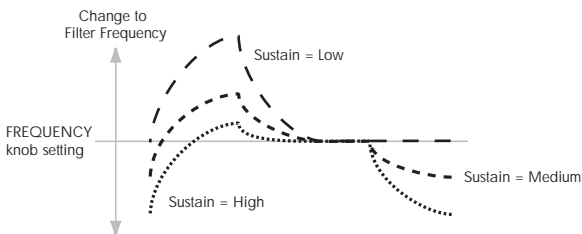
SUSTAIN LEVEL [0.00...10.00]

Adjusts the sustain level. The EG will stay at this level until the trigger is released (such as when the note is released). Unlike most other EGs, this level responds to AMS modulation in realtime, moving at the programmed **DECAY TIME**.

MIDI This is scaled by MIDI CC#70.

Note: with the default connection to the **HPF** and **LPF** frequencies, this setting has a slightly unusual effect. The **SUSTAIN LEVEL** always produces the same effect as the setting of the **FREQUENCY** knob. The **EG2/EXT** setting controls the intensity of the filter modulation during the Attack, Decay, and Release portions of the envelope, but does not affect the Sustain at all.

Effectively, the EG shifts up and down **inversely** to the **SUSTAIN LEVEL**, as shown below. When the **SUSTAIN** is high, the EG shifts down; when the **SUSTAIN** is low, the EG shifts up.



RELEASE TIME [0.00...10.00]

Adjusts the time from the trigger release (e.g., note-off) until the level decays to zero.

MIDI This is scaled by MIDI CC#72.

Using EGs 3–6 to control the amplitude

EG 2 is always connected to the VCA. It's possible, however, to force the VCA to its maximum value at all times, and then use AMS modulation of the main **VOLUME** knob to control the amplitude from any of the multi-segment EGs 3–6. To do so:

1. On the Patch Panel page, select the main **VOLUME** knob.
2. Set the **VOLUME** knob to 0.
3. Set the **VOLUME AMS Intensity** to +10.00.
4. Assign the desired EG (3–6) as the knob's **AMS source**.
5. Set the **VOICE ALLOCATION** parameter to the same EG.
6. Select the **Mod Switch** jack.
7. Set the **Mod Switch AMS Source** to **AMS Mixer 1**.
8. In **AMS Mixer 1**, set the **Type** to **Gate**, the **Source** to **Note Number**, and the **Threshold** to -99.
9. Set both **Below Threshold** and **At & Above Threshold** to fixed values of +33.

These settings produce a "5 volt" signal on the Patch Panel, which, when connected to the **INITIAL GAIN** input, sets the **VCA** to its maximum level. This lets you control the amplitude entirely via the **VOLUME AMS**.

10. On the Patch Panel, connect the **Mod Switch** jack to the **VCA INITIAL GAIN** input.

11. For the EG assigned in step 4, set up the times, levels, and curvatures as desired.

Remember to use curvature on the EG segments, for an analog feel!

5-1e: EXTERNAL MODULATION 1

Source [Off, MG Tri, MG Pulse, EG 1, EG 1 REV, EG 2, EG 2 REV, List of AMS Sources]

This selects the modulation source to control the parameters below. For a list of AMS sources, see "Alternate Modulation Source (AMS) List" on page 1021.

HPF CUTOFF [-10.00...+10.00]

Specifies the depth and direction of the modulation applied to the high-pass filter (**HPF CUTOFF FREQUENCY**).

LPF CUTOFF [-10.00...+10.00]

Specifies the depth and direction of the modulation applied to the low-pass filter (**LPF CUTOFF FREQUENCY**).

VCO1 PULSE WIDTH [-10.00...+10.00]

Specifies the depth and direction of the modulation applied to the oscillator 1 (**VCO1 PULSE WIDTH**).

VCO2 PITCH [-24.00...+24.00]

Specifies the depth and direction of the modulation applied to the oscillator 2 (**VCO2 PITCH**), in semitones.

AMP [-10.00...+10.00]

Specifies the depth and direction of the modulation applied to the amp (**VCA**). This scales the combined effect of the **VOLUME** knob and its AMS modulation.

5-1f: EXTERNAL MODULATION 2

Source [Off, MG Tri, MG Pulse, EG 1, EG 1 REV, EG 2, EG 2 REV, List of AMS Sources]

This selects the modulation source to control the parameters below. For a list of AMS sources, see “Alternate Modulation Source (AMS) List” on page 1021.

HPF CUTOFF [-10.00...+10.00]

Specifies the depth and direction of the modulation applied to the high-pass filter (HPF) CUTOFF FREQUENCY.

LPF CUTOFF [-10.00...+10.00]

Specifies the depth and direction of the modulation applied to the low-pass filter (LPF) CUTOFF FREQUENCY.

FM MG/T.EXT [-10.00...+10.00]

Specifies the depth and direction of the modulation applied to FREQUENCY MODULATION MG/T.EXT.

HPF MG/T.EXT [-10.00...+10.00]

Specifies the depth and direction of the modulation applied to the high-pass filter CUTOFF FREQUENCY MODULATION MG/T.EXT.

LPF MG/T.EXT [-10.00...+10.00]

Specifies the depth and direction of the modulation applied to the low-pass filter CUTOFF FREQUENCY MODULATION MG/T.EXT.

5-1g: Mixers

MIXER 1

This controls the input volumes for the Patch Panel’s Mixer 1. For more information, see “MIXER 1” on page 303.

LEVEL A [-10.00...+10.00]

This sets the level and polarity of the first input.

LEVEL B [-10.00...+10.00]

This sets the level and polarity of the second input.

MIXER 2

This controls the input volumes for the Patch Panel’s Mixer 1. For more information, see “MIXER 2” on page 303.

LEVEL A [-10.00...+10.00]

This sets the level and polarity of the first input.

LEVEL B [-10.00...+10.00]

This sets the level and polarity of the second input.

5-1h: Parameter Details

When you touch a knob, a yellow square appears around it, showing that it has been selected.

This area shows details for the selected knob, including its parameter group and parameter name, its exact value, and its AMS assignments.

Individual parameters and AMS

The EXTERNAL MODULATION knobs, BASE NOTE parameter, and TEMPO SYNC and KEY SYNC switches are not modulatable.

The rest of the parameters on this page can be modulated by AMS, as described below.

(Parameter group)

This shows the group of the parameter (such as VCO MIXER).

(Parameter name) [range depends on parameter]

This shows the name and exact value of the parameter. You can edit the parameter value with any of the standard data-entry controls.

AMS [List of AMS Sources]

This selects a modulation source to control the selected parameter. For a list of AMS sources, see “Alternate Modulation Source (AMS) List” on page 1021.

Intensity [range depends on parameter]

This controls the depth and direction of the AMS modulation. For more information, see “Intensity” on page 292.

Int. Mod AMS [List of AMS Sources]

You can modulate the main AMS Intensity from another AMS source. This selects that source.

Intensity [range depends on parameter]

This controls the depth and direction of the Intensity Mod AMS. The result is summed with the main AMS Intensity to produce the final modulation amount.

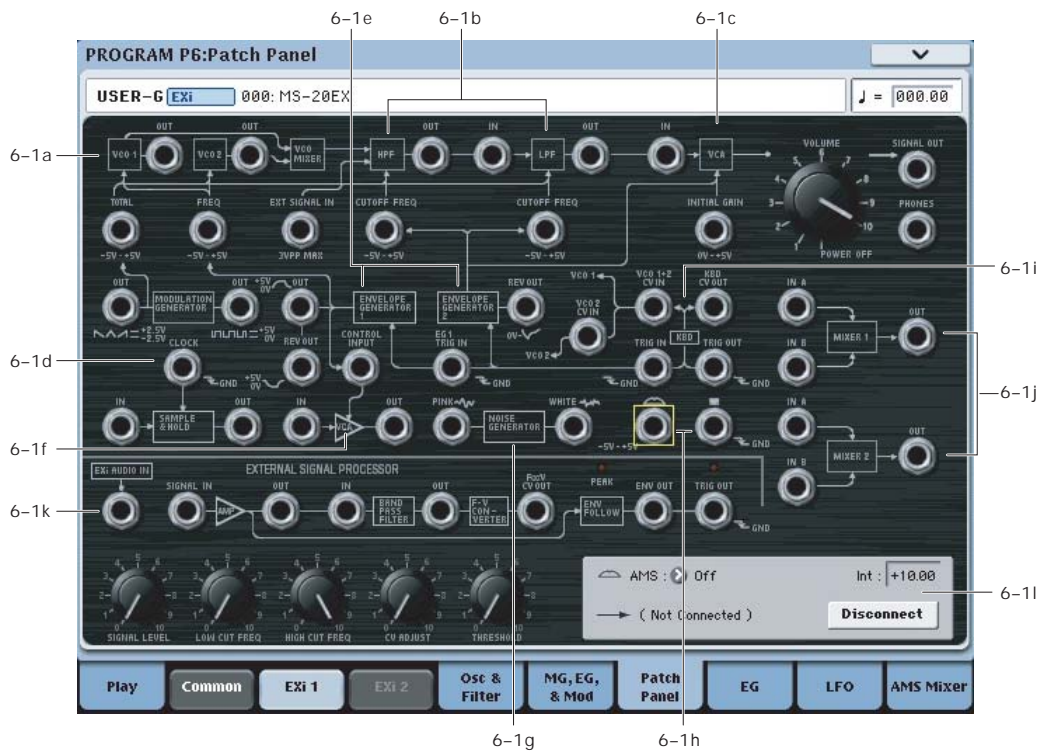
▼ 5-1: Page Menu Commands

The number before each command shows its ENTER + number-key shortcut. For more information on these shortcuts, see “ENTER + 0-9: shortcuts for menu commands” on page 142.

- 0: **Write Program**. For more information, see “Write Program” on page 142.
- 1: **Exclusive Solo**. For more information, see “Exclusive Solo” on page 142.

Program P6: Patch Panel

6-1: Patch Panel



Using the Patch Panel

Basic patching rules

Most of the main sections of the MS-20EX, including the VCOs, filters, MG, EGs, and so on, are connected by default, even without using any patch cables. The lines and arrows on the Patch Panel show these “normal” signal paths.

Plugging a cable into an input jack disconnects the “normal” path, and uses the signal from the cable instead. For example, the MG is normalled to the TOTAL input jack. If you connect the EG1 OUT jack to the TOTAL input, this disconnects the MG.

Each input can be connected to a single output, and no more (although a single *output* can be connected to multiple *inputs*, as described below). If you want to route two outputs to a single input, use one of the mixers to merge the outputs first.

Plugging a cable into an output jack lets you use the signal elsewhere on the patch panel, and does not interrupt the “normal” path. You can also connect a single output to any number of inputs, if you like; this is sometimes called a “mult.” The signal strength remains the same, as if you were using a distribution amplifier.

Connections from one input to another, or from one output to another, are not allowed.

Making connections

To make a connection between two patch points:

1. Touch one of the two jacks (either input or output).

A yellow square will appear around the selected jack. The Detail Panel will also show the name of the selected jack, and what it is connected to.

2. Touch the same jack again.

The yellow square will begin to blink, showing that you’re about to make a connection. To cancel this and return to the normal selected state, just touch the same jack a third time.

3. Touch the other jack.

The two jacks will now be connected.

Deleting connections

To delete a connection between two patch points:

1. Touch the input jack.

Note: you can also select the output jack. However, if the output is connected to more than one input, all of the connections from that output will be affected.

2. Press the Disconnect button in the Detail Panel.

The selected connection will be deleted.

To delete all connections from an output:

1. Touch the output jack.

2. Press the Disconnect button in the Detail Panel.

All of the output’s connections will be deleted. This is convenient if an output has been connected to multiple inputs, and you want to clear all of them at once.

Clearing all connections from the Patch Panel

To completely clear the Patch Panel, so that you can start from scratch:

1. Open the menu, and select the **Delete All Connections** command.

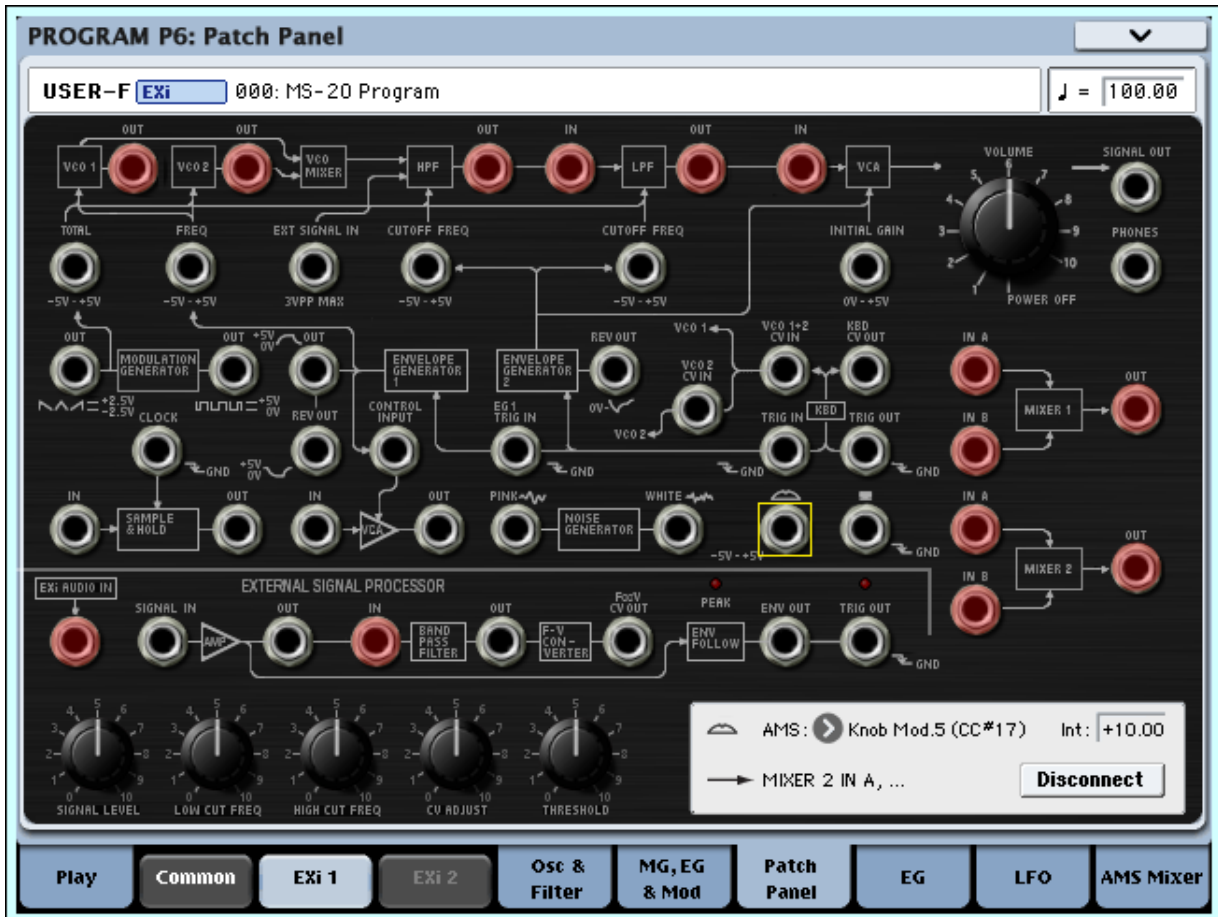
All connections will be deleted.

Different jacks have different voltage scales

Pay attention to the voltage indications (0~+5, -5V~+5V, 5Vp-p, GND, etc.) on the Patch Panel, and their relationships to the block diagram and signal flow chart.

For instance, if you connect a -5~+5V control signal to a 0~+5V input jack, nothing will happen during the -5~0V portion of the control signal. It will only operate from 0V to +5V. Always consider both the characteristics of the output and the input.

Patch Panel modifications - new inputs/outputs shown in red



Patch Panel modifications

In comparison to the original MS-20, the MS-20EX has some important additional features on the Patch Panel. These include:

- Individual access to each of the two oscillators, two filters, and final VCA
- Separate **EXi AUDIO INPUT** and **BAND PASS FILTER IN**, which allow you to route signals through the band pass filter and/or frequency-to-cv converter, while using the audio input separately
- Dual two-input mixers with phase inversion

These modifications open up many new possibilities, such as:

- Route **VCO 1** through the **HPF**, and **VCO 2** through the **LPF** (or vice-versa)

- Mix **VCO 1** and **VCO 2** together, and then route the mix through the **HPF** and **LPF** in parallel, instead of in series
- Use **AMS** of the **MIXER LEVELS** to modulate the relative levels of these parallel filters, from physical controllers, LFOs, EGs, etc.
- Route any audio source (such as a VCO or the **NOISE GENERATOR**) through the **BAND PASS FILTER**, and then mix the results back in to either the **HPF** or **LPF**, or to the final **VCA**
- Invert the polarity of a modulation or audio signal via **MIXER 1** or **2**
- Use **VCO1** or **2** to modulate **LPF** or **HPF** cutoffs, or **VCA** gain
- Reverse the order of the **LPF** and **HPF** (most noticeable with high **PEAK** settings)
- ...and many more avenues for you to explore on your own.

Tip: Creating self-triggering patches

Normally, new notes and EGs 1 and 2 are triggered by playing notes on the keyboard. They don't have to be, however. You can use the MG Square/Pulse output, the Trig Out of the External Signal Processor, or AMS signals from the Wheel or Switch jacks to trigger one or both EGs.

Note: EGs 1 and 2 trigger when the input is at 0 ("low"), such as when the MG Square/Pulse is in the bottom portion of the waveform. The MG's indicator LED is on during this portion of the waveform.

You can also use AMS (such as LFOs) to reset EGs 3-6, if desired. Finally, the Common Step Sequencer and LFO can also be reset via a selection of controllers, including the Vector EG CCs.

Even when a patch is self-triggering, it will only play when a note is played on the keyboard, held by the damper pedal, or held via the Program Basic page's **Hold** parameter. When the note is released (by lifting up on the keyboard or damper pedal, or turning off **Hold**), the EG selected by the **VOICE ALLOCATION** parameter will automatically enter its release phase, and will no longer re-trigger. All other EGs will continue to re-trigger, according to the Patch Panel and AMS settings.

In some cases, you may want some elements of the patch to re-trigger automatically, while others are still triggered from the keyboard. To allow the keyboard to act as a trigger while you are holding the sustain pedal (or while **Hold** is enabled):

1. Select the **KBD TRIG OUT** jack.
2. In the **Parameter Details** box, set **Trigger On to Note Gate**.

For more information, see "KBD TRIG OUT jack" on page 306.

6-1a: VCOs 1 and 2



For descriptions of the VCO parameters, see "4-1a: Oscillators" on page 289.

(VCO 1) OUT jack

This Patch Panel modification provides the output of VCO 1.

(VCO 2) OUT jack

This Patch Panel modification provides the output of VCO 2.

TOTAL input jack

This input modulates the frequencies of VCOs 1 and 2, the HPF, and the LPF. It's normalled to the MG sawtooth/triangle output, but you can use patch cables to connect any other modulation source.

Each of the destinations has a knob to scale the amount of modulation from the TOTAL input. For more information, see:

- VCO 1 and 2 pitch: "MG/T.EXT" on page 290
- HPF frequency: "MG/T.EXT" on page 291
- LPF frequency: "MG/T.EXT" on page 291

FREQ input jack

This input modulates the frequencies of VCOs 1 and 2. The signal is scaled by the EG1/EXT knob, as described under "EG1/EXT" on page 290.

VCO CV (Control Voltage) inputs



VCO 1+2 CV IN jack

This controls the basic pitch of both VCO1 and VCO2. Normally, this signal comes from the notes played on the keyboard (or via MIDI). You can patch other signals into this jack to create special effects, or to follow the pitch of an external audio input.

VCO 2 CV IN jack

This is similar to "VCO 1+2 CV IN jack," above, but affects VCO 2 only.

6-1b: HPF and LPF



EXT SIGNAL IN jack

This is a direct input to the HPF, summed with the output of the VCO Mixer.

(HPF) CUTOFF FREQ input jack

This input modulates the cutoff frequency of the Highpass Filter.

(HPF) OUT jack

This Patch Panel modification provides the output of the Highpass Filter.

(LPF) CUTOFF FREQ input jack

This input modulates the cutoff frequency of the Lowpass Filter.

(LPF) IN jack

This Patch Panel modification provides a direct input to the Lowpass Filter.

(LPF) OUT jack

This Patch Panel modification provides the output of the Lowpass Filter.

6-1c: VCA, VOLUME, and outputs**VCA IN jack**

This Patch Panel modification provides a direct input to the main VCA.

INITIAL GAIN input jack

The VCA is internally patched to the output of EG 2.

This jack allows an external controller to vary the VCA *in addition to* EG 2.

When the sum of both controllers reaches 5 volts, no further changes in volume will occur.

VOLUME [POWER OFF, 0.01...10.00]

This controls the basic volume level of the MS-20EX. Note that you can modulate this via AMS, for each individual voice; for more information, see “Using EGs 3-6 to control the amplitude” on page 295.

The Control Surface and volume

You can also control the volumes of EXi 1 and 2 directly from the Control Surface sliders. These volume levels are separate parameters, in addition to the individual EXi Amp Levels. To do so:

1. Press the Control Surface Timbre/Track button.
2. Move Slider 1 to set the volume for EXi 1, and Slider 2 for EXi 2.

MIDI and volume

MIDI You can control the Program’s overall volume via MIDI using both Volume (CC#7) and Expression (CC#11). When used one at a time, the two controllers work in exactly the same way: a MIDI value of 127 is equal to the **VOLUME** setting, and lower values reduce the volume.

If both CC#7 and CC#11 are used simultaneously, the one with the *lower* value determines the maximum volume, and the one with the higher value scales down from that maximum.

SIGNAL OUT jack

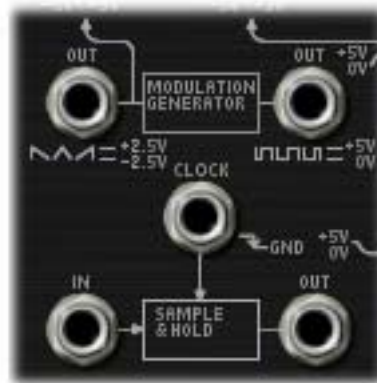
On the original MS-20, this was the final output. With the MS-20EX, you may find it useful for routing the overall output signal back into the patch—such as for creating a feedback loop.

Note that connecting to this jack does not mute the output signal.

PHONES output jack

On the original MS-20, this was used for headphones (of course!). With the MS-20EX, you can use it to route the overall output signal back into the patch, as with the “SIGNAL OUT jack,” above.

Since its original purpose was to drive headphones, the gain of the **PHONES** output is about 15dB higher than that of the **SIGNAL OUT**. It also clips (with distortion) at around -5dB below the max output level.

6-1d: MODULATION GENERATOR and SAMPLE & HOLD**MODULATION GENERATOR (MG)**

The MG has separate outputs for its two basic waveforms, so that you can use both simultaneously.

For descriptions of the MG parameters, see “5-1b: MODULATION GENERATOR (MG)” on page 293.

OUT jack (saw/triangle)

This is the output for the saw/triangle waveform. The signal is centered around zero, from -5.00 to +5.00.

OUT jack (pulse/square)

This is the output for the pulse/square waveform. The signal is unipolar, from 0.00 to 10.00.

Note: when used through AMS and EXTERNAL MODULATION, the signal ranges for both the saw/triangle and pulse/square are -10.00 to +10.00.

SAMPLE & HOLD

The **SAMPLE & HOLD** can generate a stepped output from any varying input. You can use this to create random filter or pitch effects, arpeggios, quantized LFOs or EGs, and so on.

To use the **SAMPLE & HOLD**, there must be a trigger source connected to the **CLOCK** input, and some sort of signal (such as the **NOISE GENERATOR**, **VCOs**, **AMS** sources etc.) connected to the **IN** jack.

When the **CLOCK** input is high, the **OUT** jack will carry a slightly filtered version of the signal from the **IN** jack. If the **CLOCK** input goes high for a very brief period of time, then the input from that instant will be “held” at the output. The output then stays “held” until the next time that the **CLOCK** input goes high.

Important: the trigger at the **CLOCK** input must be very brief. When using the MG Rectangle waveform as the trigger, for instance, turn the **WAVEFORM** knob to the extreme right position; this produces a very sharp pulse.

With this caveat in mind, you can use the MG or the LFOs to trigger the **CLOCK** at regular intervals, or trigger it manually using a switch, keyboard trigger out, or other signal.

CLOCK input jack

This input controls the timing of the S&H, as described above.

IN jack

This is the input to the S&H. You can connect this to the noise generator, a VCO, an LFO, etc.

OUT jack

This is the output of the S&H, which carries the held, “steppy” signal.

Creating the classic sample-and-hold effect

To create the classic random-stepping sample-and-hold effect, for rhythmic, bubbling filters or “computer noise” pitch effects:

1. Connect the **WHITE** or **PINK** output of the **NOISE GENERATOR** to the **SAMPLE & HOLD IN** jack.
2. Connect the **MG RECTANGLE** output to the **CLOCK** input.
3. On the **MG, EG, & MODULATION** page, turn the **MG WAVEFORM** knob all the way to the right.
4. Connect the **SAMPLE & HOLD OUT** to the modulation destination.

For instance, the **LPF CUTOFF FREQ IN** jack, or the **VCO 1+2 CV IN** jack.

5. Adjust the **MG FREQUENCY** to control the speed of the sample & hold effect.

Generating a random value at note-on

Using noise as the input signal, you can generate a random value at note-on by connecting the **KBD TRIG OUT** to the **CLOCK** input. This will also let through additional values at note-off, which may or may not be desirable.

If you’d prefer to generate a random value at note-on only:

1. Connect the **WHITE** or **PINK** output of the **NOISE GENERATOR** to the **SAMPLE & HOLD IN** jack.
2. Connect the **Switch** output to the **CLOCK** input.
3. Leave the **Switch AMS** source set to **Off**.

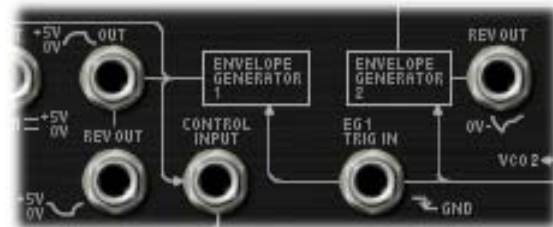
With the **AMS** source set to **Off**, it will automatically trigger the **CLOCK** at note-on, but not do anything else.

Of course, you can also route a real **AMS** source to the **CLOCK** input, and trigger it manually or via an **LFO**, **Step Sequencer**, etc.

For a more diffuse, “splatty” effect, try connecting **EG1 REV** to the **CLOCK** input.

6-1e: ENVELOPE GENERATORS 1 and 2

EG outputs



For descriptions of the EG parameters, see “5-1c: ENVELOPE GENERATOR 1” on page 294, and “5-1d: ENVELOPE GENERATOR 2” on page 294.

EG 1 OUT jack

This allows you to route **EG 1** to another point on the Patch Panel.

Note that, when manually connected to the **VCO FREQ** input, this produces a different result than the normalised signal; for more information, see “EG1/EXT” on page 290.

EG 1 REV OUT jack

This is the inverted shape of **EG 1**. The signal starts at the maximum value, falls to 0, and then releases back to the maximum value.

EG 2 REV OUT jack

This is the inverted shape of **EG 2**. The signal starts at the maximum value, falls to 0, rises up to the sustain level, and then releases back to the maximum value.

Trigger inputs



TRIG IN jack

This lets you use an external trigger sources (such as the MG rectangle output, the trigger output of the **ESP**, or a switch controller via **AMS**) to trigger both **EG 1** and **EG 2**.

The EGs trigger when the **TRIG IN** moves from high to low, such as when the MG Rectangle wave switches to the bottom portion of the waveform. When the **TRIG IN** signal goes high again, the EGs enter their release phase.

Note that the MG's LED is **on** when it is **low**. Initially, this seems like the opposite of what one might expect. When using the MG to trigger the EGs, however, this makes perfect sense: the EGs start when the LED goes on, and release when the LED goes off.

EG 1 TRIG IN jack

This is similar to the TRIG IN jack, above, but it triggers Envelope Generator 1 only.

6-1f: Modulation VCA (MVCA)



This is a second VCA, intended for scaling modulation signals.

For instance, to create a delayed vibrato:

1. Connect the MG triangle wave output to the MVCA input

2. Connect the MVCA output to the TOTAL input

EG 1 is normalled to the CONTROL input, so without any additional connections, you can simply:

3. Adjust the EG 1 Delay and Attack controls to create the desired delay and fade-in times

CONTROL INPUT jack

This controls the level of the MVCA. It's normalled to the EG 1 output, but you can patch in any other control signal.

IN jack

This is the input to the VCA.

OUT jack

This is the output of the VCA—the input signal scaled by the control signal.

6-1g: NOISE GENERATOR



These outputs provide pink and white noise, respectively. You can use these as sound sources or as modulation signals.

PINK output jack

Pink noise has a darker sound than white noise, with reduced high frequency components.

WHITE output jack

White noise is classic broad-band noise.

Note that white noise is also available as a waveform in VCO 1.

6-1h: Mod Wheel and Mod Switch



The Mod Wheel and Switch jacks allow you to select any AMS source (controllers, EGs, LFOs, step sequencer etc.), scale it via Intensity, and then route the signal into the patch panel.

For more information, see “Mod Wheel and Mod Switch” on page 305.

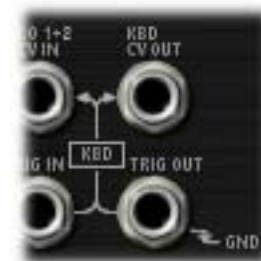
(Mod Wheel) jack

This lets you select, scale, and route the first AMS signal. This could be the Mod Wheel, if you wish—but it could also be any other AMS source.

(Mod Switch) jack

This lets you select, scale, and route the second AMS signal. You can use any AMS source, including continuous sources such as LFOs and EGs; the selection is not limited to on/off switches.

6-1i: Keyboard Trigger and CV outputs



KBD CV OUT jack

This allows you to route the keyboard's control voltage (which is a signal representing the current note) to other parts of the synthesizer.

KBD TRIG OUT jack

Whenever you play a key on the keyboard, a trigger signal is generated.

Using the Parameter Details box, you can select whether this trigger represents **Note Gate + Sustain**, or **Note Gate** only.

Note Gate + Sustain is the default, and is most appropriate for general use.

Note Gate is useful for keyboard trigger operation within self-triggering patches. For more information, see “Tip: Creating self-triggering patches” on page 299.

6-1j: MIXERS 1 and 2



MIXER 1

This is a simple 2-in, 1-out mixer; you can use it for merging and scaling either control or audio signals. Note that you can also use this to invert the polarity of a signal.

The levels of inputs A and B are controlled by knobs on the MG, EGs, and Modulation page, and can be modulated via AMS; for more information, see “5-1g: Mixers” on page 296.

IN A jack

This is the first input to the mixer.

IN B jack

This is the second input to the mixer.

OUT jack

This is the merged output of IN A and IN B.

MIXER 2

This is a second 2-in, 1-out mixer, identical to “MIXER 1,” above.

IN A jack

This is the first input to the mixer.

IN B jack

This is the second input to the mixer.

OUT jack

This is the merged output of IN A and IN B.

6-1k: EXTERNAL SIGNAL PROCESSOR (ESP)

Important: the ESP is only active when notes are played

The ESP can process live audio inputs, feedback from effects, or any other audio from within the OASYS—as well as audio from within the MS-20EX itself. Note, however, that the ESP is only active when a voice is being played on the MS-20EX.

It’s easy to make a patch in which only the incoming audio is heard, with the built-in VCOs completely silent—but you still need to press a key (or play a note via MIDI) in order to activate the MS-20EX. You can use the EXi Common **Hold** parameter to keep the note “held down” indefinitely, if you like.

For more information, see “Using the External Signal Processor (ESP)” on page 305, and “Tip: Creating self-triggering patches” on page 299.

Audio Inputs



EXi AUDIO IN jack

This mono input lets you route audio from elsewhere in OASYS through the MS-20EX. You can use any of the audio inputs, any of the audio outputs, the REC buses, the FX Control buses, or the outputs of any of the Insert, Master, or Total Effects.

You can also route live or recorded audio through the MS-20EX, in real-time—and we’re sure that you’ll be able to think of other creative uses!

The audio input source and channel (left, right, or L+R summation) are selected by the Input Source and Channel parameters in the current Program, Combination Timbre, or Song Track.

For more information, see “4-2: EXi Audio Input” on page 168 (Program mode), “2-6: EXi Audio Input” on page 422 (Combination mode), and “2-6: EXi Audio Input” on page 530 (Sequencer mode).

Once you’ve selected the desired audio source, you can connect the **EXi AUDIO IN** jack to any input on the Patch Panel. For instance, you can route the audio through the HPF, LPF, or BPF, mix it with the built-in VCOs and noise generator, and so on. You can also use the ESP to convert the audio to a trigger or CV source, as described under “Using the External Signal Processor (ESP),” on page 305.

The **EXi AUDIO IN** is monophonic, but you can use two MS-20EX together to process stereo signals:

1. **Create a double EXi Program, and assign both EXi1 and EXi2 to use the MS-20EX.**
2. **In the EXi Audio Input parameters, assign the left channel to EXi1, and the right channel to EXi2.**
3. **Pan the output of EXi1 to the left, and the output of EXi2 to the right.**

NOTE: In the Legacy MS-20 plug-in, the audio input is normalled to the HPF’s Ext Signal Input. To enable more flexibility in patching, this signal is *not* normalled in the MS-20EX. When converting sounds from the Legacy plug-in, the EXi audio input should be patched to the Ext Signal In jack.

SIGNAL IN jack

This is the input to the External Signal Processor. To use this with live audio input, connect the EXi AUDIO IN jack to the SIGNAL IN jack.

SIGNAL LEVEL knob [0.00...10.00]

This adjusts the volume of the signal connected to the SIGNAL IN jack.

This knob has over 50dB of gain at the maximum setting of 10.00. Unity gain (+0dB) is at 3.75; 5.00 is about +4dB, and 7.50 is about +12dB.

If the input level is high, setting above unity gain will cause increasing amounts of saturation and overdrive, creating a more aggressive tone.

(SIGNAL) OUT jack

This is the signal from the SIGNAL IN jack, scaled by the SIGNAL LEVEL control.

BAND PASS FILTER

The Bandpass filter includes separate controls for high and low cut, and passes through only the audio between those two frequencies. It's normalised to the input of the Frequency-to-Voltage converter, for fine-tuning the incoming audio.

You can also use this filter to process audio signals, or to sculpt the Noise Generator's output for particular modulation effects. You can even use it as a third filter for the VCOs, in addition to the HPF and LPF.

Note: Even at the widest settings for high and low cut, there will still be some attenuation of the highest and lowest frequencies.

**(BAND PASS FILTER) IN jack**

This Patch Panel modification provides a direct input to the Bandpass filter. This means that you can use the filter separately from the Envelope Follower, if desired.

LOW CUT FREQ knob [0.00...10.00]

This knob adjusts the low-cut frequency of the Bandpass filter. Only frequencies **higher** than this will pass through the filter.

HIGH CUT FREQ knob [0.00...10.00]

This knob adjusts the high-cut frequency of the Bandpass filter. Only frequencies **lower** than this will pass through the filter.

(BAND PASS FILTER) OUT jack

This is the output of the Bandpass filter.

Frequency-to-Voltage (F×V) CONVERTER

This converter generates a "control voltage" signal based on the pitch of the audio input, which you can then use to control the pitch of the VCOs.

**CV ADJUST knob** [0.00...10.00]

Adjust this so that the input signal and the synthesizer's output signal are the same pitch. For more information, see "Using the External Signal Processor (ESP)" on page 305.

F×V CV OUT jack

This is the output of the F-V CONVERTER. You can connect this to the VCO 1+2 CV IN or VCO 2 CV IN jacks, to control the oscillator pitch.

ENVELOPE FOLLOWER and TRIG OUT

The ENVELOPE FOLLOWER creates a control signal out of the audio input level. For instance, you could connect the ENV OUT to the LPF CUTOFF FREQ input, to create an auto-wah filter.

The ENVELOPE FOLLOWER takes its input from the volume-scaled SIGNAL IN, right after the SIGNAL LEVEL knob.

Similarly, the TRIG OUT creates a trigger signal from the input. Use the THRESHOLD knob to set the volume level at which the trigger occurs.

**PEAK LED** [Off, On]

This LED shows that the ENVELOPE FOLLOWER is at its peak value. You can use this as an aid when adjusting the input signal's level and/or frequency content for optimal performance.

ENV OUT jack

This is the output of the ENVELOPE FOLLOWER. Connect this to any modulation input.

THRESHOLD knob [0.00...10.00]

This sets the volume level at which the trigger occurs. Adjust this to match the

TRIG OUT jack

This is the trigger generated from the audio signal. You can connect this to the EG 1&2 TRIG IN jack, the EG1 TRIG IN jack, or the SAMPLE & HOLD CLOCK input.

TRIG OUT LED [Off, On]

This LED shows that input signal is over the trigger THRESHOLD, and that the trigger output is on. You can use this as an aid when adjusting the

THRESHOLD, LOW CUT FREQ and **HIGH CUT FREQ** controls, or when using other controls to modify the input signal.

Using the External Signal Processor (ESP)

You can use the ESP to control the MS-20EX from an external monophonic audio source, such as a melody played on a guitar. Just like the original MS-20, the MS-20EX will trigger its EGs and track the pitch of the guitar—with varying degrees of accuracy. Of course, the unpredictability is part of the charm...

Note that this will only work with single-note input, such as melodies; polyphonic input will not work properly.

You can also use the ESP as a modulation source when processing audio signals through the MS-20EX. This can be very useful with drums, for instance; you can use the input signal to trigger EGs, use the ESP's envelope follower to modulate the filters, and so on.

Important: the ESP only works if an MS-20EX note is being played! You can use the Hold parameter, or a damper pedal, to sustain a single note indefinitely if desired.

To set up the ESP for external control:

1. **If you are using a live input, connect the instrument or microphone to the OASYS audio inputs, and set up the gain accordingly.**
2. **On the EXi Audio Input page, select the desired input.**

For more information, see “4-2: EXi Audio Input” on page 168 (Program mode), “2-6: EXi Audio Input” on page 422 (Combination mode), and “2-6: EXi Audio Input” on page 530 (Sequencer mode).

3. **On the Patch Panel, connect the EXi AUDIO INPUT to the SIGNAL IN.**
4. **Play a note on the keyboard, or via MIDI. Use either the damper pedal or the HOLD parameter to keep the note sustained.**

The ESP is only active when a note is being played.

5. **Increase the THRESHOLD while watching the TRIG OUT light, until it lights when playing at medium to high volumes.**

The light shows when the signal is over the trigger threshold.

6. **Connect the ESP's TRIG OUT jack to the TRIG IN jack.**

This makes EG1 and EG2 respond to the ESP's trigger output, instead of the keyboard.

7. **Connect the ENV OUT jack to the VCA's INITIAL GAIN jack.**

This makes the VCA level follow the amplitude of the ESP's signal, as generated by the envelope follower.

8. **Connect the F×V CV OUT jack to the VCO 1+2 CV IN jack (or the VCO 2 CV IN jack).**

This makes the pitch of the VCOs follow the pitch of the ESP's signal.

9. **In the BAND PASS FILTER, set the LOW CUT FREQ to 10.00 and HIGH CUT FREQ to 0.00.**

10. **Play the highest note the ESP is to pick up, and slowly increase the HIGH CUT until the desired pitch is picked up.**

11. **Play the lowest note and slowly decrease the LOW CUT until the note is picked up.**

These measures help to refine the CV converter's response to the input signal.

12. **Set the CV ADJUST control so that the pitch matches that of the input instrument.**

The MS-20EX should now respond to the audio input, as if you were playing on the keyboard.

6-1: Parameter Details

The parameter details box shows different information depending on whether the current selection is an input or output jack, a knob, or one of the two assignable mod sources (the wheel and switch).

Input and Output Jacks

If a jack is selected, this area shows the name of the selected jack on the top line, and the jack(s) to which it is connected on the bottom line, to the right of the arrow. If nothing is connected to the jack, the bottom line reads “(No Connection).”

If the selected jack is an output connected to multiple inputs, only the first connection is shown, followed by an ellipse.



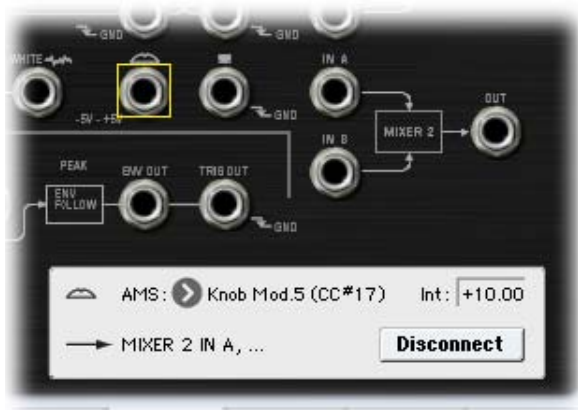
Disconnect button

Pressing the **Disconnect** button clears all cables connected to the jack.

Mod Wheel and Mod Switch

In addition to the functionality described under “Input and Output Jacks,” above, these jacks allow you to select any AMS source, use Intensity to scale the signal, and then route it into the patch panel.

Note that the Mod Switch can use any AMS source, including continuous sources such as LFOs and EGs; it is not limited to on/off switches.



AMS [List of AMS Sources]

This selects the modulation source to route into the patch panel. For a list of AMS sources, see “Alternate Modulation Source (AMS) List” on page 1021.

Important: on the original MS-20, the Mod Wheel was a bipolar modulation source—meaning that the center position produced no modulation, moving down from the center made the value lower, and moving up from the center made the value higher.

The MS-20EX has a number of bipolar modulation sources, including the LFOs, EGs 3-6, and the Common Step Sequencer. JS+Y (the equivalent of the Mod Wheel), on the other hand, is unipolar.

You can use an AMS Mixer to convert JS+Y into a bipolar signal, if you like. To do so:

1. On the AMS Mixer page, set the Mixer Type to Offset.
2. Select JS+Y as AMS A.
3. Set AMS A Offset to -99.
4. Set AMS A Amount to +199.

These settings shift JS+Y down and then double its range, creating a bipolar signal.

5. In the Patch Panel, set the Mod Wheel jack to use the AMS Mixer (instead of JS+Y).

The Mod Wheel jack will now carry the bipolar JS+Y signal.

Int (Intensity) [range depends on parameter]

This controls the depth and polarity of the AMS signal.

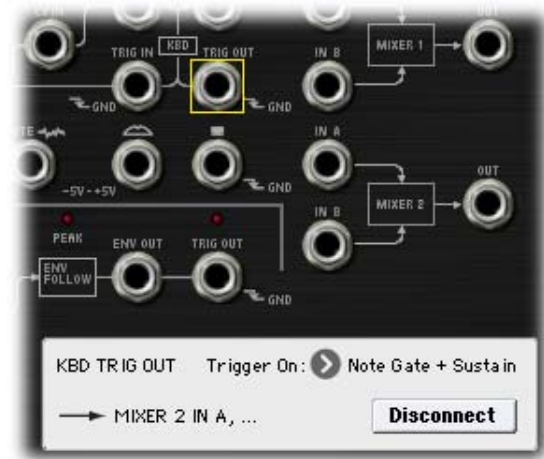
KBD TRIG OUT jack

In addition to the functionality described under “Input and Output Jacks,” above, this jack lets you select the trigger type, as below.

Trigger On [Note Gate + Sustain, Note Gate]

Note Gate + Sustain is the default, and is most appropriate for general use.

Note Gate is useful for keyboard trigger operation within self-triggering patches. For more information, see “Tip: Creating self-triggering patches” on page 299.



Knobs

If a knob is selected, this area shows its parameter group and parameter name, its exact value, and its AMS assignments. All six Patch Panel knobs, including Master Volume, are modulatable.



(Parameter group)

This shows the group of the parameter (such as VCO MIXER).

(Parameter name) [range depends on parameter]

This shows the name and exact value of the parameter. You can edit the parameter value with any of the standard data-entry controls.

AMS [List of AMS Sources]

This selects a modulation source to control the selected parameter. For a list of AMS sources, see “Alternate Modulation Source (AMS) List” on page 1021.

Int (Intensity) [range depends on parameter]

This controls the depth and direction of the AMS modulation.

▼ **6-1: Page Menu Commands**

The number before each command shows its ENTER + number-key shortcut. For more information on these shortcuts, see “ENTER + 0-9: shortcuts for menu commands” on page 142.

- 0: **Write Program.** For more information, see “Write Program” on page 142.
- 1: **Exclusive Solo.** For more information, see “Exclusive Solo” on page 142.
- 2: **Delete All Connections.** For more information, see “Delete All Connections” on page 311.

Program P7: EG 3-6

The MS-20EX has four assignable EGs, in addition to the original MS-20 EGs 1 and 2. Each of these can be used as an AMS modulation source to control a wide variety of parameters.

7-1: EG 3 AMSource

7-2: EG 4 AMSource

7-3: EG 5 AMSource

7-4: EG 6 AMSource

The MS-20EX's EGs 3-6 are identical to the AL-1's EG1. For detailed explanations, please see "7-1: EG 1 (Filter)," on page 203.

Program P8: LFO 1-4

The MS-20EX has four assignable LFOs, in addition to the original MS-20 MG and the EXi Program's Common LFO. Each of these can be used as an AMS modulation source to control a wide variety of parameters.

8-1: LFO 1 AMSource

8-2: LFO 2 AMSource

8-3: LFO 3 AMSource

8-4: LFO 4 AMSource

The MS-20EX's LFOs 1-4 are identical to those of the AL-1. For detailed explanations, please see "8-2: LFO 1," on page 209.

Program P9: AMS Mixers

The AMS Mixers combine two AMS sources into one, or process an AMS source to make it into something new.

For instance, they can add two AMS sources together, or use one AMS source to scale the amount of another. You can also use them to modify the response of realtime controllers.

The AMS Mixer outputs appear in the list of AMS sources, just like other controllers.

This also means that the original, unmodified inputs to the AMS Mixers are still available as well. For instance, if you use Aftertouch as an input to a AMS Mixer, you

can use the processed version of the Aftertouch to control one AMS destination, and the original version to control another.

Finally, you can cascade the AMS Mixers together—for instance, you can use AMS Mixer 1 as an input to AMS Mixer 2.

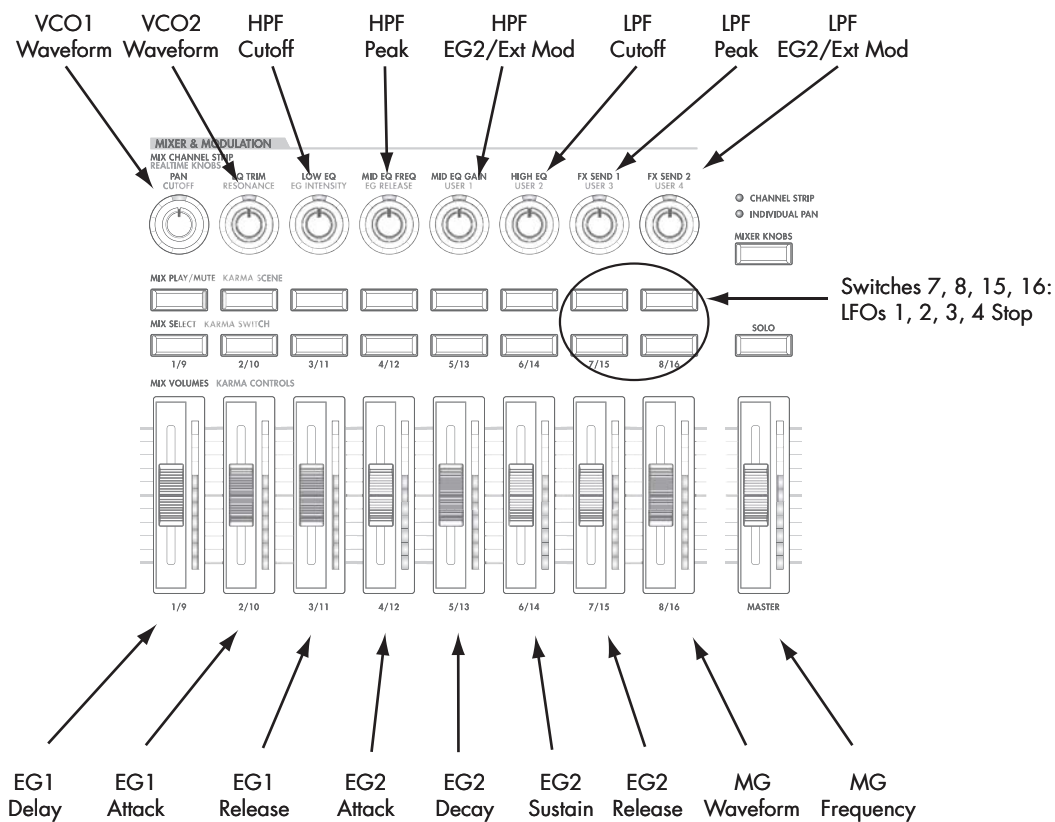
9-1: AMS Mixers 1-2

9-2: AMS Mixers 3-4

The MS-20EX's AMS Mixers are identical to those of the AL-1 (although the MS-20EX has four, to the AL-1's two). For detailed explanations, please see "9-1: AMS Mixer," on page 213.

MS-20EX: Tone Adjust

MS-20EX Tone Adjust Default Settings



Tone Adjust provides an elegant physical interface to the MS-20EX's parameters. Most of the factory sounds use the default layout, as shown above. You can also customize the layout for individual sounds, if desired.

For more information about Tone Adjust, please see "0–9f: Tone Adjust," on page 26.

Common Tone Adjust parameters

These parameters affect both EXi 1 and 2. Except as noted below, the Common Tone Adjust parameters behave as described under "Common Tone Adjust Parameters," on page 28.

Filter Cutoff. (–99...+99, CC#74)

This scales the cutoff frequency of the lowpass filter. To adjust the highpass filter, use the separate, MS-20EX-specific Tone Adjust parameters.

Filter Resonance. (–99...+99, CC#71)

This scales the resonance (**PEAK**) of the lowpass filter. To adjust the highpass filter, use the separate, MS-20EX-specific Tone Adjust parameters.

Filter EG Intensity. (–99...+99, CC#79)

This scales the **EG2/EXT** knob for the lowpass filter.

Amp Velocity Intensity. (–99...+99)

Not supported.

Filter/Amp EG Attack Time.

(–99...+99, CC#73)

This scales the attack time of EG2, which is normalised to both filter cutoff and amplitude.

Filter/Amp EG Decay Time.

(–99...+99, CC#75)

This scales the decay time of EG2. It interacts with CC# 75.

Filter/Amp EG Sustain Level.

(–99...+99, CC#70)

This scales the sustain level of EG2.

Filter/Amp EG Release Time.

(–99...+99, CC#72)

This scales the release time of EG2.

Filter EG, Amp EG, and Pitch EG Attack Time, Decay Time, Sustain Level, Release Time are not supported by the MS-20EX.

Pitch LFO1 Intensity. (–99...+99, CC#77)

This scales the **FREQUENCY MODULATION MG/T.TEXT** knob. (Note that this controls the amount of pitch modulation, but does not necessarily apply to LFO1.)

MS-20EX Tone Adjust parameters

In addition to the Common Tone Adjust parameters listed above, the MS-20EX adds a number of its own parameters.

Note that these additional parameters are separate for each EXi, as opposed to being shared by both EXi in the Program.

All of the additional parameters are listed below. Tone Adjust parameters may affect the internal parameters in one of two ways: they may be **Relative**, in which case they scale the existing parameter value, or **Absolute**, in which case they over-write the existing value. Unless otherwise noted, all of the MS-20EX parameters are **Absolute**.

The full name of the currently selected parameter is shown in the status line at the top of the Control Surface page, as well as in the popup menu. Some parameters with longer names may show an abbreviation for the slider, knob, and switch labels.

VCO1

VCO1 Wave Form

VCO1 PW

VCO1 Scale

VCO2

VCO2 Wave Form

VCO2 Pitch

VCO2 Scale

PORTAMENTO

Portamento Time

FINE TUNE

Fine Tune

FREQUENCY MODULATION

Freq Mod MG/T.Ext

Freq Mod EG1/Ext

VCO Mixer

VCO 1 Level

VCO 2 Level

HPF

HPF Frequency

HPF Peak

CUTOFF FREQUENCY MODULATION (HPF)

HPF Mod MG/T.Ext

HPF Mod EG2/Ext

LPF

LPF Frequency

LPF Peak

CUTOFF FREQUENCY MODULATION (LPF)

LPF Mod MG/T.Ext

LPF Mod EG2/Ext

PITCH

Bend Range

Transpose

MODULATION GENERATOR (MG)

MG Key Sync

MG Tempo Sync

MG Base Note

MG Frequency

MG Times

MG Wave Form

ENVELOPE GENERATOR 1

EG1 Delay Time

EG1 Attack Time

EG1 Release Time

ENVELOPE GENERATOR 2

EG2 Hold Time

EG2 Attack Time

EG2 Decay Time

EG2 Sustain Level

EG2 Release Time

MIXER 1

Mixer 1 Level A

Mixer 1 Level B

MIXER 2

Mixer 2 Level A

Mixer 2 Level B

EXTERNAL SIGNAL PROCESSOR

ESP Signal Level

ESP Low Cut Freq

ESP High Cut Freq

ESP CV Adjust

ESP Threshold

EGs

The MS-20EX adds the following separate controls for EGs 3, 4, 5 and 6:

- Attack time (relative)
- Decay & Slope time (relative)
- Sustain level (relative)
- Release time (relative)

LFOs

In addition to supporting the standard Tone Adjust LFO parameters, the MS-20EX adds the following separate controls:

- LFO 1, 2, 3, and 4 Waveform
- LFO 1, 2, 3, and 4 Shape
- LFO 3 Speed (relative)
- LFO 3 Fade (relative)
- LFO 3 Delay (relative)
- LFO 3 Stop
- LFO 4 Speed (relative)
- LFO 4 Fade (relative)
- LFO 4 Delay (relative)
- LFO 4 Stop

MS-20EX: Page Menu Commands

Delete All Connections

This command removes all of the connections from the Patch Panel, so that you can start from a blank slate.

EXi: PolysixEX

PolysixEX Overview

The PolysixEX is a rich-sounding, easy-to-use, high-polyphony virtual analog synth (up to 172 voices!). It combines the features and sonic character of the classic Korg Polysix (and the Legacy Polysix plug-in) with many additional capabilities unique to the OASYS. Features include:

- Korg's proprietary CMT (Component Modeling Technology)
- Up to 172-voice polyphony
- Oscillator, sub-oscillator, and 4-pole resonant lowpass filter
- Dedicated chorus/ensemble/phaser effects
- Classic ADSR envelope, plus two multi-stage EGs
- Classic "MG" LFO, plus two multi-waveform LFOs
- Easy-to-use, sample-accurate arpeggiator
- Extensive AMS modulation, plus four AMS mixers

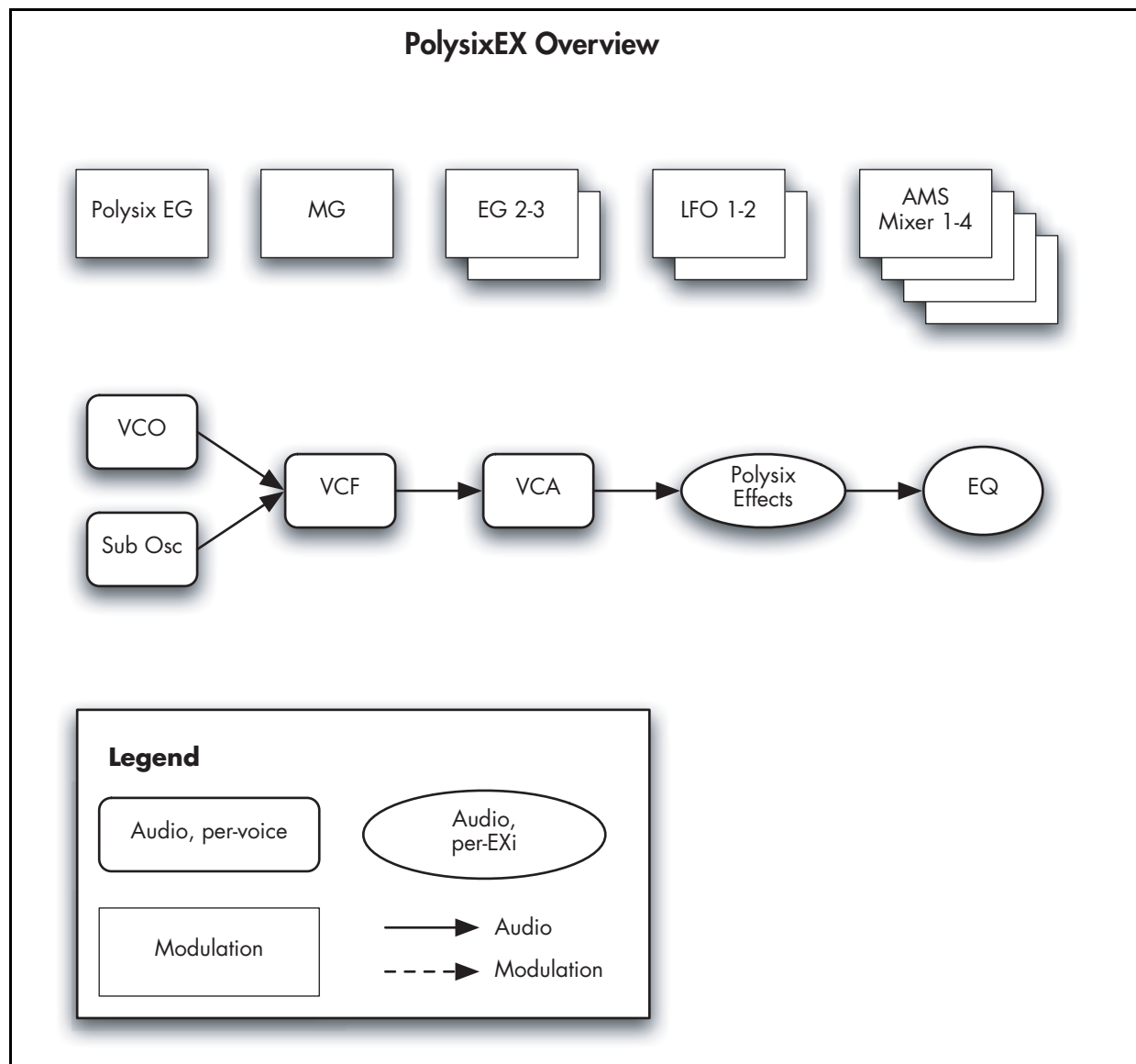
- Access to all standard EXi Program features, including the Common LFO, Common Step Sequencer, Key Track 1 & 2, KARMA, EQ, and effects—as well as layering with any other EXi (including using two PolysixEXs together!)

PolysixEX uses EXi fixed resources

The PolysixEX uses EXi fixed resources for its built-in effects. These take up a small amount of processing power, even if you're not playing any notes.

Because of this, you can use only 16 PolysixEXs simultaneously in a Combination or Song. If other EXis with fixed resources are in use, the maximum number of PolysixEXs will be reduced accordingly. Each EXi in each Program counts towards the maximum; for instance, a Program with two PolysixEXs counts as two, not as one.

For more information, see "CX-3 & STR-1: Limitations on EXi fixed resources" on page 382.



Unsupported EXi Common parameters

The PolysixEX supports all of the EXi Common parameters, except for two of the voice allocation options: **Poly Legato** and **Mono Mode** (Normal/Use Legato Offset).

All of the other voice allocation options are fully supported, including Mono, Mono Legato, Unison, etc.

On-screen knobs and switches, and the Parameter Details area

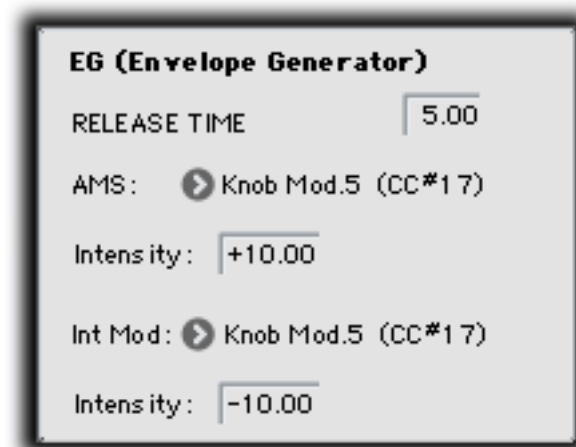
Parameter Details

The LCD displays include graphic knobs and switches for all of the main PolysixEX parameters. These let you view and edit parameters quickly and easily. Almost all of the original Polysix parameters fit onto a single OASYS page.

You can program any original Polysix sound using only these knobs and switches. If you want more flexibility and control, however, the PolysixEX offers two additional EGs and LFOs, four AMS mixers, access to the EXi Program's Common LFO, Common Step Sequencer, and Vector features, and AMS modulation for almost every original Polysix parameter.

The entry way to these advanced features is the Parameter Details area, located in the lower right-hand part of the screen:

Parameter Details area



The Parameter Details area shows information for the selected knob or switch, including its parameter group and parameter name, its exact value, and its AMS assignments.

Using the graphic parameters

Editing knobs and sliding switches

To edit knobs and sliding switches, such as the three-position **MG MODE** switch:

1. **Touch the knob or switch.**

A yellow square will appear around the knob or switch, showing that it has been selected. The Parameter Details area will change to show the name and value of the current parameter, along with other related information.

2. **Use any of the data-entry controls to edit the value.**

You can use the value slider, the inc/dec buttons, the rotary dial, or the numeric keypad.

As you edit the value, notice that the graphic knob or switch moves, and that the value in the Parameter Details area changes as well.

Editing on/off switches

To edit an on/off switch, such as the **MG KEY SYNC** button, simply:

1. **Touch the switch to toggle the value.**

Assigning AMS modulation

Most parameters support modulation via AMS. Sources and intensities can be edited in the Parameter Details area:

1. **Touch the knob or switch.**

If the parameter supports AMS modulation, the Parameter Details area will show one or more AMS sources and intensities.

2. **Edit the AMS settings in the Parameter Details area.**

Note: the graphic knobs and switches always show their stored value. Absolute Tone Adjust settings edit these values, just as if you were editing the parameters themselves, and so the graphics will show the results. However, AMS modulation does not edit the stored value, and so the graphics do not include the results of AMS.

Note also that AMS can often modulate parameters outside the range of the stored values, as if you were pushing the parameter beyond the ends of the knob.

Poly, Unison, Chord, and Hold

The original Polysix had four switches to select different voice-allocation options, including **POLY**, **UNISON** (mono), **CHORD**, and **HOLD**. In the OASYS, all of these functions (and many more besides) are available on the Program Basic page.

EXi Program P0: Play

0-1: Main



This is the main page of Program mode. For a full description of this page and all of its functions, please see “EXi Program P0: Play” on page 159. This section describes only the overview display, which differs for each individual EXi.

0-1b: Overview and Page Jump

This part of the page shows an overview of the most important settings for the Program’s two EXi instruments. The specific parameters will vary, depending on which EXi are being used. The specific parameters for the PolysixEX are described below.

The graphics give you a quick way to check all of these settings at a glance. They also let you jump instantly to any of the displayed parameters. Just touch one of the sections, and you’ll jump to the page containing its parameters. For instance, if you touch the Filter graphic, you’ll go to the Oscillator and Filter page.

Tip: Pressing EXIT several times will always bring you back to this page.

VCO/VCF/EG/MG

This section shows the most important oscillator, filter, envelope, and modulation generator parameters. Touch this area to jump directly to the main PolysixEX page.

Arpeggiator

This section shows the arpeggiator parameters. Touch this area to jump directly to the Modulation & Arpeggiator page.

EGs and LFOs

EG 2,3 Graphics

These show the shapes of the two multi-stage EGs. Touch either of them to jump directly to the corresponding edit page.

LFO 1,2 Graphics

These show the waveforms and shapes of the two LFOs. Touch either of them to jump directly to the corresponding edit page.

Key Zone

Key Zone

This shows the key zones for EXi1 and EXi2, as set on the Common section’s Program Basic page, in relation to the entire MIDI note range. The range of the 76-note or 88-note keyboard is also shown, as appropriate.

Press this area to jump to the Program Basic page.

Common

The graphics along the right side of the screen show the most important Common parameters, which are shared by both EXi in the Program. This section will always show the same parameters, regardless of which EXi are being used.

Common Voice Assign Mode

This shows the voice assign mode of the Program—either POLY or MONO.

Press this area to jump to the Program Basic page.

Common Step Sequencer

This shows a graphic overview of the Common Step Sequencer.

Press this area to jump to the Common Step Sequencer page.

Common LFO Graphic

This shows the waveform of the Common LFO.

Press this area to jump to the Common LFO page.

3 Band EQ Graphic

This shows the mid-sweepable 3-band EQ.

Press this area to jump to the EQ page.

IFX, MFX/TFX

Press the IFX area to jump to the IFX Routing page.

Press the MFX/TFX area to jump to the MFX Routing page.

KARMA GE Name

This shows the name of the selected KARMA GE.

Press this area to jump to the GE Setup/Key Zones page.

Program P4: Main

4-1: Main



4-1a: VCO

VIBRATO INT [0.00... 10.00]

Moving the joystick “up” from the center detent position, away from yourself, produces the JS+Y controller (MIDI CC#1). On the PolysixEX, JS+Y normally controls **VIBRATO**—the amount of the MG applied to VCO pitch.

VIBRATO INT controls the intensity of this modulation, up to +/- 2 semitones. To disable JS+Y’s control of **VIBRATO**, set this to **0.00**.

Note that this is optimized for fairly small amounts of pitch modulation. For more dramatic effects, set the MG’s **MODE** to **VCO**, and adjust the depth via the MG’s **LEVEL** knob.

Alternatively, you can modulate **TRANSPOSE** or **TUNE** via AMS.

MIDI **VIBRATO INT** is scaled by MIDI CC#77.

OCTAVE [16', 8', 4']

This sets the VCO’s coarse tuning, in octaves.

WAVEFORM [SAW, PW, PWM]

This selects the VCO’s waveform.

SAW produces a sawtooth wave—the traditional buzzy analog synth sound.

PW produces square and pulse waveforms; for more information, see “PW/PWM,” below.

PWM is similar to **PW**, but uses a dedicated LFO to modulate the waveform. The speed of the LFO is controlled by “**PWM SPEED**,” below. The **PW/PWM** setting determines the maximum width.

PW/PWM [0.00... 10.00]

When **WAVEFORM** is set to **PW**, this directly controls the shape of the waveform.

When **WAVEFORM** is set to **PWM**, this controls the maximum pulse width when being modulated by the dedicated PWM LFO. When **PW/PWM** is set to **0.00**, the LFO will have no effect.

More on Pulse Width

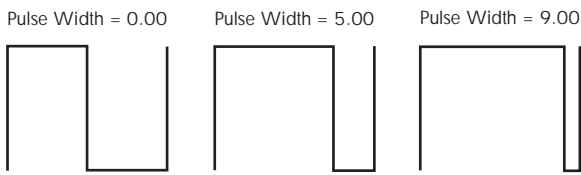
Pulse waveforms are simple, rectangular shapes. The Pulse Width sets the percentage of the waveform spent in the “up” position. A few examples are shown in the diagram below. Note that a square wave is just a pulse wave with **PW/PWM** set to **0.00**.

The width controls the timbre of the oscillator, from pure and hollow at **0.00** (a square wave) to thin and reedy at higher settings.

At the maximum setting of **10.00**, the Pulse wave will be very quiet, since the “pulse” goes up and then down again almost instantly.

The real magic of the pulse wave comes when you modulate the width, using either **AMS** or the dedicated **PWM LFO**. With **AMS**, try using a medium-speed triangle LFO, or a sweeping **EG**.

Pulse waveform at different widths



PWM SPEED [0.00...10.00]

The PolysixEX has an LFO dedicated to pulse width modulation (PWM). This adjusts the speed of that LFO. Note that this applies only when the **WAVEFORM** is set to **PWM**.

The dedicated PWM LFO is shared between all the PolysixEX voices, similar to the Common LFO.

If you'd like more flexible PWM, including per-voice modulation, you can use AMS to modulate the **PW/PWM** parameter directly.

SUB OSC [2OCT, 1OCT, OFF]

The VCO includes a sub-oscillator. You can set this to sound either one or two octaves below the main oscillator, or turn it off completely if desired.

2OCT: the sub-oscillator will sound at two octaves below the main oscillator.

1OCT: the sub-oscillator will sound at one octave below the main oscillator.

OFF: disables the sub-oscillator.

4-1b: MG (Modulation Generator) AMSource

The MG is shared between all PolysixEX voices, similar to the Common LFO. For per-voice modulation, use **LFO1** or **2** instead.

The MG is available as an AMS source throughout the PolysixEX, in two different versions: **MG** is the unaltered MG signal, and **MG + Delay** is at 0 until the programmed **DELAY** time has elapsed.

TEMPO SYNC [Off, On]

Touch the text/LED area to turn **TEMPO SYNC** on and off.

On (LED lit): When **TEMPO SYNC** is **On**, the MG synchronizes to the system tempo, as set by either the Tempo knob or MIDI Clock. The MG speed is controlled by the combination of the **BASE NOTE** and **FREQUENCY/TIMES** parameters, below.

Off (LED dark): When **TEMPO SYNC** is **Off**, the **FREQUENCY/TIMES** knob determines the speed of the MG, and the **BASE NOTE** setting has no effect.

This parameter is not modulatable via AMS.

KEY SYNC [Off, On]

If this setting is **ON**, the phase is reset for the first note-on in each legato phrase. Subsequent notes in a chord, or notes played legato, do not cause the phase to be reset.

This parameter is not modulatable via AMS.

BASE NOTE [1/1...1/32]

When **TEMPO SYNC** is **ON**, this sets the basic speed of the MG, relative to the system tempo. The values range from a 32nd note to a whole note, including triplets. This value is then multiplied by the **FREQUENCY/TIMES** knob, below.

When **TEMPO SYNC** is **OFF**, this parameter has no effect.

This parameter is not modulatable via AMS.

FREQUENCY/TIMES [0.00...10.00/16...1]

If **TEMPO SYNC** is **OFF**, this controls the frequency of the MG.

If **TEMPO SYNC** is **ON**, this multiplies the length of the **BASE NOTE**. For instance, if the **BASE NOTE** is set to a sixteenth note, and Times is set to 3, the MG will cycle over a dotted eighth note. Note that higher values mean a faster MG.

DELAY [0.00...10.00]

Adjusts the time from note-on until the MG is heard.

Note that this affects only the routing selected by the **MODE** parameter, below; the **VIBRATO** always uses the un-delayed MG signal.

LEVEL [0.00...10.00]

Adjusts the depth of the effect produced by the MG.

MODE [VCA, VCF, VCO]

Selects whether the MG modulates the amplitude (**VCA**), the filter cutoff (**VCF**), or the pitch (**VCO**).

4-1c: VCF

CUTOFF [0.00...10.00]

This controls the cutoff frequency of the 24dB lowpass filter. Sounds above this frequency are removed, making the timbre darker.

MIDI This is scaled by MIDI CC#74.

RESONANCE [0.00...10.00]

Resonance emphasizes the frequencies around the cutoff frequency.

When this is set to **0**, there is no emphasis, and frequencies beyond the cutoff will simply diminish smoothly.

At medium settings, the resonance will alter the timbre of the filter, making it sound more nasal, or more extreme.

At very high settings, the resonance can be heard as a separate, whistling pitch. Near the maximum setting, the filter will self-oscillate.

MIDI **RESONANCE** is scaled by MIDI CC#7.

EG INTENSITY [-5.00...+5.00]

Specifies the depth and direction to which the EG will affect the cutoff frequency.

MIDI This is scaled by MIDI CC#79.

KBD TRACK [0.0...150.0]

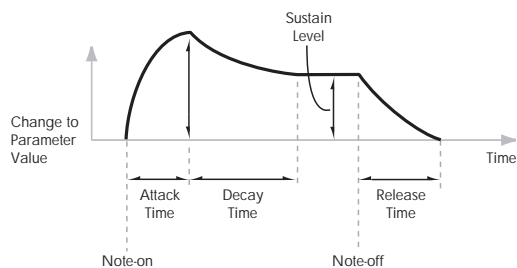
Adjusts the depth to which the cutoff frequency will change according to the note number, centered at C3.

With a setting of 100, the change in cutoff frequency will be proportionate to the change in pitch (1 octave in pitch = 1 octave in filter frequency).

Note: unlike some of the other EXi, the PolysixEX keyboard tracking does not include the effects of pitch bend. This matches the behavior of the original synthesizer. If desired, you can create the same effect by using JS X as an AMS source for the **VCF CUTOFF**.

4-1d: EG

EG



ATTACK [0.00...10.00]

Adjusts the time from note-on until the maximum level is reached.

MIDI This is scaled by MIDI CC# 73.

DECAY [0.00...10.00]

Adjusts the time the EG takes to descend from the peak to the sustain level.

MIDI This is scaled by MIDI CC# 75.

SUSTAIN [0.00...10.00]

Adjusts the sustain level. The EG will stay at this level until the note is released.

MIDI This is scaled by MIDI CC# 70.

RELEASE [0.00...10.00]

Adjusts the time from the note-off until the level decays to zero.

MIDI This is scaled by MIDI CC# 72.

Using separate EGs for the VCF and VCA

Unlike the original Polysix, the PolysixEX lets you use separate EGs for the VCF and the VCA. To do so:

1. Set the VCA MODE switch to EG.
2. Set the VCF EG INTENSITY to 0.00.
3. Select the CUTOFF parameter.
4. In the Parameter Details panel for CUTOFF, select EG2 as the AMS source.
5. Set the AMS Intensity as desired.

Now, the original EG will control the VCA, and EG2 will control the VCF.

4-1e: VCA

VCA stands for Voltage Controlled Amplifier, which is the circuit that controls the volume of an analog synthesizer.

MODE [EG, Gate]

This selects the main control source for the volume.

EG means that the volume is controlled by the ADSR envelope.

You can also use EGs 2 or 3 to modulate the main **VOLUME** parameter via AMS.

Gate means that the volume goes to maximum immediately at note-on, and falls to silence immediately at note-off.

ATTENUATOR [-20.0...+20.0dB]

Adjusts the volume up or down by 20dB, in 0.1 dB increments. This is separate from the main **VOLUME** knob, below.

Also, unlike **VOLUME**, the **ATTENUATOR** is per-voice, which means that you can modulate it via per-voice AMS sources such as EGs, LFOs 1 and 2, key tracking, etc.

4-1f: OUTPUT

PAN [Random, L001...C064...R127]

This controls the stereo pan of the PolysixEX, at the very end of the signal chain. A setting of L001 places the sound at the far left, C064 in the center, and R127 to the far right.

When this is set to **Random**, the pan position will be different for each note-on.

You can also set this Pan parameter directly from the Control Surface knobs. To do so:

1. Press the Control Surface Timbre/Track button.
2. Set the MIXER KNOBS switch to INDIVIDUAL PAN.
3. Move Knob 1 to set the pan for EXi 1, and Knob 2 to set the pan for EXi 2.

MIDI You can also control pan via MIDI Pan (CC#10). A CC#10 value of 0 or 1 places the sound at the far left, 64 places the sound at the location specified by the "Pan" parameter, and 127 places the sound at the far right.

Note: you can select Random pan only from the on-screen UI, and not from AMS, MIDI or the Control Surface.

Note that this is a post-effects pan, while **Unison Stereo Spread** is pre-effects:

Pan via **Unison Stereo Spread** -> PolysixEX Effects (stereo) -> **PAN** knob (stereo in-out)

In the PolysixEX, **PAN** affects all voices at once, and so it cannot be modulated by per-voice AMS sources such as EGs or LFOs 1 and 2.

VOLUME [0.00...10.00]

This controls the main output level. It affects all voices at once, and so it cannot be modulated by per-voice AMS sources such as EGs or LFOs 1 and 2.

For per-voice modulation, use the **ATTENUATOR** parameter instead. For more information, see “ATTENUATOR” on page 319.

4-1g: PITCH**BEND RANGE** [0.00...12.00]

This sets the maximum amount of pitch bend up and down, in semitones and cents, as controlled by JS X. To use another AMS source for pitch bend, modulate the **TRANSPOSE** or **TUNE** parameters instead.

BEND RANGE is not modulatable via AMS.

TRANSPOSE [-24.00...+24.00]

This controls the coarse tuning, in half-steps and cents, up or down two octaves. You can modulate this smoothly via AMS.

TUNE [-5.00...+5.00]

This adjusts the pitch of the oscillators, in steps of 1/5 of a cent, for a total range of +/- 1 semitone.

4-1h: EFFECTS**MODE** [OFF, CHORUS, PHASE, ENSEMBLE]

Switches the effect mode. Choose from chorus, phase, and ensemble.

SPREAD [0.00...10.00]

Adjusts the width to which the effect sound will be panned.

SPEED/INTENSITY [0.00...10.00]

Adjusts the speed or intensity of the effect.

If **MODE** is set to **Chorus** or **Phase**, this adjusts the speed. If **Ensemble** is selected, this adjusts the depth.

4-1i: Parameter Details

When you touch a knob or switch, a yellow square appears around it, showing that it has been selected.

The Parameter Details area shows information for this selected item, including its parameter group and parameter name, its exact value, and its AMS assignments.

Individual parameters and AMS

PITCH BEND RANGE is not modulatable via AMS.

The **PAN** knob and a number of switches are modulatable by a single AMS source, as described under “Pan knob and Switches,” below. The rest of the continuous knobs on this page are modulatable via two AMS sources, as detailed under “Knobs,” below.

(Parameter group)

This shows the group of the parameter (such as **VCO**).

(Parameter name) [range depends on parameter]

This shows the name and exact value of the parameter. You can edit the parameter value with any of the standard data-entry controls.

Knobs**AMS** [List of AMS Sources]

This selects a modulation source to control the selected parameter. For a list of AMS sources, see “Alternate Modulation Source (AMS) List” on page 1021.

Intensity [range depends on parameter]

This controls the depth and direction of the AMS modulation. For unipolar parameters, the range is the same as that of the selected parameter, in both positive and negative directions. For instance, if the parameter range is 0.00...10.00, the Intensity range will be -10.00...+10.00.

For bipolar parameters, including **FILTER EG INTENSITY**, **VCA ATTENUATOR**, **TRANSPOSE**, and **TUNE**, the range is twice that of the original parameter. For instance, if the original parameter range is -24.00...+24.00, the Intensity range will be double that: -48.00...+48.00. This allows full modulation of the parameter, regardless of the initial setting.

In some cases, you can use this to modulate the parameter outside of its original range, for a wider range of values.

Int Mod [List of AMS Sources]

You can modulate the main AMS Intensity from another AMS source. This selects that source. For a list of AMS sources, see “Alternate Modulation Source (AMS) List” on page 1021.

Intensity [range depends on parameter]

This controls the depth and direction of the Intensity Mod. The result is summed with the main AMS Intensity to produce the final modulation amount.

Pan knob and Switches

The **PAN** knob and the **OCTAVE**, **WAVEFORM**, **SUB OSC**, **VCA MODE**, **MG MODE**, and **EFFECTS MODE** switches can each be modulated from a single AMS source.

TEMPO SYNC, **KEY SYNC**, and **BASE NOTE** are not modulatable.

AMS [List of AMS Sources]

This selects a modulation source to control the selected parameter. For a list of AMS sources, see “Alternate Modulation Source (AMS) List” on page 1021.

Intensity [range depends on parameter]

This controls the depth and direction of the AMS modulation. The range is the same as the selected parameter, in both positive and negative directions.

▼ 4-1: Page Menu Commands

The number before each command shows its ENTER + number-key shortcut. For more information on these shortcuts, see “ENTER + 0-9: shortcuts for menu commands” on page 142.

- **0: Write Program.** For more information, see “Write Program” on page 142.
- **1: Exclusive Solo.** For more information, see “Exclusive Solo” on page 142.

Program P5: Modulation & Arpeggiator

5-1: Modulation & Arpeggiator



5-1a: EXTERNAL MODULATION

The External Modulation section offers an easy way to assign modulation to multiple destinations at once, using any AMS source. Note that most parameters also include dedicated AMS modulation, via the Parameter Details area.

Source 1

SOURCE 1 [List of AMS Sources]

This selects the modulation source to control the parameters below. For a list of AMS sources, see “Alternate Modulation Source (AMS) List” on page 1021.

VCO PULSE WIDTH [-10.00...+10.00]

Specifies the depth and direction of the modulation applied to the oscillator (VCO) PW/PWM.

VCF CUTOFF [-10.00...+10.00]

Specifies the depth and direction of the modulation applied to the filter (VCF) CUTOFF.

VCA GAIN [-10.00...+10.00]

Specifies the depth and direction of the modulation applied to the amp (VCA).

MG LEVEL [-10.00...+10.00]

Specifies the depth and direction of the modulation applied to the MG (Modulation Generator) LEVEL.

Source 2

This allows you to route a second AMS source to the same list of mod destinations. The parameters are identical to those under “Source 1,” above.

5-1b: ARPEGGIATOR

ON/OFF [Off, On]

Switches the arpeggiator on/off.

KEY SYNC [Off, On]

If this setting is ON, the arpeggiator will be reset at the beginning of each legato phrase.

This parameter is not modulatable.

TEMPO SYNC [Off, On]

Touch the text/LED area to turn TEMPO SYNC on and off.

On (LED lit): When TEMPO SYNC is On, the arpeggiator synchronizes to the system tempo, as set by either the Tempo knob or MIDI Clock. The arpeggiator speed is controlled by the combination of the BASE NOTE and SPEED/TIMES parameters, below.

Off (LED dark): When TEMPO SYNC is Off, the FREQUENCY/TIMES knob determines the speed of the arpeggiator, and the BASE NOTE setting has no effect.

This parameter is not modulatable via AMS.

BASE NOTE [1/1...1/32]

When **TEMPO SYNC** is **ON**, this sets the basic speed of the arpeggiator, relative to the system tempo. The values range from a 32nd note to a whole note, including triplets. This value is then multiplied by the **SPEED/TIMES** knob, below.

When **TEMPO SYNC** is **OFF**, this parameter has no effect.

This parameter is not modulatable via AMS.

SPEED/TIMES [0.00...10.00/16...1]

If **TEMPO SYNC** is **OFF**, this controls the speed of the arpeggiator.

If **TEMPO SYNC** is **ON**, this multiplies the length of the **BASE NOTE**. For instance, if the **BASE NOTE** is set to a sixteenth note, and **Times** is set to 3, each arpeggiator step will last for a dotted eighth note. Note that higher values mean a faster arpeggio.

RANGE [1OCT, 2OCT, FULL]

Specifies the range in which the arpeggiator will play the pattern. **FULL** plays the pattern over 6 octaves.

MODE [UP/DOWN, DOWN, UP]

Selects the pattern that the arpeggiator will play.

LATCH [Off, On]

Specifies whether the arpeggiator will continue playing even after note-off occurs.

5-1c: ANALOG

ANALOG [0.00...10.00]

This models the instability of an analog system by adding subtle randomization to the VCO and VCF frequencies.

This parameter is not modulatable.

5-1d: Parameter Details

This area shows details for the selected knob, including its parameter group and parameter name, its exact value, and its AMS assignments.

Individual parameters and AMS

Only the **ARPEGGIATOR** parameters are modulatable via AMS; the **EXTERNAL MODULATION** and **ANALOG** knobs, the **BASE NOTE** parameter, and the **TEMPO SYNC** and **KEY SYNC** switches are not modulatable.

Note that the **ARPEGGIATOR** affects all voices at once, and so it cannot be modulated by per-voice AMS sources such as EGs or LFOs 1 and 2.

(Parameter group)

This shows the group of the parameter (such as **ARPEGGIATOR**).

(Parameter name) [range depends on parameter]

This shows the name and exact value of the parameter. You can edit the parameter value with any of the standard data-entry controls.

SPEED/TIMES knob

AMS [List of AMS Sources]

This selects the first modulation source to control the selected parameter. For a list of AMS sources, see “Alternate Modulation Source (AMS) List” on page 1021.

Intensity [range depends on parameter]

This controls the depth and direction of the AMS modulation. The range is the same as the selected parameter, in both positive and negative directions. For instance, if the parameter range is 0.00...10.00, the Intensity range will be -10.00...+10.00.

Int Mod [List of AMS Sources]

You can modulate the main AMS Intensity from another AMS source. This selects that source.

For a list of AMS sources, see “Alternate Modulation Source (AMS) List” on page 1021.

Intensity [range depends on parameter]

This controls the depth and direction of the Intensity Mod. The result is summed with the main AMS Intensity to produce the final modulation amount.

Multi-position Switches

Multi-position switch parameters, including **RANGE** and **MODE**, have only a single AMS/Intensity pair, as below.

AMS [List of AMS Sources]

This selects a modulation source to control the selected parameter. For a list of AMS sources, see “Alternate Modulation Source (AMS) List” on page 1021.

Intensity [range depends on parameter]

This controls the depth and direction of the AMS modulation. The range is the same as the selected parameter, in both positive and negative directions.

On/Off Switches

On/off switch parameters, including **ARPEGGIATOR ON/OFF** and **LATCH**, have only a single AMS/Intensity pair, as below.

AMS [List of AMS Sources]

This selects a modulation source to control the selected parameter. For a list of AMS sources, see “Alternate Modulation Source (AMS) List” on page 1021.

AMS Mode [Toggle, Momentary]

This parameter controls the way in which the switch AMS works.

When this is set to **Toggle**, the switch will alternate between on and off. For instance, if **LATCH** is set to **Off**, and **AMS** is assigned to a footswitch, the first press will cause the arpeggiator latch to turn on, and the next press will turn it off again.

Momentary means that the switch value is changed only while the controller is enabled. Continuing the example from above, when the footswitch is pressed down, the arpeggiator latch will turn on; when the footswitch is released, the latch will turn it off again.

AMS lets you switch to the opposite of the programmed setting. For instance, if **LATCH** is set to **On**, and the **AMS Mode** is set to **Momentary**, then pressing down on the footswitch would cause the latch to turn off.

If you set AMS to use a continuous controller, such as the Joystick, values of 0-63 are as if the switch was off, and values of 64-127 are as if the switch was on.

Finally - note that the assignable switches, **SW1** and **SW2**, can themselves be set to either momentary or toggle modes, and these settings are reflected by the switch LEDs. Individual parameter mode settings, such as the **LATCH** AMS Mode, do *not* affect the LEDs.

So, if you're using SW1 or SW2 as the AMS source, it's best to set the AMS Mode to Momentary, and then just let the switch itself determine the momentary/toggle behavior.

▼ 5-1: Page Menu Commands

The number before each command shows its ENTER + number-key shortcut. For more information on these shortcuts, see "ENTER + 0-9: shortcuts for menu commands" on page 142.

- **0: Write Program.** For more information, see "Write Program" on page 142.
- **1: Exclusive Solo.** For more information, see "Exclusive Solo" on page 142.

Program P7: EG 2-3

The PolysixEX has two assignable EGs, in addition to the original EG. Each of these can be used as an AMS modulation source to control a wide variety of parameters.

7-1: EG 2 AMSource

7-2: EG 3 AMSource

The PolysixEX's EGs 2 and 3 are identical to the AL-1's EG1. For detailed explanations, please see "7-1: EG 1 (Filter)," on page 203.

Program P8: LFO 1-2

The PolysixEX has two assignable LFOs, in addition to the original Polysix MG and the EXi Program's Common LFO. Each of these can be used as an AMS modulation source to control a wide variety of parameters.

8-1: LFO 1 AMSource

8-2: LFO 2 AMSource

The PolysixEX's LFOs 1 and 2 are identical to those of the AL-1. For detailed explanations, please see "8-2: LFO 1," on page 209.

Program P9: AMS Mixers

9-1: AMS Mixers 1-2 AMSource

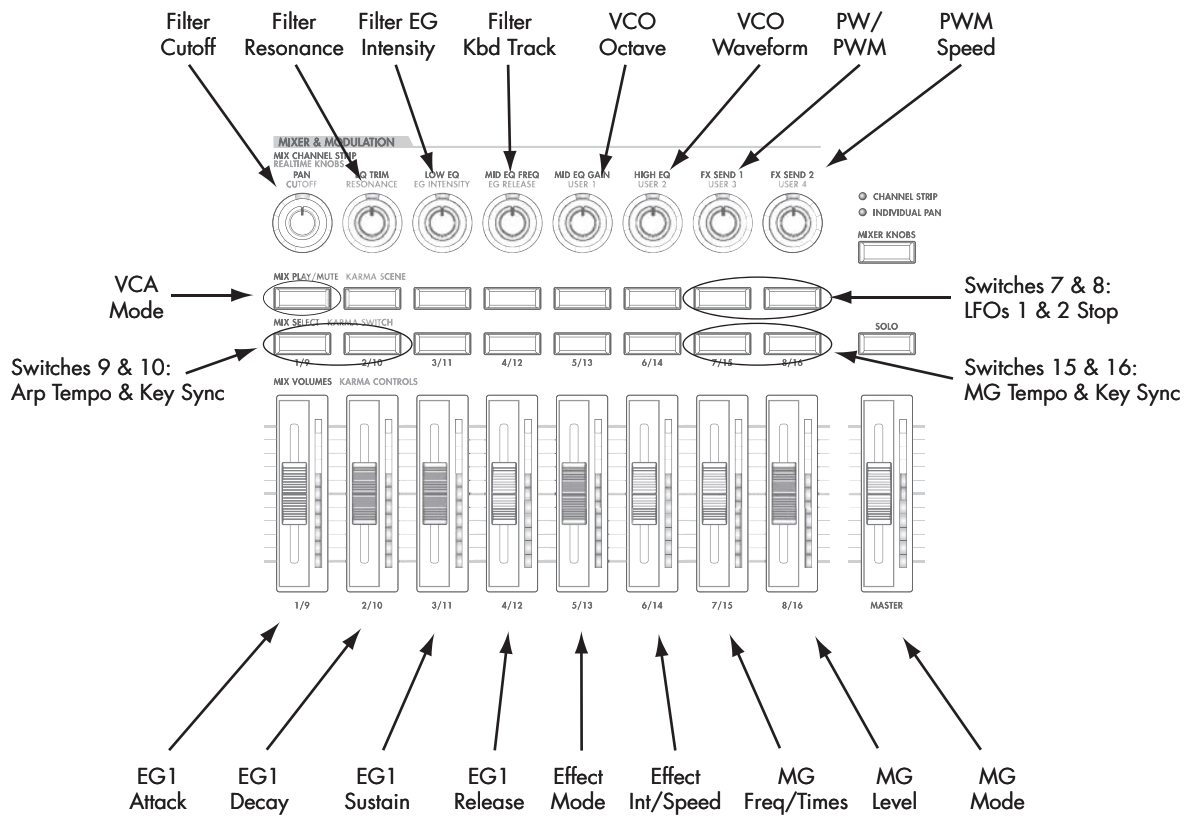
9-2: AMS Mixers 3-4 AMSource

The PolysixEX's AMS Mixers are identical to those of the AL-1 (although the PolysixEX has four, to the AL-1's two). For detailed explanations, please see "9-1:

AMS Mixer," on page 213.

PolysixEX: Tone Adjust

PolysixEX Tone Adjust Default Settings



Tone Adjust provides an elegant physical interface to the PolysixEX's parameters. Most of the factory sounds use the default layout, as shown above. You can also customize the layout for individual sounds, if desired.

For more information about Tone Adjust, please see "0–9f: Tone Adjust," on page 26.

Common Tone Adjust parameters

These parameters affect both EXi 1 and 2. Except as noted below, the Common Tone Adjust parameters behave as described under "Common Tone Adjust Parameters," on page 28.

Amp Velocity Intensity. (–99...+99)
Not supported.

Filter/Amp EG Attack Time. (–99...+99, CC#73)
This scales the attack time of the PolysixEX EG. It interacts with CC# 73.

Filter/Amp EG Decay Time. (–99...+99, CC#75)
This scales the decay time of the PolysixEX EG. It interacts with CC# 75.

Filter/Amp EG Sustain Level. (–99...+99, CC#70)
This scales the sustain level of the PolysixEX EG. It interacts with CC# 70.

Filter/Amp EG Release Time. (–99...+99, CC#72)
This scales the release time of the PolysixEX EG. It interacts with CC# 72.

Filter EG, Amp EG, and Pitch EG Attack Time, Decay Time, Sustain Level, Release Time are not supported by the PolysixEX.

Pitch LFO1 Intensity. (–99...+99, CC#77)
This scales the VIBRATO INT parameter.

PolysixEX Tone Adjust parameters

In addition to the Common Tone Adjust parameters listed above, the PolysixEX adds a number of its own parameters.

Note that these additional parameters are separate for each EXi, as opposed to being shared by both EXi in the Program.

All of the additional parameters are listed below. Tone Adjust parameters may affect the internal parameters in one of two ways: they may be **Relative**, in which case they scale the existing parameter value, or **Absolute**, in which case they over-write the existing value. Unless otherwise noted, all of the PolysixEX parameters are **Absolute**.

The full name of the currently selected parameter is shown in the status line at the top of the Control Surface page, as well as in the popup menu. Some parameters with longer names may show an abbreviation for the slider, knob, and switch labels.

VCO

Vibrato Int
Vibrato Int AMS Int
VCO Octave
VCO Waveform
PW/PWM
PW/PWM AMS Int
PWM Speed
PWM Speed AMS Int
Sub Osc
Sub Osc AMS Int

VCF

Filter Cutoff
Filter Cutoff AMS Int
Filter Resonance
Filter Resonance AMS Int
Filter EG Intensity
Filter EG Intensity AMS Int
Filter Keyboard Track

VCA

VCA Mode
Attenuator
Attenuator AMS Int

EG

EG Attack Time
EG Attack Time AMS Int
EG Decay Time
EG Decay Time AMS Int
Sustain Level
Sustain Level AMS Int
Release Time
Release Time AMS Int

OUTPUT

Volume
Volume AMS Int

MODULATION GENERATOR (MG)

MG Key Sync
MG Tempo Sync
MG Base Note
MG Frequency
MG Frequency AMS Int
MG Sync Times
MG Sync Times AMS Int
MG Delay
MG Level
MG Level AMS Int
MG Mode

PITCH

Transpose
Transpose AMS Int
Tune
Tune AMS Int

EFFECTS

Effect Mode
Effect Spread
Effect Spread AMS Int
Effect Speed/Intensity
Effect Speed AMS Int

ARPEGGIATOR

Arpeg On/off
Arpeg Key Sync
Arpeg Tempo Sync
Arpeg Base Note
Arpeg Speed
Arpeg Speed AMS Int
Arpeg Times
Arpeg Times AMS Int
Arpeg Range
Arpeg Mode
Arpeg Latch

EGs

The following controls are available for both EG2 and EG3:

- Attack time (relative)
- Decay & Slope time (relative)
- Sustain level (relative)
- Release time (relative)

LFOs

In addition to supporting the standard Tone Adjust LFO parameters, the PolysixEX adds the following separate controls:

- LFO 1 and 2 Waveform
- LFO 1 and 2 Shape

EXi: MOD-7 Waveshaping VPM Synthesizer

MOD-7 Overview

The MOD-7 is a powerful, semi-modular synthesizer, combining Variable Phase Modulation (VPM), waveshaping, ring modulation, PCM sample playback, and subtractive synthesis. Exceptionally versatile, the MOD-7 produces everything from classic FM keyboards and bells to rhythmic soundscapes, from cut-through-the-mix synth basses to sparkling, epic pads.

VPM refers to Korg's patented contributions to Frequency Modulation (FM) synthesis; for more information, see "VPM and FM Synthesis" on page 331.

Features include:

- Six VPM Oscillators. Each can be used as a sine, saw, triangle, square, or waveshaping oscillator with FM and ring modulation, or as a waveshaping and/or ring mod processor for other signals.
- 101 different waveshaping tables, whose response can be controlled via modulatable drive and offset.
- A PCM sample playback oscillator using Korg's ultra-low-aliasing PCM technology, as first introduced in the HD-1. This supports four-way velocity-switching between any mono ROM, EXs, or RAM samples.
- Dual multi-mode resonant filters (including Korg's Multi Filter, as first introduced in the AL-1).
- Three patchable, modulatable 2-in, 1-out mixers for combining and scaling audio signals.
- Noise generator with dedicated filter and saturation.
- Live audio input.
- Patch Panel allows free connection of all components, including the six VPM Oscillators, PCM oscillator, noise generator, real-time audio input, three modulatable mixers, and two filters. Connections can include multiple cables from a single output, hybrid serial/parallel routings, and feedback paths.
- "Vast" sample-mangling capabilities, with incredible flexibility and power. Use samples as FM modulators, and create incredibly rich processing environments combining multiple stages of filtering, waveshaping, and ring modulation, patched together however you'd like.
- Up to 52 voices of polyphony.
- Import classic FM sounds from the DX7.
- Four per-voice LFOs, ten re-triggerable EGs, nine key-tracking generators, eight AMS mixers, and a per-voice step sequencer.
- Access to all standard EXi Program features, including the Common LFO, Common Step Sequencer, Key Track 1 & 2, KARMA, EQ, and effects—as well as layering with any other EXi (including two MOD-7s together, for 12 VPM oscillators!)

MOD-7 uses EXi fixed resources

The MOD-7 uses EXi fixed resources for its audio input. This takes up a very small amount of processing power, even if you're not playing any notes on the keyboard. The amount is tiny—around 1/96 that of the CX-3—but if other EXi are using large amounts of fixed resources, the number of MOD-7 that you can load in a Combination or Song may be limited.

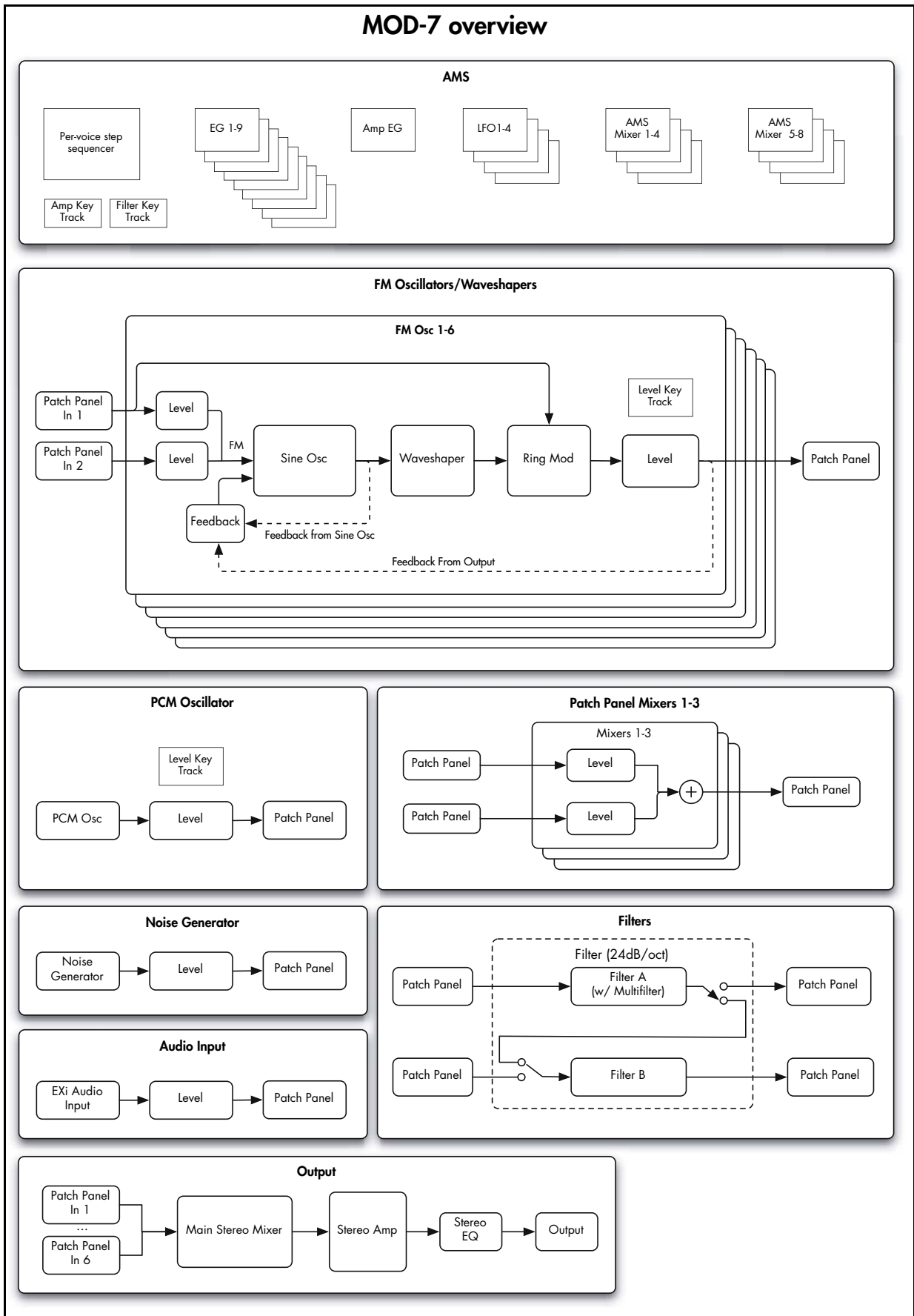
Each EXi in each Program counts towards the maximum; for instance, a Program with two MOD-7s counts as two, not as one.

For more information, see "CX-3 & STR-1: Limitations on EXi fixed resources" on page 382.

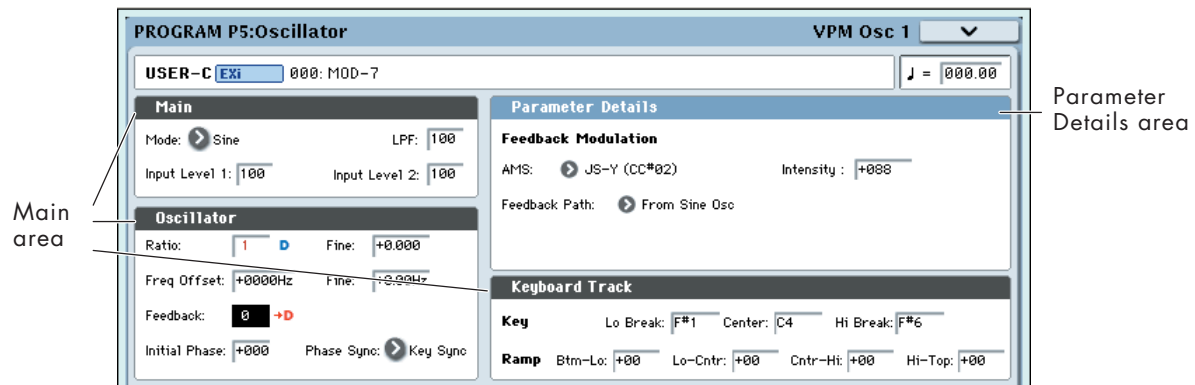
Unsupported EXi Common parameters

The MOD-7 supports all of the EXi Common parameters, except for two of the voice allocation options: **Poly Legato** and **Mono Mode** (Normal/Use Legato Offset).

All of the other voice allocation options are fully supported, including Mono, Mono Legato, Unison, etc.



Using the Parameter Details area



Overview

The LCD displays are divided into two sections. The first is the main part of the display, which includes all of the major MOD-7 parameters. This provides quick access to different functions, and an easy-to-read overview of the current settings.

The other section is the Parameter Details area, located in the upper right-hand part of the screen. This area shows information for the selected parameter, such as descriptive graphics and AMS assignments.

Assigning AMS modulation

Parameters which have AMS modulation shown only in the Parameter Details area are marked with either a blue "D" or a red "D" and an arrow. The blue "D"

indicates that the Parameter Details area includes the possibility of AMS modulation, but that none is assigned; the red "D" and arrow show that an AMS source is already assigned

To edit AMS settings in the Parameter Details area:

1. Touch the parameter in the main area of the display.

If the parameter supports AMS modulation, the Parameter Details area will show one or more AMS sources and intensities.

2. Edit the AMS settings in the Parameter Details area.

Note that AMS can often modulate parameters outside the range of the stored values, as if you were pushing the parameter beyond the ends of the knob.

Loading DX sounds

Overview

The MOD-7 can load sounds created for the vintage DX7. There are thousands of these sounds available on the internet, providing a massive pre-existing library of timbres (in addition to the many sounds created exclusively for the MOD-7!). Try searching for "DX7 SysEx download."

Once loaded, you can bring these vintage sounds up to date using all of the MOD-7's unique features, layer them with other EXi, and process them with KARMA and the OASYS effects.

The conversion works by reading .SYX format System Exclusive files. This format is supported by programs on all major computer operating systems.

Supported file types

In order to load a file, it must meet the following requirements:

- The file must contain a complete bank of 32 DX7 sounds. Files with only a single sound cannot be loaded.

- The file may contain multiple System Exclusive messages, but only if the main DX7 bank dump is the first of these messages. All subsequent messages in the file will be ignored.

Note: some instruments, such as the DX7II, may transmit multiple System Exclusive messages when doing their program data dump, with the main DX7 bank dump coming last. If this set of messages is stored into a single .SYX file, the OASYS will not be able to load the file.

- The System Exclusive must be in the original, first-generation DX7 format, which was supported by all of the classic 6-operator FM synths as well as the DX9. System Exclusive files from later-generation FM instruments, such as 4-operator "baby DX" synths and the TX81Z, SY77, etc., cannot be loaded.

Loading a single bank of DX7 sounds

To load a bank of DX7 sounds:

1. Transfer the DX7 .SYX file to OASYS-readable media, such as a USB flash drive or CD-R.
2. Connect or insert the media into the OASYS.

3. Press the front-panel DISK button to enter Disk mode.
4. If using a USB device, mount the device using the Scan Device menu command on the Media Information page.
5. Go to the Load page.
6. Select the DX7 .SYX file.
7. Press the LOAD button.

A dialog box will appear, allowing you to select a bank into which to load the sounds. Since DX7 banks contain 32 sounds, while an OASYS bank contains 128, you can also select where to place the DX7 sounds within the OASYS bank: into Programs 0-31, 32-63, 64-95, or 96-127.

8. Select the bank and Program range into which to load the sounds.

Important: If you select an HD-1 bank, it will be changed to an EXi bank, and all of the banks's HD-1 Programs will be erased.

9. Press OK to load the sounds.

The sounds will be loaded into the OASYS as MOD-7 Programs.

Loading multiple banks of DX7 sounds

If you like, you can load multiple .SYX files at once. To do so:

1. Follow steps 1 through 5 under "Loading a single bank of DX7 sounds," above.
 2. Enable the Multiple Select check-box.
 3. Select the desired DX7 .SYX files.
 4. Press the LOAD button.
- An "Are you sure?" dialog will appear.
5. Press OK.
 6. For each .SYX file, select the bank and Program range to load into.

For more information, see steps 8 and 9 under "Loading a single bank of DX7 sounds," above.

Error messages

If the OASYS can't read the file, it will show one of two error messages:

There is no readable data will appear if the file is shorter than 4104 bytes, or if the SysEx header indicates something other than DX7 Program Bank format.

File contains unsupported data will appear if the header is correct, but the data is damaged; for instance, if the file's checksum doesn't match, or if the trailing F7 is missing.

Synthesis with the MOD-7: a guided tour

Overview

The tutorials below provide a guided tour of the MOD-7's synthesis capabilities. They start with a little background information, and then dive right into step-by-step instructions for creating simple sounds from scratch, using all of the MOD-7's major features.

Please read each section in order, since the later ones rely on what you've done earlier.

VPM and FM Synthesis

Variable Phase Modulation (VPM) synthesis refers to Korg's patented contributions to Frequency Modulation (FM) synthesis.

Carrier-modulator pairs

In its most basic form, these synthesis methods use a pair of oscillators: a modulator and a carrier. Only the carrier is connected to the audio output. The modulator is not heard directly; instead, its output modulates the frequency (or phase) of the carrier.

This modulation creates changes in timbre. The relative frequencies (or "ratios") of the two oscillators determines which overtones are produced, and the level of the modulator controls the loudness of those overtones.

In general, whole-number ratios produce harmonically related overtones, fine deviations from whole-number ratios produce similar overtones with chorusing, and more complex ratios produce wild, clangorous overtones.

Greater complexity

Most modern VPM and FM synths allow more than simple oscillator pairs. For instance, a modulator might itself be modulated, to create a more complex timbre; two modulators might have separate paths into a single carrier; a single modulator might be sent to two or more carriers; and so on. A carrier might both be heard directly, and also act as a modulator on another oscillator. Feedback paths may let a carrier modulate itself.

In the MOD-7, these routings are created on the Patch Panel, by selecting an algorithm, creating patch cables, or a combination of the two.

The more complex the routing and frequency relationships, the more difficult it can be for even experienced sound designers to predict the results. As legend has it, the main breakthrough for FM itself came from a mistake, when FM pioneer John Chowning programmed an LFO with a frequency 100 times faster than he'd intended. When working with the MOD-7, take a cue from his example: keep experimenting, and leave your ears open for "happy accidents."

VPM, PCM, Waveshaping, and Ring Mod

The MOD-7 combines VPM with PCM sample playback, waveshaping, ring modulation, and dual multimode resonant filters. It's a powerful digital synthesis toolkit, and it can be approached from many different angles, as discussed in the tutorials below.

More information on the internet

There have been entire books written about FM synthesis. While we'll look at many practical examples of FM in the tutorials below, more theoretical information is unfortunately outside the scope of this manual.

If you are curious to learn more, you can find a great deal of information on the internet, ranging from introductory articles to highly technical academic treatises. Try searching for "FM synthesis" or "frequency modulation synthesis."

Aliasing

Multiplying one audio-rate signal with another generally causes aliasing, and VPM is no exception. Higher modulator levels can produce aliasing artifacts, from low-level grunge to phantom pitches to, at the extremes, loud white noise. This becomes more of an issue with higher frequencies, such as when playing in the top octaves of the keyboard.

Sometimes, these artifacts may be useful as part of the overall timbre; other times, they may be unwelcome guests. The most valuable tool to mitigate aliasing is Key Tracking, which lets you reduce the modulator levels at higher frequencies, while keeping them stronger at lower frequencies. The MOD-7 includes dedicated multi-point key tracking for each VPM Oscillator.

Creating an initialized MOD-7 Program

For the tutorials below, we'll need to start with an initialized MOD-7 Program. To do this:

1. **In Program mode, select factory Program U-F 007, "Cat On aMoJo."**
2. **Press the Common button, to go to the EXi Common pages.**
3. **Press the Basic/Vector tab.**

The Basic/Vector pages will appear on the upper row of tabs.

4. **Press the Program Basic tab.**

Now, you should be on the Program Basic page.

5. **Change the EXi1 Instrument Type from CX-3 Tonewheel Organ to MOD-7 Waveshaping VPM Synthesizer.**

That's it; you now have an initialized MOD-7 Program, plus a bit of reverb for ear-candy. The Control Surface is also set to Tone Adjust, which we'll take advantage of throughout the tutorial.

If you've already been working with the MOD-7, and want to return to an initialized state:

1. Select the **EXi1 Instrument Type** parameter.
2. Use the **Dec ▾** button to change it to **PolysixEX**.
3. Use the **Inc △** button to toggle it back to **MOD-7**.

Individual oscillators and subtractive synthesis

Each of the six VPM Oscillators can be used on its own, to generate sine, saw, triangle, or square waveforms, plus timbres created by waveshaping. You can layer multiple VPM Oscillators together, modulate their volumes, and process them through filters for standard subtractive synthesis.

Layering six saw oscillators

Let's start by creating a simple sound with six layered sawtooth oscillators.

1. Follow the instructions under "Creating an initialized MOD-7 Program," above.

2. Press the **EXi1** button.

The MOD-7's tabs will appear on the right.

3. Press the **Patch Panel** tab.

The Patch Panel will appear. This shows all of the basic building blocks of the MOD-7, including all of the oscillators, filters, mixers, and so on.

The Algorithm name is shown in the upper left-hand corner. By default, it's set to **Blank Patch**.

4. Open the **Algorithm pop-up**, and select **05: All carriers -> 4-pole**.

5. Press **OK** to confirm the selection and close the popup.

As a shortcut, you can also select the Algorithm name on the Patch Panel page, and then enter the Algorithm number from the numeric keypad.

Notice that the lines on the Patch Panel have changed. These show the normalled connections between the various blocks. ("Normalled" is a term used in patchbays and modular synths, meaning the default internal connections between patch points.)

05 All carriers -> 4-pole has outputs from all six VPM Oscillators mixed into a single filter.

The VPM Oscillators are shown as a line of six boxes, running from 1 at the top to 6 at the bottom. The boxes are labeled simply with the numbers 1 through 6. Each has two input jacks, colored red, and one output jack, colored blue.

6. Touch the **blue circle (the output)** on **VPM Oscillator 1**.

A yellow highlight box will appear around the output jack, to show that the jack is selected.

Look in the upper right-hand corner of the page. This is the Parameter Details area; it shows additional information about the selected item. In this case, it will show that you've selected the output of VPM Oscillator 1, along with the output level and the inputs to which it is connected (if any). It also has two buttons: **Jump** and **Disconnect**.

7. Press the **Jump** button.

This takes you to the selected block's page—in this case, the VPM Oscillator 1 page. You can use this shortcut with any of the blocks on the Patch Panel.

8. On the **VPM Oscillator 1** page, set the **Mode** to **Saw**.

This controls the basic timbre of the oscillator.

9. Set the **Ratio Fine** to **+0.004**.

This causes the pitch to be very slightly higher than nominal. We're going to detune all six oscillators, to create a fat, stacked sawtooth timbre.

10. Using the tabs, select each of the other VPM Oscillators in turn. For each one, set the **Mode** to **Saw**, and set the **Ratio Fine** as noted below.

- Osc 2: -0.004
- Osc 3: +0.008
- Osc 4: -0.008
- Osc 5: +0.014
- Osc 6: -0.014

Now, try playing the keyboard. It should sound like a thick, detuned sawtooth timbre, with a "digital" tone quality.

To warm it up a bit, let's make it so each oscillator starts with a random phase.

11. For each of the VPM Oscillators, set the **Phase Sync (in the Oscillator section)** to **Random**.

Notice how this makes the sound more full and rounded.

Hands-on control with Tone Adjust

The default Tone Adjust settings give you hands-on control of the most important MOD-7 parameters. Notice that, to the Left of the Control Surface, the Tone Adjust button is lit. This means that the Control Surface knobs, sliders, and switches will control the Tone Adjust parameters.

Let's try this out, continuing from the above:

1. Use **Switches 1–6** to turn **VPM Oscillators 1-6 on and off**.
2. Use **Sliders 1–6** to adjust the volumes of **VPM Oscillators 1–6**.

In this sound, turning off or reducing the volume of the higher-numbered oscillators will reduce the timbre's "fatness."

3. While playing, turn **Knob 7 to the Left**.

By default, Knob 7 controls Filter A's cutoff, so turning it creates a filter sweep.

For a graphic showing all of the default Tone Adjust assignments, see “MOD-7: Tone Adjust” on page 375.

VPM (aka FM)

Basic VPM

To start using VPM in earnest, simply connect the output of one VPM Oscillator to the input of another. You can do this either by selecting an algorithm, or creating a patch cable. For instance:

1. Follow the instructions under “Creating an initialized MOD-7 Program,” above.
2. Press the EXi1 button, and then press the Patch Panel tab.

The Patch Panel will appear.

3. Set the Algorithm to 08: 2 + 2 + 2 -> Parallel Filters.

This groups the six VPM Oscillators into three carrier-modulator pairs.

4. On the Control Surface, press switches 3 through 6, so that their LEDs turn off.

This mutes VPM Oscillators 3–6. We’ll only be working with Oscillators 1 and 2.

5. Lower Slider 1 to the bottom of its range, and play the keyboard.

Lowering Slider 1 turns VPM Oscillator 1’s volume all the way down. This means that you’ll hear only VPM Oscillator 2, which plays a pure sine wave.

6. While playing the keyboard, slowly raise Slider 1 to the middle of its range, or slightly higher.

As you raise Slider 1, listen to how the timbre changes to be increasingly bright. What you’re hearing is FM synthesis: VPM Oscillator 1 is modulating VPM Oscillator 2. By controlling the level of VPM Oscillator 1, Slider 1 controls the amount of modulation.

In this algorithm, using standard FM terms, VPM Oscillator 1 is a modulator, and VPM Oscillator 2 is a carrier.

7. While playing the keyboard, very slowly rotate Knob 1.

Knob 1 controls the Ratio, or fundamental pitch, of VPM Oscillator 1. Since VPM Oscillator 1 is acting as a modulator, this changes the timbre of the sound.

8. Experiment with different settings of Slider 1 and Knob 1.

Notice how Knob 1 changes the overtone frequencies created by the FM, while Slider 1 changes their intensity.

9. While playing the keyboard, press the Control Surface’s Switch 1 to turn it on and off.

This enables and disables VPM Oscillator 1. When it’s off, you’ll hear VPM Oscillator 2 on its own: a pure sine wave. When programming, this is a handy way to find out how an individual VPM Oscillator is affecting the overall sound.

Feedback

Continuing from the above, let’s take a brief look at **Feedback**. This causes the VPM Oscillator to modulate itself, essentially acting as both the carrier and the modulator at the same time.

1. Press Switch 1, so that its LED is off.

This mutes VPM Oscillator 1.

2. Play the keyboard.

Notice that the sound is now a sine wave, since we’re hearing only the un-modulated VPM Oscillator 2.

3. Go to the VPM Osc 2 page.

If you’re still on the Patch Panel page, you can do this by selecting any of the jacks on Osc 2 and then pressing the Jump button in Parameter Details.

Otherwise, select the Osc tab, and then the VPM Osc 2 tab.

4. While playing the keyboard, slowly raise the Feedback parameter to about 65.

Notice how the sound becomes brighter, almost like sweeping the filter on an analog synth. In fact, when **Feedback** is at 65, the sound is very close to a sawtooth waveform.

You can modulate the **Feedback** level, and also choose between two different feedback paths. For more information, see “Feedback” on page 357.

Phase

In some cases, the phase relationship between the carrier and modulator has an interesting effect on the sound. Continuing from the above:

1. Lower VPM Osc 2’s Feedback to 0.

2. Go to the VPM Osc 1 page.

3. In VPM Osc 1, set the Ratio to 1.

Now, both VPM Osc 1 and 2 are set to the same Ratio, for the most basic FM timbre: a carrier/modulator ratio of 1.

4. Press Switch 1, so that its LED is On.

5. Set Slider 1 to the middle of its range.

6. While playing the keyboard, slowly increase VPM Osc 1’s Phase from 0 to 90.

Notice how the timbre changes.

Phase has a strong effect with carrier/modulator ratios of 1:1 and 2:1, but is much more subtle (or not noticeable at all) at other ratios.

Detuning

Let’s look at what happens when the carrier and modulator are slightly out-of-tune. Continuing from the above:

1. Set VPM Osc 1’s Phase back to 0.

2. While playing the keyboard, use the Inc button to change VPM Osc 1's Freq Offset from +0000Hz to +0001 Hz.

Notice how this introduces a chorus effect into the sound.

3. While playing the keyboard, use the Dec button to change the Freq Offset back to +0000Hz.

Notice how the sound becomes more flat and static. A small amount of detuning can add a lot of interest to the sound.

4. While playing the keyboard, use the Inc button to change VPM Osc 1's Ratio Fine from +0.000 to +0.003.

This also adds a chorusing effect. There's a difference between changing the Ratio and the Freq Offset, however, as we'll see next:

5. Play different ranges of the keyboard: low, middle, and high, including all the way up to the top of the keyboard.

Notice how the speed of the chorus effect gets faster as you play higher. With Freq Offset, on the other hand, the speed stays the same across the keyboard. Each is useful for different purposes.

6. While playing the keyboard (arpeggios, for instance), use the VALUE slider to sweep VPM Osc 1's Ratio Fine throughout its range.

Notice how the effect changes with broader detuning, including new frequencies appearing both above and below the root pitch.

Envelopes and VPM

Each VPM Oscillator can have its own volume envelope. As we've noticed by using Control Surface Slider 1, changing the level of a modulator affects the intensity of the FM. Envelopes let you create interesting timbres by varying that intensity over time.

Continuing from the above:

1. Set VPM Osc 1's Ratio Fine back to +0.000.

The main Ratio should still be set to 1.

2. Set the Output Level to 75.

3. Notice that the Output section's EG Select is set to EG1.

This is the EG assigned to control the VPM Osc's volume. By default, EGs 1-6 are assigned to VPM Osc 1-6.

Filtered VPM

Vintage FM synths didn't have filters. If you wanted the sound to be darker, or thinner, or change in timbre at all, you had to make it happen using FM.

Filtering adds another dimension to VPM, both in terms of timbral possibilities and ease of use. For instance, if you like the basic timbre but want it to be a little more mellow, you can use a lowpass filter.

4. Go to the EG1 page, by pressing first the EG tab and then the EG1 tab.

5. Set the Break and Sustain Levels to 00.

Each note now has a "bowww" sound at the attack.

6. While playing the keyboard, go to the Control Surface and experiment with different settings of Knob 1 and Slider 1.

These change the Ratio and Output Level of VPM Osc 1. Notice the different sounds that this creates. Slider 1 will often work well in the mid-to-low ranges; don't keep it at the maximum level!

Next, let's create a more percussive sound:

7. In EG1, set the Decay Curve to 10(Exp).

8. Set the Decay Time to 22.

9. While playing the keyboard, go to the Control Surface and experiment with different settings of Knob 1 and Slider 1.

Depending on the Ratio (as set by Knob 1), this creates percussive sounds with woody or metallic characters.

Modulating Ratio

So far, we've been using Tone Adjust to control Ratio. You may also sometimes want to modulate this with other controllers, or even with LFOs, EGs, and so on.

Ratio is one way of looking at pitch. On the MOD-7, you can modulate each VPM Oscillator's pitch in semitones and cents, just as with other OASYS EXi. To do so, continuing from above:

1. Set VPM Osc 1's Ratio to 4.

Notice that the Parameter Details area, in the upper right of the screen, now has the heading "Pitch Modulation." This appears when any of the Ratio or Freq Offset parameters are selected.

2. Set AMS1 to SW1 Mod (CC#80), and Intensity to +12.00.

Now, pressing SW1 will raise the pitch of VPM Osc 1 by an octave.

3. Press SW1, to turn it on.

Notice how this changes the timbre of the attack.

4. Change AMS1 to LFO1.

Now, the pitch is modulated by LFO1. This gives the attack a swooping character, kind of like of a water droplet.

FM sweeps and resonant filter sweeps have different qualities; use each for what it does best, or use them together. Use highpass or bandpass filters, resonance, or the MultiFilter to achieve sounds impossible with FM alone.

Filters can even be used in-between modulators and carriers, as part of the VPM processing chain.

Filtering the VPM output

Filtering the output of a set of VPM Oscillators is simple and effective. To do so:

1. Follow the instructions under “Creating an initialized MOD-7 Program” on page 331.
2. On the MOD-7 Patch Panel, set the Algorithm to 08: 2 + 2 + 2 -> Parallel Filters.
3. On the Control Surface, press switches 3 through 6, so that their LEDs turn off.

This mutes VPM Oscillators 3–6.

4. Go to the VPM Osc 1 page.

Remember that you can jump to this page directly from the Patch Panel. Just select one of the jacks on VPM Osc 1, and press the Jump button in the Parameter Details area.

5. Set the Output section’s EG Select to None.

This means that the volume will be at its maximum, unaffected by an EG.

6. Go to the Filter Basic page, by pressing first the Filter tab and then the Basic tab.
7. Set Filter A’s Resonance to 65.
8. While playing, move Slider 1 and Knob 7, and compare the different effects that they create.

Slider 1 controls the VPM Osc 1 Level, and thus the intensity of the FM on VPM Osc 2. Knob 7 controls Filter A’s Frequency, and so moving it creates a filter sweep.

Filtering VPM modulators

You can also use filters as part of the VPM processing chain, between modulators and carriers. To do so, continuing from the above:

1. Go to the Patch Panel page.
2. Select Input 1 of the Main Mixer.

The Main Mixer is the tall block on the far right of the Patch Panel, and Input 1 is the top-most jack. Look in the Parameter Details area to verify that you’ve selected Main Mix and In 1.

3. Set In 1’s Level to 0.

When you select a jack, its level is always selected as well. So, you can use the data entry controls immediately, without needing to select the on-screen Level parameter.

4. Touch Filter A’s output (the blue jack) twice, so that the yellow highlight box is blinking.

This shows that the jack is ready to be connected via a patch cable.

5. Touch the first input jack on VPM Osc 4.

There should now be a brown cable connecting the output of Filter A to In 1 of VPM Osc 4.

Look in the Parameter Details area, and verify that it says Osc 4 at the top. Also, verify that the middle line reads In 1 ---> Filter A, Out.

You’ve now created a complex VPM patch, like this:

VPM Osc 1 -> VPM Osc 2 -> Filter A -> VPM Osc 4

6. Go to Filter A, and set its Resonance to 00.
7. On the Control Surface, press switch 4, so that its LED turns on.

This turns on VPM Osc 4.

8. Also on the Control Surface, set Slider 1 to the middle, and move Slider 2 all the way up.

9. Experiment with moving Knob 7 and Slider 2.

Knob 7 controls Filter A cutoff, and Slider 2 controls VPM Osc 2 Level. Listen to the different effects.

Note that VPM Osc 2 is now a modulator, affecting the timbre of VPM Osc 4. We aren’t hearing VPM Osc 2 directly.

10. Move Slider 2 to the top of its range.

Slider 2 controls the output volume of VPM Osc 2.

11. Set Filter A’s Type to Band Pass.

12. While playing, sweep Knob 7 between the minimum (all the way left) and the middle.

This produces interesting sounds—definitely filter-like, but not the same as using a filter in traditional subtractive synthesis.

PCM as a VPM modulator

All of the examples above use VPM Oscillators as modulators, but you can also use the PCM Oscillator, Noise Generator, and the EXi Audio Input as modulators.

For instance, here are two quick tutorials in using PCM as an FM modulator, which was a popular feature on a few later-generation vintage FM synths.

Single Multisample as VPM modulator

1. Follow the instructions under “Creating an initialized MOD-7 Program” on page 331.
2. On the Patch Panel page, press the button to the left of the Algorithm name to open the Algorithm Select pop-up.

3. In the Algorithm Select popup, select the Processing tab.

This small set of algorithms is designed for processing PCM or the EXi Audio Input through one or more VPM Oscillators.

4. Select Algorithm 51, PCM -> 1 -> 4-pole.

5. Go to the PCM Mod page.

To do so, select the Osc tab and then the PCM Mod tab.

6. Set the Octave to +1[4’].

Since VPM Osc 1’s Ratio is set to 1, this creates an FM ratio of 2:1.

7. Set the Output Level to 67.

8. Set the Velocity Sens to +050.

This lets velocity control the output level.

9. Go to the PCM Oscillator page, and select different Multisamples for MS1.

The choice of Multisample dramatically affects the sound. You can use any mono Multisamples, including ROM, EXs, and RAM. Try these to start:

- Choir: 203 Voice-Choir
- Wavestation: 0597 “puh”
- Wavestation: 0619 VS 35
- SE 1: 1200 House Hits

Velocity-switched Multisamples

Of course, you can also velocity switch between different Multisamples. Continuing from the above:

1. On the PCM Osc page, set all four MS Type parameters to Multisample.
2. Set the four Multisamples as follows:
 - MS1: 0510: MuteGtr2
 - MS2: 0511: MuteGtr3

- MS3: 0509: MuteGtr1
- MS4: 0518: BassHarm

3. Next, set the Bottom Velocities as follows:

- MS1: 110
- MS2: 95
- MS3: 080

(The Bottom Velocity for MS4 is always 1.)

4. Go to the PCM Mod page.

5. Set the Output Level to 100, and the Octave to +0[8].

6. Play the keyboard at different velocities, and notice how the timbre changes.

PCM samples can often be very bright and harmonically complex. When using bright or complex signals as FM modulators, high levels going into the carrier may result in lots of noise; to get good results, you may need to lower the modulator’s level significantly. You might also try processing the PCM (or any bright modulator signal) through a lowpass or bandpass filter, before sending it into the carrier.

Waveshaping

Waveshaping processes an input through a table, changing its timbre. You can use this in two different but related ways.

First, waveshaping offers a wide array of waveform options for the VPM Oscillator. There are 101 tables to choose from, and the way that the table interacts with the input signal can be modulated in real-time.

Second, waveshaping lets you process any signal, including PCM samples, the outputs of other oscillators, or real-time audio input. This capability provides a vast amount of sound-mangling potential, and has been a central feature of several classic digital synths.

For more information, see “5–4c: Waveshaper” on page 358.

Creating different waveforms

As with most other synthesis techniques, modulation is what really makes waveshaping come alive. Even without any modulation, however, waveshaping opens up a wide range of different waveforms, which can be useful both on their own, and as elements in an FM chain.

1. Follow the instructions under “Creating an initialized MOD-7 Program” on page 331.
2. Go to the VPM Osc 1 page.
3. Set the Mode to Sine + Waveshaper.
4. In the Waveshaper section, set Key Slope to 1. Key Slope scales the Drive as you play higher and lower, primarily to minimize aliasing. 1 is a very mild setting, reducing Drive by 0.2dB per octave above C4.
5. Set the Table to Linear.
6. Use Inc to step through tables; listen to the sound.

Each of these simple, static waveforms can be altered—sometimes dramatically—by using Offset and Drive, even without any real-time modulation. They’ll also have different effects depending on the input signal; a complex, acoustic Multisample will give different results than a simple sine wave.

Using Offset

By modulating offset, we can make a quick-and-simple reed piano sound, using only a single VPM Oscillator.

Continuing from the above:

1. In the Waveshaper section of VPM Osc 1, set the Offset to +090.
2. In the Parameter Details area, set Offset AMS to Exponential Velocity, and set Intensity to -090.
3. Set Drive to -06dB.
4. Set Makeup Gain to +06dB.
5. Set the Table to Pickup1.

In the popup list, Pickup1 is near the top of the first column.

6. Set Key Slope to 5.

The steps are in 0.2dB/octave, so 5 is 1dB/octave.

7. Play the keyboard, and notice how the sound changes at different velocities.

Creating evolving timbres

Next, let’s see how waveshaping sounds when modulated from an envelope. Continuing from the above:

1. Go to the EG3 page.
2. Set the Attack Time to 70, and the Decay Time to 90.
3. Set both the Break and Sustain Levels to 00.

This creates an envelope which sweeps slowly up and down.

4. Go to the VPM Osc 1 page.
5. Set Offset to +000.
6. In Parameter Details, set Offset AMS Intensity to +000.
7. Set the Drive to -36dB.
8. In Parameter Details, set Drive AMS to EG3, and Intensity to +36dB.

By modulating the Drive, EG3 changes the way that the table interacts with the input signal—creating an effect that varies over time.

9. Set the Table to Forest.

In the popup list, **Forest** is near the top of the fourth column.

10. While playing the keyboard, use Inc to step through the different tables.

This is a fairly slow envelope, so for this example just play simple chords, and hold them to hear the sound as the EG sweeps through the table.

Waveshaping and VPM

Continuing from the above:

1. Go to the Patch Panel page.
2. Touch VPM Osc 1's Output jack twice, so that the yellow square starts to blink.
3. Touch VPM Osc 2's Input 1 jack.

A patch cable will appear, connecting VPM Osc 1's Output to VPM Osc 2's Input 1.

4. Similarly, touch VPM Osc 2's Output jack twice, and then touch Input 1 on the Main Mixer.

Input 1 is the top-most jack on the Main Mixer, just below the Parameter Details area. VPM Osc 1 is connected to this jack by default, as you can see by the thin black line. The new patch cable replaces that normalised connection, so now we'll hear only VPM Osc 2.

5. Press the front-panel Tone Adjust button.

This will be useful later, so that we can easily adjust VPM Osc 1's Level with Slider 1.

Next, let's get rid of the Drive modulation, so that we can hear the table on its own:

6. Go to the VPM Osc 1 page.
7. Set Drive to 0dB.
8. In Parameter Details, set Drive AMS Intensity to 0dB.
9. Set the Table to Linear.

This will sound just as if Osc 1 was set to the Sine waveform.

10. Use Inc to step through the tables, and experiment with different settings of Slider 1 (VPM Osc 1 Output Level).

Start with Slider 1 around the mid-point, and keep trying out different levels as you listen to the different tables. The brighter the modulator's waveform, the less level you'll need. If the level is too high, you'll start to hear noise and grit.

Finally, let's bring back the EG3 modulation of Drive:

11. Set Drive to -36dB.
12. In Parameter Details, set Drive AMS Intensity to +36dB.
13. Again, use Inc to step through the tables, and experiment with different settings of Slider 1.

Waveshaping and PCM

You can use waveshaping to alter any PCM sample, including ROM, EXs, and RAM.

Continuing from the above:

1. Go to the Patch Panel.
2. Select Algorithm 51, PCM -> 1 -> 4-pole.
3. Open the menu, and select the Delete All Connections command.

An "Are you sure?" dialog will appear.

4. Press OK to confirm the deletion.

All of the cables will disappear, returning the algorithm to its default state.

5. Go to the PCM Osc page.
6. Set MS1 Multisample to 0330:El.Bass-Slap Muted.
7. Go to the PCM Mod page.
8. Set Velocity Sens +050.

This makes the level respond to velocity. Since the waveshaper's effect changes with the input level, this means that velocity will also affect the timbre.

9. Go to the VPM Osc 1 page.
10. Set the Mode to Waveshaper.

This means that VPM Osc 1 is no longer an oscillator per se; instead, it's functioning as a waveshaper, processing the output of the PCM Oscillator.

11. Set the Table to Resonant2.

In the popup list, **Resonant2** is near the middle of the third column.

12. Set Drive to -30dB.
13. In Parameter Details, Set Drive AMS to EG3, and set the Intensity to +30dB.
14. Set Offset to +50.
15. In Parameter Details, Set Offset AMS to Exponential Velocity, and set the Intensity to -50.
16. Set the Makeup Gain to +24dB.
17. Play a slow bass line on the keyboard.

Notice the "filter sweep" sound. This comes entirely from modulating the drive through the table; by itself, the multisample has a very dark tone.

Waveshaping and filtered PCM

Using PCM with waveshaping produces unique results, but it can also be tricky to control. You'll probably need to experiment to find which tables best match a particular Multisample. Often, waveshaping works better with darker input sounds, so it may be useful to patch in a lowpass filter between the PCM and the VPM Oscillator.

Continuing from the above:

1. Go to the PCM Osc page.
2. Set MS1 Multisample to 0201:Voice-Pop Ah.
3. Go to the Patch Panel.
4. Connect the PCM Osc Output to Filter A's Input.
5. Connect Filter A's Output to VPM Osc 1's Input 1.
6. Connect VPM Osc 1's Output to Input 1 on the Main Mixer.

Now, the signal flow is PCM -> Filter A -> VPM Osc 1 -> Output.

7. Play the keyboard.

At this point, the sound is pretty buzzy. Let's see what the filter will do:

8. While playing a chord in the middle of the keyboard, move Knob 7 so that it's slightly to the left of center.

This lowers the cutoff frequency of the filter, so that the sound changes from buzzy to mellow—but the waveshaper is still having a strong effect.

Waveshaping, PCM, and VPM

You can use Waveshaping, PCM, and VPM simultaneously, for even more complex timbres.

Continuing from the above:

1. Go to the PCM Mod page.
2. Set Freq Offset to +01.0.

The PCM will be a modulator in this sound, and so this adds a little chorus effect to the end result.

3. Go to the VPM Osc 1 page.
4. Set the Mode to Sine + Waveshaper.

Now, VPM Osc 1 works as an oscillator again, and we're back in the realm of FM synthesis. The filtered PCM sound is the modulator, and the VPM Osc is the carrier.

5. Set Input Level 1 to 80.

This controls the intensity of the modulation from the filtered PCM.

6. Set the Table to Mixture4.

In the popup list, **Mixture4** is near the bottom of the second column.

7. Set Drive to -36dB.

8. In Parameter Details, set the Drive AMS Intensity to +30dB.

This means that the input won't quite use the entire table, and leaves room for Offset to move the active region of the table without clipping.

9. Experiment with different settings of Knob 7.

This controls the cutoff frequency of Filter A. This filter isn't processing the output of VPM Osc 1; it's just affecting the modulator signal going *into* VPM Osc 1. VPM Osc 1 itself is connected directly to the Main Mixer, bypassing the filters.

Finally, note that all of the examples above used only a single VPM Oscillator—just a fraction of the MOD-7's resources. You can process PCM through all six VPM Oscillators, in serial or parallel. For an example of this, listen to factory MOD-7 Program USER-C 012, "Dancing Waveshapes." This processes the PCM through all six VPM Oscillators in parallel, including both VPM and waveshaping. Each creates a different timbre, and rhythmically triggered envelopes switch between them in turn.

Ring Modulation

Ring modulation takes two input signals, and creates new frequencies based on those inputs. It can create everything from subtle brightening effects to wild, dissonant, gong-like timbres.

In the MOD-7, each VPM Oscillator includes a ring modulator. You can use this to process any combination of VPM, PCM, noise, and real-time audio input. You can also modulate the wet/dry crossfade of the ring modulator, in real-time.

For more information, see "5-4e: Ring Modulator" on page 363.

Subtle motion

Let's first look at a subtle use of ring modulation, to create some motion in a simple sawtooth timbre.

1. Follow the instructions under "Creating an initialized MOD-7 Program" on page 331.

To start, we'll create an envelope for modulation:

2. Go to the EG3 page.
3. Set the Attack Time to 70, and the Decay Time to 90.
4. Set both the Break and Sustain Levels to 00.

Next, let's connect VPM Osc 2 to VPM Osc 1:

5. Go to the Patch Panel.
6. Connect VPM Osc 2's Output to VPM Osc 1's Input 1.
7. Go to the VPM Osc 2 page.
8. Set the Ratio to 2.
9. In Parameter Details, set Pitch Modulation AMS1 to EG3, and set the Intensity to +00.10.

This small amount of pitch modulation will create a more subtle ring modulation effect.

10. Go to the VPM Osc 1 page.
11. Set the Mode to Saw.
12. Set Input Level 1 to 0.

This means that VPM Osc 2 will only affect the ring modulator.

13. Set the LPF to 50.
14. Play the keyboard; so far, this is a simple sawtooth sound.
15. On the VPM Osc 1 page, select the Ring Mod Crossfade parameter.
16. In Parameter Details, set the Crossfade AMS to EG3, and the Intensity to 100.

Now, EG3 is doing two things: it's changing the pitch of VPM Osc 2, and fading the ring modulation in and out. Together, this creates a fluttering, rolling effect.

Attack transient

Next, we'll use ring modulation to create an attack transient. Continuing from the above:

1. Go to the EG3 page.
2. Set the Attack Time to 00, and the Decay Time to 40.
3. Go to the VPM Osc 2 page.
4. Set the Mode to Saw.
5. Set the LPF to 60.
6. Select the Ratio parameter.

This makes the Pitch Modulation parameters appear in the Parameter Details area.

7. Change the AMS1 Intensity to +02.00.

This will result in a stronger ring modulation effect.

8. Go to the VPM Osc 1 page.

9. Set the Mode to Sine.

This makes the effect of the ring modulation more obvious, when crossfaded in and out.

10. Play the keyboard.

Now, the ring modulation is creating a chuff at the start of the note.

Extreme sweep

For a more surreal ring modulation effect:

1. Go to the EG3 page.
2. Set the Decay Time to 80.
3. Go to the VPM Osc 2 page.
4. Set the Ratio Fine to +0.002.

This will create a little motion in the sustained sound, after the initial sweep is complete.

5. Go to the VPM Osc 1 page.
6. Set the Mode to Saw.
7. Set the Ring Mod Crossfade to Ring Mod.
8. In Parameter Details, set the AMS Intensity to 000.

Now, the output will contain only the ring mod sound. Previously, the sound had crossfaded between the dry and ring mod timbres.

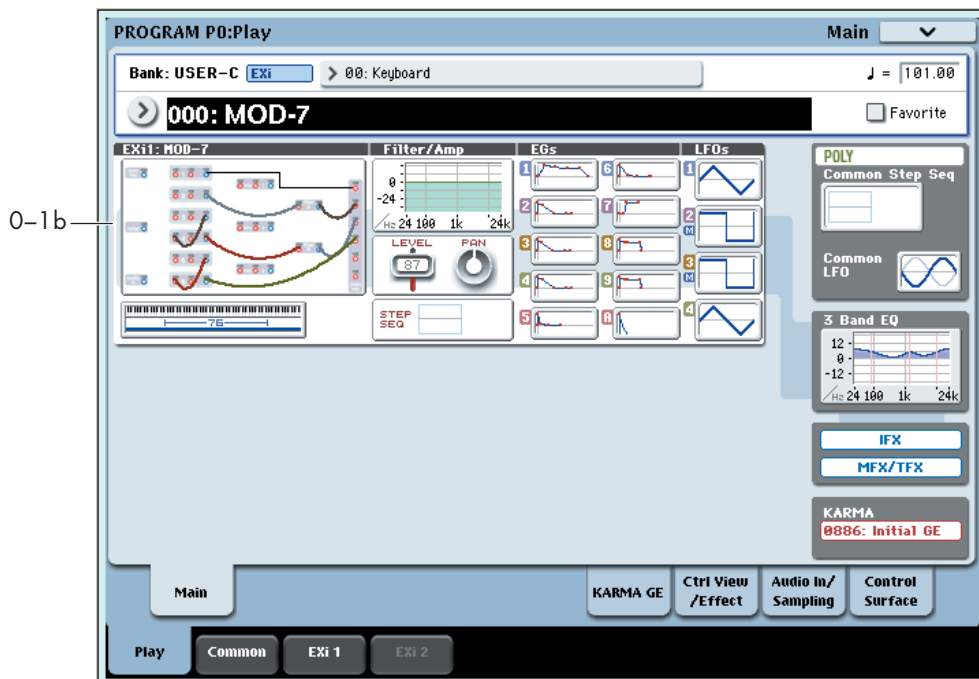
9. Play a chord on the keyboard, and hold it until the sound settles.

Conclusion

We've now looked at most of the synthesis techniques provided by the MOD-7, including subtractive, VPM, PCM + VPM, waveshaping, and ring modulation. To step beyond the basics, try looking through some of the factory sounds to see how they work. There's still much more to discover, and we hope that you enjoy playing and working with the MOD-7 as much as we do!

EXi Program P0: Play

0-1: Main



This is the main page of Program mode. For a full description of this page and all of its functions, please see “EXi Program P0: Play” on page 159. This section describes only the overview display, which differs for each individual EXi.

0-1b: Overview and Page Jump

This part of the page shows an overview of the most important settings for the Program’s two EXi instruments. The specific parameters will vary, depending on which EXi are being used. The specific parameters for the MOD-7 are described below.

The graphics give you a quick way to check all of these settings at a glance. They also let you jump instantly to any of the displayed parameters. Just touch one of the sections, and you’ll jump to the page containing its parameters. For instance, if you touch the Filter graphic, you’ll go to the Oscillator and Filter page.

Tip: Pressing EXIT several times will always bring you back to this page.

Patch Panel

This section shows a miniature version of the patch panel, including patch cables and the selected algorithm’s normalised connections. Touch this area to jump directly to the Patch Panel page.

Filter

Filter

This shows a graphic representation of the filter frequency response, including cutoff and resonance. Press this area to jump to the Filter Basic page.

Amp

Pan, Amp Level

This shows the Amp section’s Pan and Amp Level values.

Press this area to jump to the Amp page.

EGs, LFOs, and Step Sequencer

EG Graphics

These show the shapes of all 10 EGs, including EGs 1-9 and the Amp EG. Touch either of them to jump directly to the corresponding edit page.

LFO 1-4 Graphics

These show the waveforms and shapes of the four LFOs. Touch them to jump directly to the corresponding edit page.

If the LFO is synchronized to tempo, a small “M” appears under the LFO number (short for “MIDI Clock”).

Step Sequencer

This shows a graphic overview of the per-voice Step Sequencer.

Press this area to jump to the Step Sequencer page.

Key Zone

Key Zone

This shows the key zones for EXi1 and EXi2, as set on the Common section’s Program Basic page, in relation to the entire MIDI note range. The range of the 76-note or 88-note keyboard is also shown, as appropriate.

Press this area to jump to the Program Basic page.

Common

The graphics along the right side of the screen show the most important Common parameters, which are shared by both EXi in the Program. This section will always show the same parameters, regardless of which EXi are being used.

Common Voice Assign Mode

This shows the voice assign mode of the Program—either POLY or MONO.

Press this area to jump to the Program Basic page.

Common Step Sequencer

This shows a graphic overview of the Common Step Sequencer.

Press this area to jump to the Common Step Sequencer page.

Common LFO Graphic

This shows the waveform of the Common LFO.

Press this area to jump to the Common LFO page.

3 Band EQ Graphic

This shows the mid-sweepable 3-band EQ.

Press this area to jump to the EQ page.

IFX, MFX/TFX

Press the IFX area to jump to the IFX Routing page.

Press the MFX/TFX area to jump to the MFX Routing page.

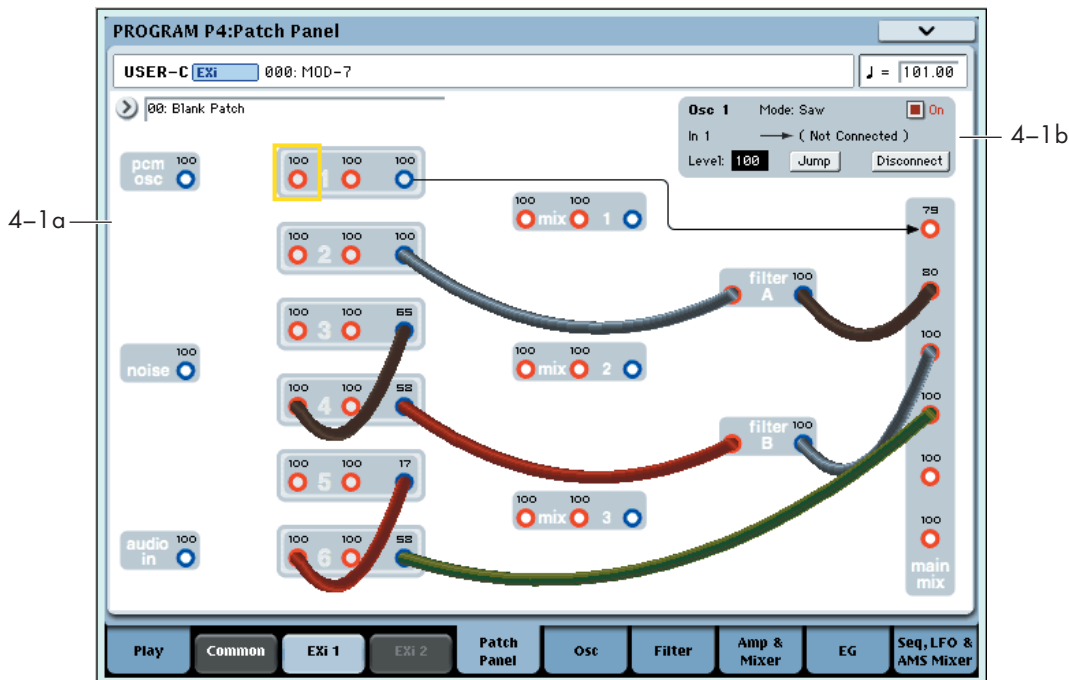
KARMA GE Name

This shows the name of the selected KARMA GE.

Press this area to jump to the GE Setup/Key Zones page.

Program P4: Patch Panel

4-1: Patch Panel



The patch panel shows an overview of most components in the MOD-7, and lets you:

- Control the connections between components (oscillators, filters, mixers, and so on) by selecting algorithms and/or using patch cables
- Edit input and output levels for all components
- Jump directly to the detailed editing pages for all components

Using the Patch Panel

Algorithms

Depending on the selected algorithm, many of the MOD-7 elements (VPM oscillators, PCM oscillator, Noise Generator, filters, mixers, etc.) are connected by default, even without using any patch cables. The lines and arrows on the Patch Panel show these “normal” signal paths.

You can change any and all of these default connections using patch cables, as desired. Plugging a cable into an *input* jack disconnects the “normal” path, and uses the signal from the cable instead. Plugging a cable into an *output* jack does not affect the normal path, since a single output can be connected to any number of inputs.

For more information on using algorithms, see “4-1a: Algorithm Select” on page 343.

Basic patching rules

Inputs are colored red, and outputs are colored blue.

Each input can be connected to a single output, and no more (although a single *output* can be connected to multiple *inputs*, as described below). If you want to route two outputs to a single input, use one of the mixers to merge the outputs first.

Plugging a cable into an output jack lets you use the signal elsewhere on the patch panel, and does not interrupt the “normal” path. You can also connect a single output to any number of inputs, if you like; this is sometimes called a “mult.” The signal strength remains the same, as if you were using a distribution amplifier.

Connections from one input to another, or from one output to another, are not allowed.

Creating and deleting connections

Making connections

To make a connection between two patch points:

1. **Touch one of the two jacks (either input or output).**

A yellow square will appear around the selected jack. The Detail Panel will also show the name of the selected jack, and what it is connected to.

2. **Touch the same jack again.**

The yellow square will begin to blink, showing that you’re about to make a connection. To cancel this and return to the normal selected state, just touch the same jack a third time.

3. **Touch the other jack.**

The two jacks will now be connected.

Deleting connections

To delete a connection between two patch points:

1. Touch the input jack.

Note: you can also select the output jack. However, if the output is connected to more than one input, all of the connections from that output will be affected.

2. Press the Disconnect button in the Detail Panel.

The selected connection will be deleted.

To delete all connections from an output:

1. Touch the output jack.

2. Press the Disconnect button in the Detail Panel.

All of the output's connections will be deleted. This is convenient if an output has been connected to multiple inputs, and you want to clear all of them at once.

Clearing all connections from the Patch Panel

To completely clear the Patch Panel, so that you can start from scratch:

1. Open the menu, and select the Delete All Connections command.

All connections will be deleted.

Setting input and output levels

You can edit the main input and output levels for each block directly from the Patch Panel. To do this:

1. Select the jack whose input level you want to edit.

For instance, select Input 2 of VPM Oscillator 4.

2. Use the standard data-entry controls to set the level as desired.

Note that modulation can affect these levels, as well—so you may have to look at the individual edit pages to get the complete picture.

Jumping directly to edit pages

You can jump to the detailed edit pages for any of the blocks shown on the Patch Panel. To do this:

1. Select a jack on the block that you want to edit.

You can select any input or output on the block.

2. Press the Jump button in the Parameter Details area, at the top right of the display.

This will take you directly to the page of the selected jack's block. For instance, if you've selected one of the inputs or outputs of VPM Oscillator 2, pressing **Jump** will take you to the **VPM Osc 2** page.

Muting oscillators

The PCM Oscillator and each VPM Oscillator can be muted temporarily, so that you can hear their effect on the sound. To do this, select any of the block's input or output jacks, and edit the check-box in the parameter details area. You can also use Tone Adjust buttons 1–6 (VPM Osc 1–6) and 9 (PCM), which are assigned to these parameters by default.

Filter B and 4-pole routing

When the filter **Routing** is set to **4-pole**, only Filter A is active. Filter B no longer passes any audio from input to output, and both input and output jacks are grayed out.

Any cables previously connected to Filter B will remain in place, with their color changed to black & red to indicate the filter's disabled status.

4-1a: Algorithm Select

Algorithm [List]

Algorithms do three things:

- They create a set of default connections between the elements on the Patch Panel, which can then be altered as you wish using patch cables.
- As part of these connections, they set the Link parameters for Mixers 1, 2, and 3, as well as the Filter's 4-pole/Parallel parameter.
- They specify which VPM Oscillators are carriers, and which are modulators. This affects the way that the Macro parameters work. You can edit these settings after selecting an Algorithm, if desired, to account for changes due to user-created patch cables or oscillator settings.

Algorithm groups

The algorithms are divided into several groups, selected by tabs on the left-hand side of the Algorithm Select popup.

VPM includes the most useful configurations of VPM Oscillators, routed through either 4-pole or parallel filters. The PCM and Noise algorithms, below, are primarily based on this set of configurations.

The first entry, **Blank Patch**, is a special algorithm with only the simplest of connections: VPM Oscillator 1 goes straight into the main mixer. Use this if you want to build your own algorithm from the ground up.

PCM + VPM offers a selection of VPM configurations layered with PCM samples.

PCM->Filter->VPM includes the standard set of configurations, using PCM (through a 2-pole filter) as an FM modulator.

PCM->VPM -> 4-pole are similar, but these route the unfiltered PCM directly into the VPM Oscillators, and then processes the result through a 4-pole filter.

Noise->VPM -> 4-pole use the Noise Generator as an FM Modulator.

Many of the **PCM** and **Noise** algorithms have two variations, labeled **I** and **II**. In the **I** versions, the PCM or Noise goes to the input of a Modulator; in the **II** versions, the PCM or Noise is routed to the second Carrier input, in parallel with the VPM Modulator.

Processing are special algorithms for simple waveshaping, ring modulation, and/or FM modulation with PCM or live audio input.

Vintage DX features all of the original DX7 algorithms, without any filtering. Feedback is much more flexible on the MOD-7 than it was on the DX7, and so when the

original algorithms differed only by feedback routing, they've been grouped into a single selection. To disable an external feedback routing, just go to the input jack that the feedback leads to, and set its **Level** to 0.

Remember, you can use patch cables to change any of these algorithms to suit your needs.

Which algorithm should I use?

Algorithms are just shortcuts for configuring the Patch Panel. You don't have to use them at all; if you prefer, you can just make all of your connections using patch cables.

The preset algorithms do make it easy to call up commonly-used setups, however.

In general, with more carriers, there's more potential for layering; with fewer carriers, there's more potential for complex and detailed FM modulation.

The "all carriers" algorithms (10, 20, 30, 40, 50, and DX #32) are good for creating thick layers, or for simple additive synthesis (up to 7 partials, plus noise, each with its own EG).

The Processing algorithms are a good place to start if you want to transform a PCM sample into something new, or process a live audio input.

The PCM + VPM algorithms are good for layering samples with VPM.

#	Group	Algorithm
0	VPM	Blank Patch
1		4+2 -> 4-pole
2		3+3 -> 4-pole
3		2+2+2 -> 4-pole
4		2+2+1+1 -> 4-pole
5		All carriers -> 4-pole
6		4+2 -> parallel filters
7		3+3 -> parallel filters
8		2+2+2 -> parallel filters
9		2+2+1+1 -> parallel filters
10	All carriers -> parallel filters	
11	PCM + VPM	PCM+4+2 -> 4-pole
12		PCM+3+3 -> 4-pole
13		PCM+2+2+2 -> 4-pole
14		PCM+2+2+1+1 -> 4-pole
15		PCM+2+1+1+1+1 -> 4-pole
16		PCM+4+2 -> parallel filters
17		PCM+3+3 -> parallel filters
18		PCM+2+2+2 -> parallel filters
19		PCM+2+2+1+1 -> parallel filters
20		PCM+all carriers -> parallel filters

#	Group	Algorithm
21	PCM->Filter->VPM	PCM -> 4+2 -> 2-pole I
22		PCM -> 4+2 -> 2-pole II
23		PCM -> 3+3 -> 2-pole I
24		PCM -> 3+3 -> 2-pole II
25		PCM -> 2+2+2 -> 2-pole I
26		PCM -> 2+2+2 -> 2-pole II
27		PCM -> 2+2+1+1 -> 2-pole I
28		PCM -> 2+2+1+1 -> 2-pole II
29		PCM -> 3+1+1+1 -> 2-pole
30		PCM -> all carriers -> 2-pole
31	PCM->VPM -> 4-pole	PCM -> 4+2 -> 4-pole I
32		PCM -> 4+2 -> 4-pole II
33		PCM -> 3+3 -> 4-pole I
34		PCM -> 3+3 -> 4-pole II
35		PCM -> 2+2+2 -> 4-pole I
36		PCM -> 2+2+2 -> 4-pole II
37		PCM -> 2+2+1+1 -> 4-pole I
38		PCM -> 2+2+1+1 -> 4-pole II
39		PCM -> 3+1+1+1 -> 4-pole
40		PCM -> all carriers -> 4-pole
41	Noise->VPM -> 4-pole	Noise -> 4+2 -> 4-pole I
42		Noise -> 4+2 -> 4-pole II
43		Noise -> 3+3 -> 4-pole I
44		Noise -> 3+3 -> 4-pole II
45		Noise -> 2+2+2 -> 4-pole I
46		Noise -> 2+2+2 -> 4-pole II
47		Noise -> 2+2+1+1 -> 4-pole I
48		Noise -> 2+2+1+1 -> 4-pole II
49		Noise -> 3+1+1+1 -> 4-pole
50		Noise -> all carriers -> 4-pole
51	Processing	PCM -> 1 -> 4-pole
52		PCM -> 1+1+1 -> 4-pole
53		Audio -> 1 -> 4-pole
54		Audio -> 1+1+1 -> 4-pole

#	Group	Algorithm
55	Vintage DX	DX #1 & #2
56		DX #3
57		DX #4
58		DX #5
59		DX #6
60		DX #7, #8, & #9
61		DX #10 & #11
62		DX #12 & #13
63		DX #14 & #15
64		DX #16 & #17
65		DX #18
66		DX #19
67		DX #20
68		DX #21
69		DX #22
70		DX #23
71		DX #24
72		DX #25
73		DX #26 & #27
74		DX #28
75		DX #29
76		DX #30
77		DX #31
78		DX #32

4-1b: Parameter Details

This area at the upper right of the display shows information for both the selected jack, and the block containing that jack.

(Block name) [PCM Osc, Noise, Audio In, VPM Osc 1...6, Mixer 1...3, Filter A...B, Main Mixer]

This read-only parameter shows the name of the selected block.

Mode [Off, Sine, Saw, Triangle, Square, Sine + Waveshaper, Waveshaper, Ring Mod Only]

When a VPM Oscillator is selected, this read-only parameter shows the Oscillator Mode.

On [Check-box]

This check-box lets you temporarily mute the output of the block. It duplicates the similarly-named parameter on the Oscillator's page.

(Jack name) [Depends on block]

This read-only parameter shows the name of the selected jack, such as Input 1.

(Connection) [Jack name]

This read-only parameter shows the jack to which the selected jack is connected, including the normalled connection. If nothing is connected to the jack, the bottom line reads "(No Connection)."

If the selected jack is an output connected to multiple inputs, only the first connection is shown, followed by an ellipse.

If the default connection from Algorithm is active, it is shown in parentheses.

Input or Output Level [0...100]

This sets the input or output volume level of the jack. It duplicates the similarly-named parameter on the block's page.

Jump

Press the **Jump** button to go directly to the page of the selected jack's block. For instance, if you've selected one of the inputs or outputs of VPM Oscillator 2, pressing **Jump** will take you to the **VPM Osc 2** page.

Disconnect button

Pressing the **Disconnect** button clears all cables connected to the jack.

▼ 4-1: Page Menu Commands

The number before each command shows its ENTER + number-key shortcut. For more information on these shortcuts, see "ENTER + 0-9: shortcuts for menu commands" on page 142.

- 0: **Write Program**. For more information, see "Write Program" on page 142.
- 1: **Exclusive Solo**. For more information, see "Exclusive Solo" on page 142.
- 2: **Delete All Connections**. For more information, see "Delete All Connections" on page 311.
- 3: **Copy VPM Oscillator**. For more information, see "Copy VPM Oscillator" on page 376.
- 4: **Swap VPM Oscillators**. For more information, see "Swap VPM Oscillators" on page 376.

Program P5: Oscillators

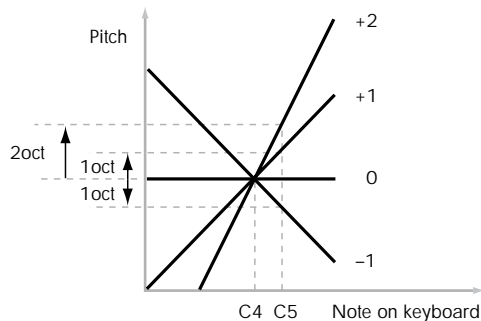
5-1: Osc Main



This page includes:

- Pitch slope and portamento settings
- Pitch modulation applied equally to the PCM Oscillator and all six VPM Oscillators (note that individual oscillators have their own pitch modulation, as well)
- Macro parameters, for quick edits to VPM sounds
- Carrier/Modulator settings for the six VPM Oscillators
- Noise Generator settings
- Audio Input settings

Pitch Slope, pitch, and note



5-1a: Pitch

These parameters let you modulate the pitch of the PCM Oscillator and all 6 VPM Oscillators simultaneously, so that the modulation applies equally to all of them.

Pitch Slope [-1.00...+0.00...+2.00]

Normally, this should be set to the default of +1.00.

Positive (+) values cause the pitch to rise as you play higher on the keyboard, and **negative (-)** values cause the pitch to *fall* as you play higher on the keyboard.

When this is set to 0, playing different notes on the keyboard won't change the pitch at all; it will be as if you're always playing C4. This can be useful for special effects sounds, for instance.

If you want to create more complex effects, you can assign key tracking as an AMS source.

Ribbon [-60...+60 semitones]

You can use the ribbon controller for pitch-bend. This parameter specifies, in semitones, the ribbon's pitch-bend range.

Positive (+) values make the pitch rise when you press the ribbon controller to the right of center, and **negative (-)** values will cause the pitch to fall.

When you lift off of the ribbon, the pitch will snap back to the center (unless you're using the SW1/2 "Ribbon Lock" feature). So, by tapping on the right edge of the ribbon and then releasing quickly, you can create guitar-style "hammer-on" effects.

JS+ X [-60...+60 semitones]

This sets the maximum amount of pitch bend, in semitones, when you move the joystick to the right. For normal pitch bend, set this to a positive value.

JS- X [-60...+60 semitones]

This sets the maximum amount of pitch bend, in semitones, when you move the joystick to the left. For normal pitch bend, set this to a negative value.

Analog [000...100]

This models the instability of an analog system by adding subtle randomization to the oscillator and filter frequencies. The PCM Oscillator, each VPM Oscillator, and Filters A and B each receive different random values, and the values are different for each new note as well.

Pitch AMS [List of AMS Sources]

This selects an AMS source to modulate the pitch of all oscillators simultaneously. For a list of AMS sources, see "Alternate Modulation Source (AMS) List" on page 1021.

Intensity [-48.00...+48.00]

This controls the depth and direction of the Pitch AMS modulation, in semitones.

Pitch Slope Parameter Details

The Pitch Slope graphic appears in the Parameter Details area when any of the Pitch parameters are selected.

5-1b: Pitch LFO

LFO Select [LFO 1, LFO 2, LFO 3, LFO 4, Common LFO]

This selects an LFO to modulate all oscillators simultaneously. This shared modulation can be useful for vibrato, among other things.

The LFO Intensity, JS+ Y Intensity, and AMS are all summed together to produce the final amount of LFO pitch modulation.

LFO Intensity [-48.00...+48.00]

This controls the initial effect of the LFO on the pitch, in semitones, before any JS+Y or AMS modulation.

Negative (-) settings will invert the phase of the LFO.

JS+Y Intensity [-48.00...+48.00]

Moving the joystick "up" from the center detent position, away from yourself, produces the JS+Y controller. You can use this to scale the amount of the LFO applied to the pitch. This parameter sets the maximum amount of LFO modulation added by JS+Y, in semitones.

As this value is **increased**, moving the joystick in the +Y direction will cause the LFO to produce deeper pitch modulation.

Negative (-) settings will invert the phase of the LFO. You can also use this to reduce the initial amount of the LFO, as set by LFO1 Intensity, above.

Pitch LFO Parameter Details

These items appear in the Parameter Details area when any of the Pitch LFO parameters are selected.

AMS [List of AMS Sources]

This selects an AMS modulation source to scale the amount of the LFO applied to pitch.

For a list of AMS sources, see "Alternate Modulation Source (AMS) List" on page 1021.

Intensity [-48.00...+48.00]

This controls the depth and direction of the LFO AMS modulation, in semitones.

5-1c: Portamento

Portamento lets the pitch glide smoothly between notes, instead of changing abruptly.

Enable [Off, On]

On (checked): Turns on Portamento, so that pitch glides smoothly between notes.

Off (unchecked): Turns off Portamento. This is the default state.

Fingered [Off, On]

This parameter allows you to control Portamento through your playing style. When it's enabled, playing legato will turn on Portamento, and playing detached will turn it off again.

This option is only available when Portamento Enable is turned on.

On (checked): Turns on Fingered Portamento.

Off (unchecked): Turns off Fingered Portamento.

Mode [Constant Rate, Constant Time]

Constant Rate means that Portamento will always take the same amount of time to glide a given distance in pitch - for instance, one second per octave. Put another way, gliding several octaves will take much longer than gliding a half-step.

Constant Time means that Portamento will always take the same amount of time to glide from one note to another, regardless of the difference in pitch. This is especially useful when playing chords, since it ensures that each note in the chord will end its glide at the same time.

Time [000...127]

This controls the portamento time. Higher values mean longer times, for slower changes in pitch. When **Time** is set to 0, the pitch will be reached instantly—just as if Portamento **Enable** was turned **Off**.

Portamento Parameter Details

These items appear in the Parameter Details area when any of the Portamento parameters are selected.

AMS [List of AMS Sources]

This selects an AMS source to control the **Portamento Time**. For a list of AMS sources, see "Alternate Modulation Source (AMS) List" on page 1021.

The modulation occurs only at note-on. This means that you can change the time for the *next* pitch glide, but you can't change any glides which are already in progress.

Intensity [-127...+127]

This controls the depth and direction of the **Portamento Time** AMS modulation.

Assigning SW1 or SW2 to Portamento On/Off

You can use the two assignable switches, SW1 and SW2, to turn portamento on and off.

To do so:

1. Go to Program page 1-8, Controller Setup.
2. Under Panel Switch Assign, set either SW1 or SW2 to Portamento SW (CC#65).

Now, the selected switch will enable and disable Portamento. It will also send the MIDI Portamento controller, CC#65.

MIDI Even if you don't assign SW1/2 to Portamento, you can still use MIDI Controller #65 to turn Portamento on and off.

5-1d: Macro Edit

Brightness [-100...+100]

This controls the input levels of all Carriers.

Brightness Vel. Sens. [-100...+100]

This controls the output level velocity sensitivities of all Modulators.

Timbre [-100...+100]

This controls the pitches of all Modulators.

Feedback [-100...+100]

This controls the feedback levels of all Carriers.

Detune [-100...+100]

This controls the pitches of all Carriers.

Macro Edit Parameter Details

Oscillator Carrier/Modulator Status

These items appear in the Parameter Details area when any of the Macro parameters are selected. They control the way that each VPM Oscillator responds to the Macro parameters, as detailed below.

Modulators are affected by the **Brightness Vel Sens.**, and **Timbre** parameters.

Carriers are affected by the **Brightness**, **Feedback** and **Detune** parameters.

The Carrier/Modulator states are set automatically when an **Algorithm** is selected, but may then be edited manually as desired, to match any special configurations on the Patch Panel.

Note that these settings only affect the way that the VPM Oscillators respond to the Macro Parameters; they do not make an oscillator into a Carrier or Modulator per se.

VPM Osc 1...6s [Carrier, Modulator]

This controls the way that each VPM Oscillator responds to the Macro parameters, as described above.

5-1e: Noise Generator

The noise generator includes **Saturation**, for creating unique and chaotic noise effects, and a dedicated 1-pole filter to control noise color.

For standard white noise, set the **Saturation** to 0, and the **Filter Frequency** to 99.

For colored noise (such as pink noise), set the **Saturation** to 0, and reduce the **Filter Frequency** as desired.

To create "speckled noise" such as rocket sounds and thunder, set **Saturation** to 99, and **Filter Frequency** to 10.

To create key contact noise (such as you might find on vintage analog synths), create speckled noise as described above, and then use a fast EG to control its volume in the mixer.

Saturation [0...99]

This control clips the noise signal, for added crunch. Subtle variations in saturation are more noticeable with very low **Filter Frequency** settings (see below), allowing you to create organic, rumbling timbres.

Filter Freq [0...99]

This is a simple, 1-pole lowpass filter for controlling the "color" of the noise.

Level [0...100]

This sets the basic output level of the Noise Generator. It is also shown in the Parameter Details on the Patch Panel.

EG Select [None, EG1...EG9, Amp EG]

This selects any of the 10 EGs to control the Noise Generator's output level.

None is the same as if the EG was always at its maximum level.

Noise Generator Parameter Details

These items appear in the Parameter Details area when any of the Noise Generator parameters are selected.

AMS Mode [Add, Multiply]

To calculate the Noise Generator's output volume, the main **Level** parameter and the selected EG are always multiplied together. If either of these is at 0, the other has no effect. For instance, if the **Level** is set to 0, the EG can't bring the volume back up again.

The **AMS Mode** parameter determines how AMS modulation (including Int Mod) interacts with these other controls.

Add: AMS is added in after **Level** and the EG are multiplied together. This means that even if one of these other values is at 0, AMS can still bring up the volume to its maximum.

You can also think of this as having parallel modulation paths: the EG on one side, and AMS on the other.

Expressed mathematically, this is:
Volume = (Level*EG)+AMS.

Multiply: This is the default, and is similar to the way that most other OASYS Amp modulation works. AMS is multiplied along with the **Level** and the **EG**. If any of these are at 0, the output will be silent.

Expressed mathematically, this is:
 $Volume = Level * EG * (1 + AMS)$.

AMS [List of AMS Sources]

This selects a modulation source to control the **Level**. For a list of AMS sources, see "Alternate Modulation Source (AMS) List" on page 1021.

Intensity [-100...+100]

This controls the depth and direction of the **Level** modulation.

5-1f: EXi Audio Input

Important: the audio input is only active when notes are played

The MOD-7 can process live audio inputs, feedback from effects, or any other audio from within the OASYS. Note, however, that the audio input is only active when a voice is being played on the MOD-7.

It's easy to make a patch in which only the incoming audio is heard, with the built-in oscillators completely silent—but you still need to press a key (or play a note via MIDI) in order to activate the MOD-7. You can use the EXi Common **Hold** parameter to keep the note "held down" indefinitely, if you like.

Level [0...100]

This sets the basic output level of the Audio Input. It is also shown in the Parameter Details on the Patch Panel.

EXi Audio Input Parameter Details

These items appear in the Parameter Details area when any of the EXi Audio Input parameters are selected.

AMS Mode [Add, Multiply]

The **AMS Mode** parameter determines how AMS modulation interacts with the **Level** parameter.

Add: AMS is added to the **Level**. This means that even if the **Level** is set to 0, AMS can still bring up the volume to its maximum.

Expressed mathematically, this is:
 $Volume = Level + AMS$.

Multiply: This is the default, and is similar to the way that most other OASYS Amp modulation works. AMS and **Level** are multiplied together.

Expressed mathematically, this is:
 $Volume = Level * (1 + AMS)$.

AMS [List of AMS Sources]

This selects a modulation source to control the **Level**. For a list of AMS sources, see "Alternate Modulation Source (AMS) List" on page 1021.

Intensity [-100...+100]

This controls the depth and direction of the **Level** modulation.

5-1g: Parameter Details

The Parameter Details area shows information for the selected item, including explanatory graphics and AMS modulation routings.

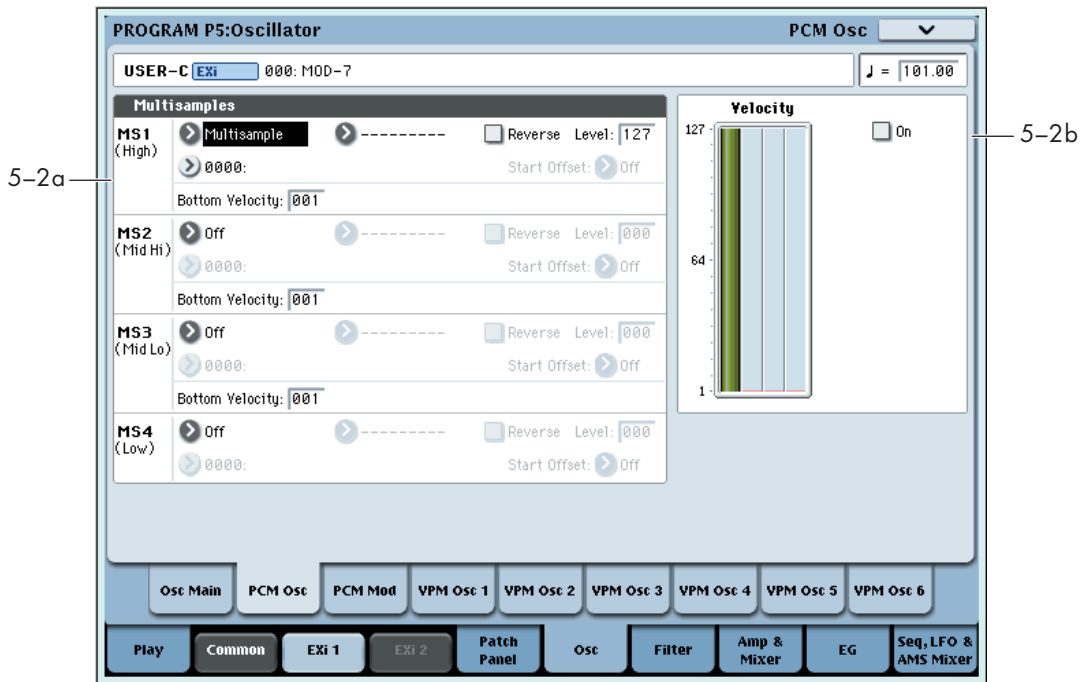
- Pitch LFO Modulation appears when any of the Pitch LFO parameters are selected.
- Portamento Modulation appears when any of the Portamento parameters are selected.
- VPM Oscillator 1-6 Carrier/Modulator Status appears when any of the Macro Edit parameters are selected.
- Noise Generator Modulation appears when any of the Noise Generator parameters are selected.
- EXi Audio Input Modulation appears when the EXi Audio Input Level parameter is selected.
- The Pitch Slope graphic appears when any of the Pitch parameters are selected.

▼ 5-1: Page Menu Commands

The number before each command shows its ENTER + number-key shortcut. For more information on these shortcuts, see "ENTER + 0-9: shortcuts for menu commands" on page 142.

- 0: **Write Program.** For more information, see "Write Program" on page 142.
- 1: **Exclusive Solo.** For more information, see "Exclusive Solo" on page 142.

5-2: PCM Osc



For more information about using PCM in the MOD-7, including hands-on tutorials, see “PCM as a VPM modulator” on page 335, and “Waveshaping” on page 336.

Overview

Disabling the PCM Oscillator

If the PCM Oscillator is not being used, you can disable it to save processing power. You can do this in two ways:

1. Set all MS Type parameters to Off, instead of Multisample.
- or:
2. Make sure that the PCM Oscillator is not connected to anything else on the Patch Panel.

This includes both patch cable connections, and the normalised connections of the algorithm. If necessary, select a different algorithm in which the PCM Oscillator is not connected to anything else on the Patch Panel.

5-2a: Multisamples

Velocity splits

Each Oscillator has four velocity zones, named MS1 (High) through MS4 (Low). Each of these zones can play a different Multisample, and has separate settings for Level, Start Offset, and so on.

Note that, unlike the HD-1, crossfades and layers are not supported.

MS1 (High)

These are the settings for the first and highest velocity zone.

If you want to create a simple setup with only a single Multisample, just set up MS1 as desired, and then set the **Bottom Velocity** to 1.

Type [Off, Multisample]

This selects whether MS1 will play a Multisample, or nothing at all. You can use this to disable any of the four Multisamples.

If all four MS are set to Off, the PCM Oscillator will be disabled entirely, saving processing power.

Bank [ROM Mono...EXs Mono]

There are three main types of Banks: ROM, RAM, and EXs.

ROM Multisamples are the built-in “factory” sounds, and are always available.

RAM Multisamples include Akai, AIFF or WAV files loaded from disk, and samples created in Sampling mode.

EXs Multisample banks are PCM expansion sets created especially for the OASYS. Each has its own unique number; for instance, the ROM Expansion is EXs1, and the Concert Grand Piano expansion is EXs2. Only the currently loaded EXs banks will appear on this menu.

Note that unlike the HD-1, you can only select mono Multisamples.

Multisample Select [List]

This parameter lets you select a Multisample for the velocity zone. You can use any mono Multisample, or the left or right channel of a stereo Multisample.

Some Multisamples may have an upper limit to their keyboard range, over which they may not produce any sound.

Multisample Select menu

To select a Multisample:

1. Press the **Multisample Select popup button** to open the **Multisample select menu**.
2. Use the tabs to select a category and sub-category.
3. Select a **Multisample** from within that category/sub-category.
4. Press the **OK button** to confirm your selection, or press the **Cancel button** to exit without making a change.

The list shows all of the mono Multisamples in the Bank. If the Bank contains stereo multisamples, you'll also see the left and right channels as separate, mono multisamples, with -L and -R appended to the end of the name.

Reverse [Off, On]

This lets you play the selected multisample backwards, without looping.

Note: If the individual samples within a Multisample are already set to Reverse, they will still play in reverse, regardless of this setting.

On (checked): The Multisample will play back in reverse.

Off (unchecked): The Multisample will play back normally.

Level [0...127]

This sets the basic volume level of each multisample. Use this to adjust the balance between the four velocity zones.

- ⚠ Depending on the multisample, high **Level** settings may cause distortion when playing many notes at a time. If this occurs, lower the **Level**.

With RAM Multisamples, each Sample also has a **+12dB** option. If this is turned on, the Sample will play back approximately 12dB louder. You can configure this parameter for each Sample in Sampling mode.

Start Offset [Off, 1st...8th]

In addition to simply starting playback from the beginning, ROM and EXs Multisamples can have up to 8 different pre-programmed alternate starting points.

Similarly, RAM Multisamples can play either from the beginning of the waveform, or from the loop start point.

Start Offsets: ROM and EXs Multisamples

With ROM and EXs Multisamples, the Start Offset specifies whether to use the normal start point (**Off**), or to use one of the alternate start points (**1st–8th**).

Some ROM and EXs Multisamples may have fewer than 8 pre-programmed points, in which case only the available points can be selected.

Start Offsets: RAM Multisamples

With RAM Multisamples, only **Off** and **1st** are available. **Off** uses the normal start point, and **1st** uses the loop start instead. **2nd** through **8th** will be grayed out.

Bottom Velocity [1...127]

This sets the lowest velocity at which the Multisample or will sound. MS1's Bottom Velocity can be equal to, but not lower than, than that of MS2.

MS2 (Mid Hi), MS3 (Mid Lo), and MS4 (Low)

These are the settings for the second, third, and fourth velocity zones. The parameters for MS2 and MS3 are exactly the same as those for "MS1 (High)," above.

The parameters for MS4 are also similar to those for MS1, except that MS4 has no setting for Bottom Velocity (which is always fixed at 1).

5–2b: Velocity Graphic

Velocity zone graphic

This is a graphic representation of the velocity zones for MS1–4. The currently selected MS is shown in green.

On [Checkbox]

This mutes and un-mutes the PCM Oscillator, for quick comparisons during editing. This checkbox is also shown in the Parameter Details on the Patch Panel.

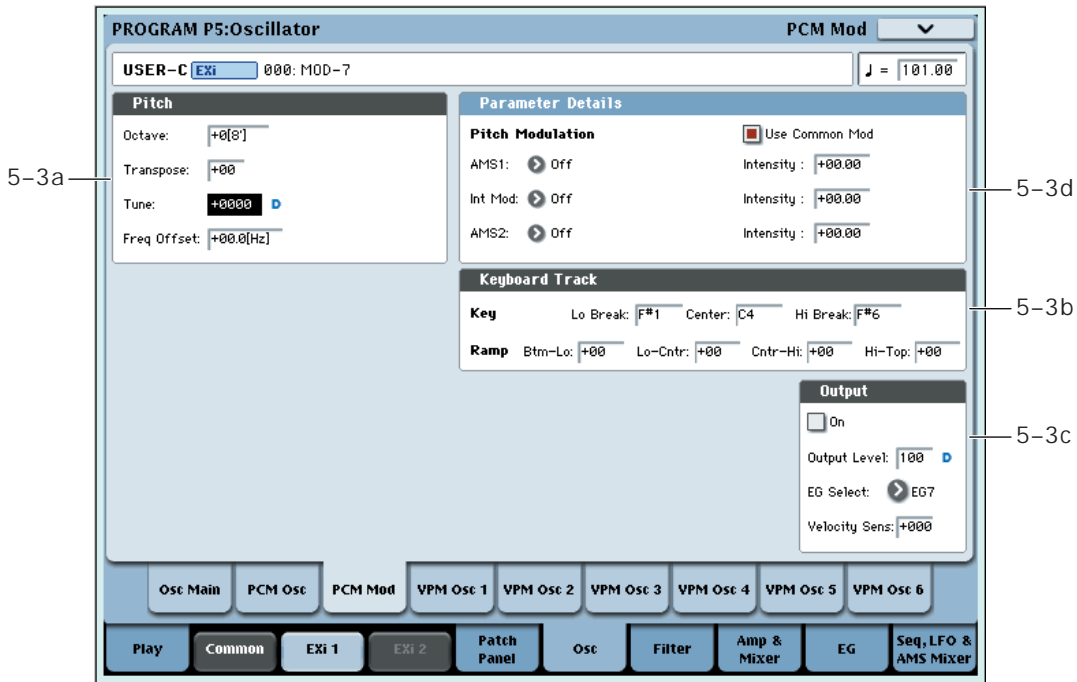
Note that the PCM Oscillator will still use processing power unless it is not connected on the Patch Panel, or all MS are set to **Off**. For more information, see "Disabling the PCM Oscillator" on page 350.

▼ 5–2: Page Menu Commands

The number before each command shows its ENTER + number-key shortcut. For more information on these shortcuts, see "ENTER + 0-9: shortcuts for menu commands" on page 142.

- 0: **Write Program**. For more information, see "Write Program" on page 142.
- 1: **Exclusive Solo**. For more information, see "Exclusive Solo" on page 142.

5-3: PCM Mod



This page provides control of pitch and volume settings and modulation for the PCM Oscillator.

5-3a: Pitch

Octave [-2[32'], -1[16'], +0[8'], +1[4']

This sets the basic pitch of the PCM Oscillator, in octaves. The default is +0[8'].

Transpose [-12...+12]

This adjusts the pitch in semitones, over a range of ±1 octave.

Tune [-1200...+1200]

This adjusts the pitch in cents, over a range of ±1 octave. A cent is 1/100 of a semitone.

Frequency Offset [-10.0Hz...+10.0Hz]

This adjusts the pitch by increments of 0.1 Hz.

Frequency Offset is different from **Tune** in that, when used to detune the two oscillators, it can create a constant beat frequency across the range of the keyboard.

Pitch Parameter Details

These items appear in the Parameter Details area when any of the Pitch parameters are selected.

Use Common Mod [Checkbox]

When off, the oscillator still responds to the **Pitch** and **Portamento** settings from Pitch Common, but ignores the LFO and AMS settings.

AMS1

[List of AMS Sources]

This selects the first modulation source for controlling the oscillator's pitch. For a list of AMS sources, see "Alternate Modulation Source (AMS) List" on page 1021.

Intensity

[-48.00...0.00...+48.00]

This controls the depth and direction of the AMS 1 pitch modulation, in semitones. To easily convert from semitones to FM ratios, see the table below.

Ratio	Pitch in semitones
1	Root pitch
2	+12.00
3	+19.01
4	+24.00
5	+27.83
6	+31.03
7	+33.44 -- 2 octaves + minor seventh (-56 cents)
8	+36.00
9	+38.09 -- 3 octaves + whole tone (+9 cents)
10	+ 39.65 -- 3 octaves + major third (-35 cents)
12	+43.06 -- 3 octaves + fifth (+6 cents)
15	+46.50 -- 3 octaves + major seventh (-50 cents)
16	+48.00

AMS1 Int. Mod

[List of AMS Sources]

You can modulate AMS 1's Intensity from another AMS source. This selects that source.

Intensity [-48.00...0.00...+48.00]

This controls the depth and direction of the Intensity Mod AMS, in semitones. The result is summed with the main AMS 1 Intensity to produce the final pitch modulation amount.

AMS2 [List of AMS Sources]

This selects a second modulation source for controlling the oscillator's pitch. For a list of AMS sources, see "Alternate Modulation Source (AMS) List" on page 1021.

Intensity [-48.00...0.00...+48.00]

This controls the depth and direction of the AMS 2 pitch modulation, in semitones.

5-3b: Keyboard Track

The PCM Oscillator has its own keyboard tracking, which is dedicated to modulating the **Output Level** as you play up and down the keyboard. This can be especially convenient when using PCM as a modulator for a VPM Oscillator.

For more details on these parameters, see "5-4d: Keyboard Track" on page 361.

How it works: Keys and Ramps

The keyboard tracking works by creating four ramps, or slopes, between five keys on the keyboard. The bottom and top keys are fixed at the bottom and top of the MIDI range, respectively. You can set the other three keys—named **Low Break**, **Center**, and **High Break**—to be anywhere in between.

The four ramp values control the rate of change between each pair of keys. For instance, if the **Low-Center** Ramp is set to 0, the value will stay the same between the **Low Break** key and the **Center** key.

You can think of the resulting shape as being like two folding doors attached to a hinge in the center. At the **Center** key (the main hinge), the keyboard tracking has no effect. The two folding doors swing out from this center point to create changes in the higher and lower ranges of the keyboard.

Key

Low Break [C-1...G9]

This sets the breakpoint note between the two lower ramps—the "hinge" of the lower door.

Center [C-1...G9]

This sets the center of the keyboard tracking—the main "hinge." At this key, the keyboard tracking has no effect on the volume, or on any AMS destinations.

High Break [C-1...G9]

This sets the breakpoint note between the two higher ramps—the "hinge" of the upper door.

Entering notes from the keyboard

You can enter note numbers directly by playing them on the keyboard. To do so:

1. Select one of the **Key** parameters.
2. Hold down the **ENTER** key.

3. While holding **ENTER**, play a note on the keyboard.

Ramp

Bottom-Low [-Inf, -99...+99, +Inf]

This sets the slope between the bottom of the MIDI note range and the **Low Break** key. For normal key track, use negative values.

Low-Center [-Inf, -99...+99, +Inf]

This sets the slope between the **Low Break** and **Center** keys. For normal key track, use negative values.

Center-High [-Inf, -99...+99, +Inf]

This sets the slope between the **Center** and **High Break** keys. For normal key track, use positive values.

High-Top [-Inf, -99...+99, +Inf]

This sets the slope between the **High Break** key and the top of the MIDI note range. For normal key track, use positive values.

Ramp	Change in level
-Inf	Silent in one half-step
-99	Silent in one whole-step
-95	Silent in one octave
-48	Silent in two octaves
-25	Silent in four octaves
00	no change
+25	x2 in four octaves
+50	x2 in two octaves
+99	x2 in one octave
+Inf	x2 in one half-step

Keyboard Track Parameter Details

The **Keyboard Track** graphic appears in the Parameter Details area when any of the Keyboard Track parameters are selected.

5-3c: Output

These parameters control the overall volume of the PCM Oscillator.

On [Checkbox]

This mutes and un-mutes the entire oscillator, for quick comparisons during editing. This parameter is also shown in the Parameter Details on the Patch Panel.

Note that the oscillator will still use processing power unless either all MS are set to Off, or the PCM Oscillator is not connected to anything on the Patch Panel. For more information, see "Disabling the PCM Oscillator" on page 350.

Output Level [0...100]

This sets the basic output level of the VPM Oscillator. It is also shown in the Parameter Details on the Patch Panel.

EG Select [None, EG1...EG9, Amp EG]

This selects any of the 10 EGs to control the Oscillator's output level. By default, EGs 1-6 are assigned to VPM Oscillators 1-6, EG7 is assigned to the PCM Oscillator, and EG8 is assigned to Filter A Cutoff.

None is the same as if the EG was always at its maximum level.

Velocity Sens [-100...+100]

This controls the degree to which output level responds to velocity. Negative settings are useful for creating velocity crossfades.

Output Level Parameter Details

These items appear in the Parameter Details area when any of the parameters in the Output section are selected. This includes **On**, **Output Level**, **EG Select**, and **Velocity Sens**.

AMS Mode [Add, Multiply]

To calculate the PCM Oscillator's output volume, the main **Level** parameter, **Velocity Sens**, **Key Tracking**, and the selected **EG** are always multiplied together. If the value of any of these is at 0, none of the others has any effect. For instance, if the selected **EG** falls to 0, **Key Tracking** can't bring the level back up again.

The **AMS Mode** parameter determines how AMS modulation (including Int Mod) interacts with these other modulators.

Add: AMS is added in after **Level**, **Velocity Sens**, **Key Tracking**, and the **EG** are multiplied together. This means that even if one of the main values is at 0, AMS can still bring up the volume to its maximum.

You can also think of this as having parallel modulation paths: **EG**, **Key Track**, and **Velocity Sensitivity** on one side, and **AMS** on the other.

Expressed mathematically, this is:

$$\text{Volume} = (\text{Level} * \text{EG} * \text{Key Track} * \text{Vel Sens}) + \text{AMS}.$$

Multiply: This is the default, and is similar to the way that most other OASYS Amp modulation works. AMS is multiplied along with all of the other modulators.

Expressed mathematically, this is:

$$\text{Volume} = \text{Level} * \text{EG} * \text{Key Track} * \text{Vel Sens} * (1 + \text{AMS}).$$

AMS [List of AMS Sources]

This selects the main modulation source for controlling the **Output Level**. For a list of AMS sources, see "Alternate Modulation Source (AMS) List" on page 1021.

Intensity [-100...+100]

This controls the depth and direction of the **Output Level** modulation.

AMS Int. Mod [List of AMS Sources]

You can modulate the AMS Intensity from another AMS source. This selects that source.

Intensity [-100...+100]

This controls the depth and direction of the Intensity Mod AMS. The result is summed with the main AMS 1 Intensity to produce the final **Output Level** modulation amount.

5-3d: Parameter Details

The Parameter Details area shows information for the selected item, including explanatory graphics and AMS modulation routings.

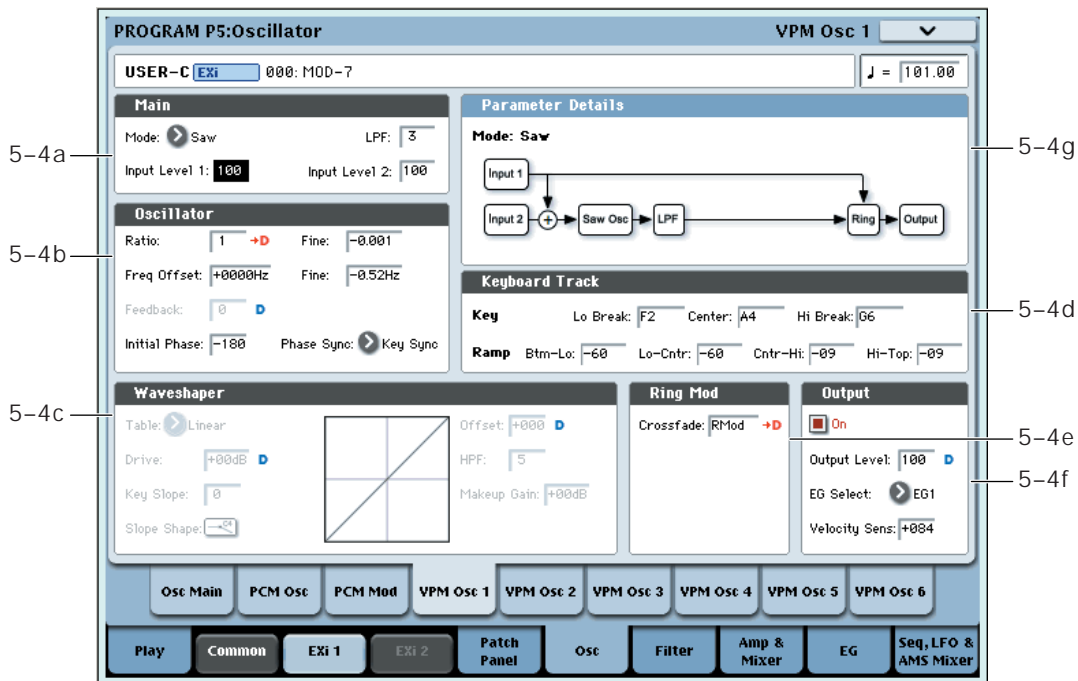
- Pitch Modulation appears when any of the Pitch parameters are selected.
- The **Keyboard Track** graphic appears in the Parameter Details area when any of the Keyboard Track parameters are selected.
- Output Level Modulation appears when any of the Output parameters are selected.

▼ 5-3: Page Menu Commands

The number before each command shows its ENTER + number-key shortcut. For more information on these shortcuts, see "ENTER + 0-9: shortcuts for menu commands" on page 142.

- **0: Write Program.** For more information, see "Write Program" on page 142.
- **1: Exclusive Solo.** For more information, see "Exclusive Solo" on page 142.

5-4: VPM Osc 1



The six VPM Oscillators are the main tools of the MOD-7, and can be used in various ways for both generating waveforms and processing audio. For general information about these different possibilities, please see “Synthesis with the MOD-7: a guided tour” on page 331.

This page controls all aspects of the VPM Oscillator, including:

- Whether it will function as an oscillator on its own, or as a waveshaper or ring modulator for other signals
- All FM-related controls, including input levels, oscillator phase, feedback, and ratio, along with modulation for feedback and pitch
- All waveshaping-related controls, including table selection, drive, offset, keyboard slope, and modulation for drive and offset
- Ring mod crossfade modulation
- Output level and modulation, including keyboard tracking, EG selection, and velocity sensitivity

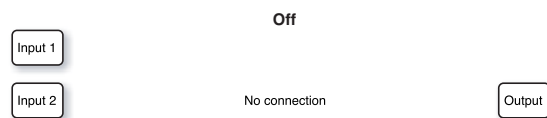
5-4a: Main

Mode [Off, Sine, Saw, Triangle, Square, Sine + Waveshaper, Waveshaper, Ring Mod Only]

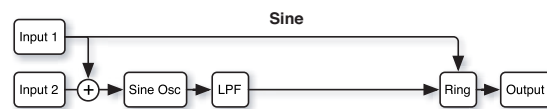
This selects the basic functionality of the VPM Oscillator. Depending on the selected Mode, other parameters in the VPM Oscillator may be grayed out.

The Mode also affects the required processing power. **Triangle**, **Square**, and **Sine + Waveshaper** need the most power, and using them may result in slightly lower polyphony. **Off** requires no processing power at all.

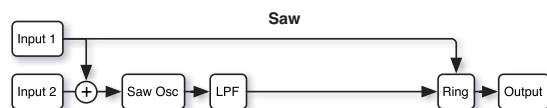
Off: This completely disables the VPM Oscillator. If you’re not using the VPM Oscillator at all, set its **Mode** to **Off** in order to save processing power.



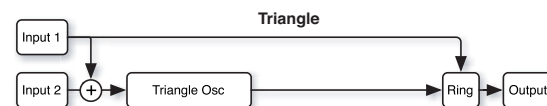
Sine: This includes a sine oscillator followed by a one-pole lowpass filter and a ring modulator. **Sine** is the default setting, used for classic FM sounds. Even when using more complex waveforms for FM Modulators, **Sine** is still the normal setting for an FM Carrier.



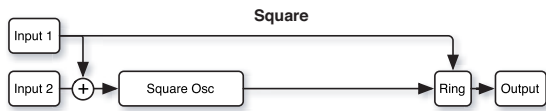
Saw: This mode uses FM feedback to create a sawtooth waveform. As with Sine, it includes a one-pole lowpass filter after the oscillator, as well as a ring modulator.



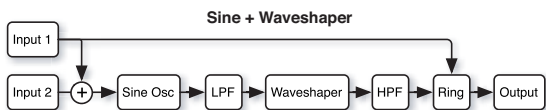
Triangle: This mode uses the oscillator to create a triangle waveform, followed by the ring modulator.



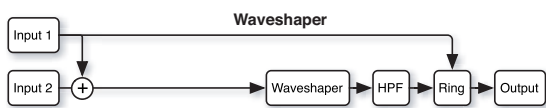
Square: This mode uses the oscillator to create a square waveform. There's still a ring modulator before the output.



Sine + Waveshaper: This is the ultra-super-deluxe mode: sine oscillator, waveshaper, lowpass and highpass filters, and ring modulator. Three scoops, hot fudge sauce, whipped cream, chopped nuts, and a cherry on top.

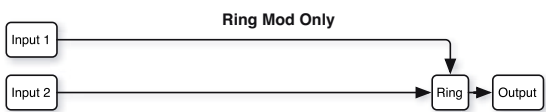


Waveshaper: This mode lets you use the waveshaper section to process signals from other sources, such as the other VPM Oscillators, the PCM Oscillator, the audio input, and so on. It includes a one-pole highpass filter after the waveshaper, followed by a ring modulator. Note that this setting disables the internal oscillator.



Ring Mod Only: In this mode, as the name implies, only the Ring Modulator is active. Input levels have no effect. Input 1 is the Modulator, and Input 2 is the Carrier.

Note: this setting disables the sine oscillator. Use this setting only if you want to use external signals for both the Modulator and the Carrier. If you want to use the internal sine oscillator as the Carrier, set **Mode** to **Sine** instead.



Input Level 1 [0...100]

This sets the level for the first input. The level applies to both FM and Waveshaping, but it does not affect the direct path from Input 1 to the Ring Modulator.

When **Mode** is set to **Sine**, **Saw**, **Triangle**, **Square**, or **Sine + Waveshaper**, this controls the intensity of the FM from this input.

When **Mode** is set to **Waveshaper**, this controls the basic level going into the Waveshaper, which can be further controlled via the **Drive** parameter.

When **Mode** is set to **Ring Mod Only**, the input level has no effect.

Input Level 2 [0...100]

This sets the level for the second input, similar to "Input Level 1," above.

When **Mode** is set to **Ring Mod Only**, the input level has no effect.

Mode Parameter Details

A diagram of the selected **Mode's** signal flow appears in the Parameter Details area when any of the Main parameters are selected.

5-4b: Oscillator

The Oscillator parameters do not apply when the Mode is set to **Off**, **Waveshaper**, or **Ring Mod Only**.

For more information about using the oscillator for VPM/FM, including hands-on tutorials, see "VPM (aka FM)" on page 333.

Ratio [0...64]

This sets the basic tuning for the oscillator. You can create in-between settings (including 0.5) by using **Fine**, below.

0 means that the pitch will not change in response to the note number. For the classic DX "fixed frequency" effect, set both **Ratio** and **Ratio Fine** to 0, and then set the **Frequency Offset** and **Frequency Fine** to the desired frequency. Note that with these settings, pitch modulation will have no effect.

1 produces the standard root pitch.

2 produces the first harmonic, 3 the second harmonic, and so on. For more information, see "VPM and FM Synthesis" on page 331.

Tip: Carrier Ratio near 0 produces chorusing

In an FM pair, setting the Carrier's **Ratio** and **Frequency Offset** close to 0 reverses the normal relationship between the Carrier and the Modulator. In this case, the Modulator's timbre comes through very clearly, while the Carrier provides only a chorusing effect. Use **Ratio Fine** and/or **Frequency Offset Fine** to control the speed and depth of the chorus.

(Ratio) Fine [-0.999...0...+0.999]

This allows you to fine-tune the ratio. You can think of this as the digits to the right of the decimal. For instance, setting the **Ratio** to 0 and **Fine** to +0.500 results in an actual ratio of 0.5, for a pitch one octave lower than standard.

Frequency Offset [-9999...0000...+9999Hz]

This produces a static frequency offset, in Hertz, from the pitch set by Ratio.

(Frequency) Fine [-0.99...+0.99 Hz]

This adjusts the **Frequency Offset** in 1/100 Hz increments.

Initial Phase [-180...0...+180]

This sets the initial phase of the oscillator. The relative phases of the carrier and modulator will affect the sound of FM modulation.

Tip: Try creating a simple FM pair, with the carrier's **Ratio** set to 0, and the modulator's **Ratio** set to 1. Set the carrier's **Initial Phase** to +90, and then listen to how the sound changes when you move this up or down by a few degrees. The sound is similar to an electric piano.

Phase Sync [Key Sync, Random, Free Run]

Key Sync sets the oscillator to the **Initial Phase** value at every key down.

Random sets the oscillator to a random value, with the value randomized per oscillator. (This is the same as the AL-1 behavior for random.)

Free Run sets the oscillator to **Initial Phase** plus a random value that is the same for all of the EXi's voices, and for all of the VPM Oscillators within those voices. For instance, if a Program has two MOD-7s, the voices for EXi1 would have one random value, and those for EXi2 would have another. To get the vintage DX7 behavior, set oscillators to **Free Run** and set their phase to 0.

Feedback [0...100]

Feedback is a third FM input, hard-wired in one of two ways to the oscillator's own output, which allows the oscillator to modulate itself. The exact routing depends on the **Feedback Path** parameter; for more information, see "Feedback Path" on page 357.

Feedback is available only when **Mode** is set to **Sine** or **Sine + Waveshaper**.

With **Feedback Path** set to **From Sine Osc**, setting **Feedback** to 65 creates a reasonable approximation of a sawtooth waveform. Modulation of **Feedback** will then sound similar to modulating the cutoff frequency of a low-pass filter.

Pitch Parameter Details

These items appear in the Parameter Details area when **Ratio**, (**Ratio**) **Fine**, **Freq Offset**, (**Freq Offset**) **Fine**, **Initial Phase**, or **Phase Sync** are selected.

Note: when both **Ratio** and **Ratio Fine** are set to 0, pitch modulation will have no effect.

Use Common Mod [Checkbox]

On: The oscillator will respond to all of the pitch modulation from the Osc Main page. This the default.

Off: The oscillator will ignore the Osc Main page's **LFO** and **AMS** settings. It will still respond to the **Pitch** and **Portamento** settings, including **Pitch Slope**, **JS (+X)**, **JS (-X)**, **Ribbon**, and **Analog**. It will also respond to all pitch-related EXi Common parameters, such as **Chord** and **Scale**.

AMS1 [List of AMS Sources]

This selects the first modulation source for controlling the oscillator's pitch. For a list of AMS sources, see "Alternate Modulation Source (AMS) List" on page 1021.

Intensity [-48.00...0.00...+48.00]

This controls the depth and direction of the AMS 1 pitch modulation, in semitones. To easily convert from semitones to FM ratios, see the table below.

Ratio	Pitch in semitones
1	Root pitch
2	+12.00
3	+19.01
4	+24.00

Ratio	Pitch in semitones
5	+27.83
6	+31.03
7	+33.44 -- 2 octaves + minor seventh (-56 cents)
8	+36.00
9	+38.09 -- 3 octaves + whole tone (+9 cents)
10	+ 39.65 -- 3 octaves + major third (-35 cents)
12	+43.06 -- 3 octaves + fifth (+6 cents)
15	+46.50 -- 3 octaves + major seventh (-50 cents)
16	+48.00

AMS1 Int. Mod [List of AMS Sources]

You can modulate AMS 1's Intensity from another AMS source. This selects that source.

Intensity [-48.00...0.00...+48.00]

This controls the depth and direction of the Intensity Mod AMS, in semitones. The result is summed with the main AMS 1 Intensity to produce the final pitch modulation amount.

AMS2 [List of AMS Sources]

This selects a second modulation source for controlling the oscillator's pitch. For a list of AMS sources, see "Alternate Modulation Source (AMS) List" on page 1021.

Intensity [-48.00...0.00...+48.00]

This controls the depth and direction of the AMS 2 pitch modulation, in semitones.

Feedback Parameter Details

These items appear in the Parameter Details area when **Feedback** is selected.

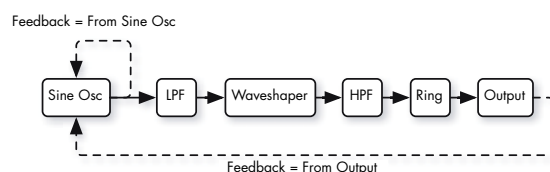
Feedback Path [From Sine Osc, From Output]

This controls the source of the **Feedback** signal.

From Sine Osc routes the feedback directly from the output of the Sine Oscillator. The rest of the VPM Oscillator signal chain, including the LPF, HPF, waveshaper, ring modulator, and output volume control, will not affect the feedback. Use this option when you want the feedback timbre to be independent from the output volume.

From Output routes the feedback from the output of the entire VPM Oscillator signal chain. When the Oscillator Mode is set to Sine, this produces the feedback structure of classic FM synths.

Feedback Path



AMS [List of AMS Sources]

This selects an AMS source to control the **Feedback**. For a list of AMS sources, see "Alternate Modulation Source (AMS) List" on page 1021.

Intensity [-100...+100]

This controls the depth and direction of the AMS modulation for **Feedback**.

5-4c: Waveshaper

This section is available only when the **Mode** is set to **Sine + Waveshaper** or **Waveshaper**.

Note that, if the same oscillator is using both FM and waveshaping, they occur in that order: first the sine oscillator is modulated by the inputs, and then the result is waveshaped.

For more information about using the waveshaper, including hands-on tutorials, see "Waveshaping" on page 336.

Table [List of tables]

This selects the table used by the waveshaper. The waveshaping effect will be a combination of the input signal (including both the waveform and the signal level), the selected table, and the settings for **Drive** and **Offset**.

Linear, Sine->Tri, and Step

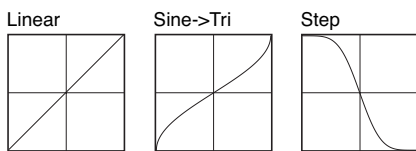
Linear: This simple table does not alter the signal, as long as levels are within the range of the table. Extremely high input levels, or **Drive** settings over 0dB, may still cause clipping. Non-zero values of **Offset** may also cause clipping on either the positive or negative side, changing the waveform's symmetry.

Sine->Tri: With full-scale sine input, this table creates a triangle waveform. If you just want to create a triangle waveform, setting the **Mode** to **Triangle** will work a little better, but this table allows you to use **Drive** and **Offset** in creative ways.

For a basic triangle waveform, set the **Key Slope** to 1, and set the **Key Slope Mode** to roll off only above C4. For more mellow, sine-like tones, reduce the **Drive**; for sharper timbres, increase it.

Step: This table creates soft clipping. Increasing the input level and/or **Drive** creates harder clipping.

With a full-scale sine wave, the output is something like a soft square wave, with **Offset** being similar to pulse width.



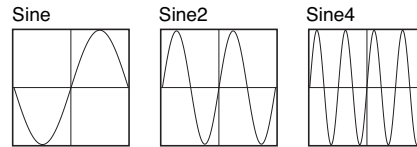
Sines

With sine wave input, these tables produce output similar to a simple FM pair with the Carrier:Modulator ratio set to 0:1. **Drive** functions like the FM input level, and responds well to AMS modulation. With full-scale input, **Drive** settings over 0dB will cause clipping.

The tables differ only in their maximum brightness. **Sine4** is the brightest, for the broadest range of timbres. **Sine2** is darker, and **Sine** is darker still; these offer finer control with **Drive** modulation, for more subtle coloration.

Sine4: When **Drive** is at 0dB, this table is like 0:1 FM with the carrier level at maximum. To produce a similar effect to **Sine2**, reduce the **Drive** by 6dB; to produce a similar effect to **Sine**, reduce the **Drive** by 12dB.

Sine and **Sine2:** These are darker versions of **Sine4**.



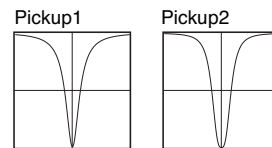
Pickups

These tables simulate electromagnetic pickups, such as those of an electric piano. **Drive** functions as the signal gain.

To create electric piano sounds, use a sine wave as input, and assign an EG to modulate **Drive**; it should be around 0dB at first, and then decay exponentially to a very low value. **Offset** controls the distance between the pickup and the center of the tine; typically, values close to 0 will work well.

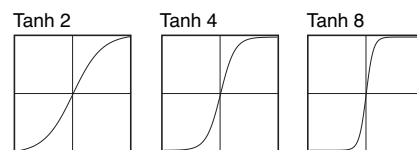
Pickup1: This simulates a bright electromagnetic pickup.

Pickup2: This creates a different amount of saturation; its tone is slightly darker than Pickup1.



Tanh

Tanh2, 4, and 8: These create soft clipping, similar to the **Step**. Vary the **Drive** to control the amount of distortion. 2, 4, and 8 produce increasing amounts of clipping. Full-scale sine wave input will produce output similar to a soft-edged square wave.



Additive

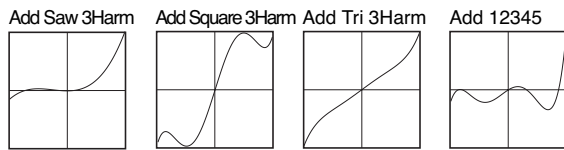
While the Additive tables can produce interesting results with any input signal, they produce the described results only with a full-scale sine wave. Reducing the **Drive** (or the level of the sine wave input) will diminish the level of the additive harmonics, making the result sound more like the original sine. Dynamic modulation of **Drive** may sound similar to a filter opening and closing.

Add Saw 3Harm: This produces the first three harmonics of a sawtooth.

Add Square 3Harm: This produces the first three harmonics of a square wave.

Add Tri 3Harm: This produces the first three harmonics of a triangle wave.

Add 12345: This produces harmonics 1 through 5 with equal amplitude, similar to a filtered pulse waveform.



Add 1Plus2: This produces the fundamental plus the 2nd harmonic at equal amplitude, and sounds like an 8' + 4' organ stop.

Add 1Plus3: This produces the fundamental plus the 3rd harmonic at equal amplitude, and sounds like an 8' + 2 2/3' organ stop.

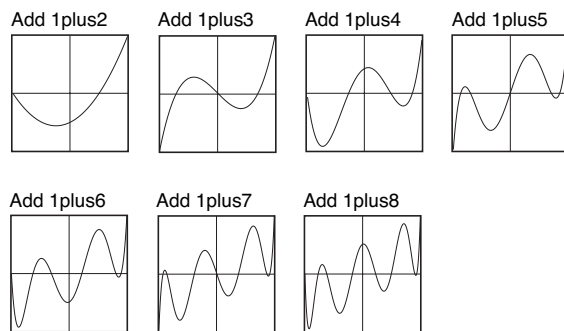
Add 1Plus4: This produces the fundamental plus the 4th harmonic at equal amplitude, and sounds like an 8' + 2' organ stop.

Add 1Plus5: This produces the fundamental plus the 5th harmonic at equal amplitude, and sounds like an 8' + 1 3/5' organ stop.

Add 1Plus6: This produces the fundamental plus the 6th harmonic at equal amplitude, and sounds like an 8' + 1 1/3' organ stop.

Add 1Plus7: This produces the fundamental plus the 7th harmonic at equal amplitude.

Add 1Plus8: This produces the fundamental plus the 8th harmonic at equal amplitude, and sounds like an 8' + 1' organ stop.

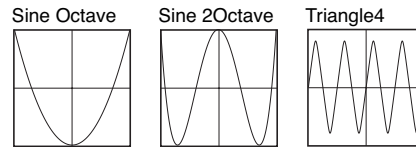


Multipliers

Sine Octave: With full-scale sine input, this produces a sine wave one octave higher than the input, and clips above 0 dB.

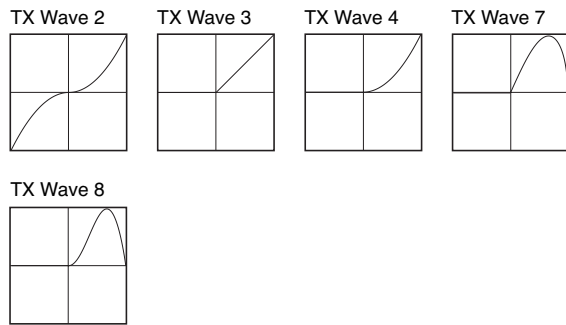
Sine 2Octave: With full-scale sine input, this produces a sine wave two octaves higher than the input signal. With decreasing **Drive** settings, it jumps down to the original octave—producing an interesting effect when **Drive** is modulated. More complex input signals can also produce good results.

Triangle4: This is similar to **Sine4**, except that it uses a triangle shape. It produces output similar to a simple FM pair with the Carrier:Modulator ratio set to 0:1, and the carrier set to a triangle wave. **Drive** functions like the FM input level, and responds well to AMS modulation. With full-scale input, **Drive** settings over 0dB will cause clipping.



TX Waves

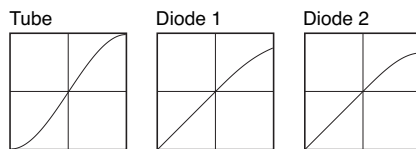
TX Wave 2, 3, 4, 7, and 8: With full-scale sine input, these produce waveforms similar to those of classic 4-operator FM synths. Modulate **Drive** below 0dB for a more sine-like sound.



Tube and Diode

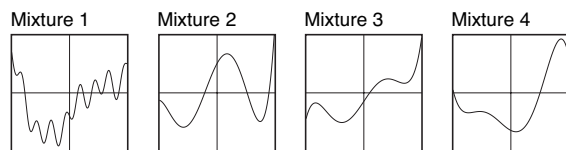
Tube: This is a soft-clipping table, for simulating analog saturation. The combination of input level and **Drive** controls the amount of clipping; **Offset** controls symmetry, like DC offset into a VCA.

Diode 1 and 2: These produce asymmetric soft-clipping, like an analog diode. **Diode 2** produces more distortion than **Diode 1**.



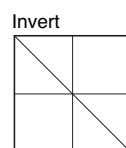
Mixture

Mixture 1, 2, 3, and 4: With sine wave input, these four tables create a bunch of different harmonics at different amplitudes, like FM or organ stops.



Invert

Invert: This table simply inverts the input signal. It can be used to invert a waveform prior to adding it back to itself—for pulse width modulation, for example.

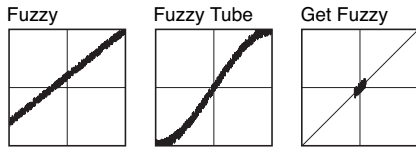


Fuzzy

Fuzzy: This table adds random-sounding noise to the input, even with low input levels. Modulating **Drive** can produce interesting, grungy effects.

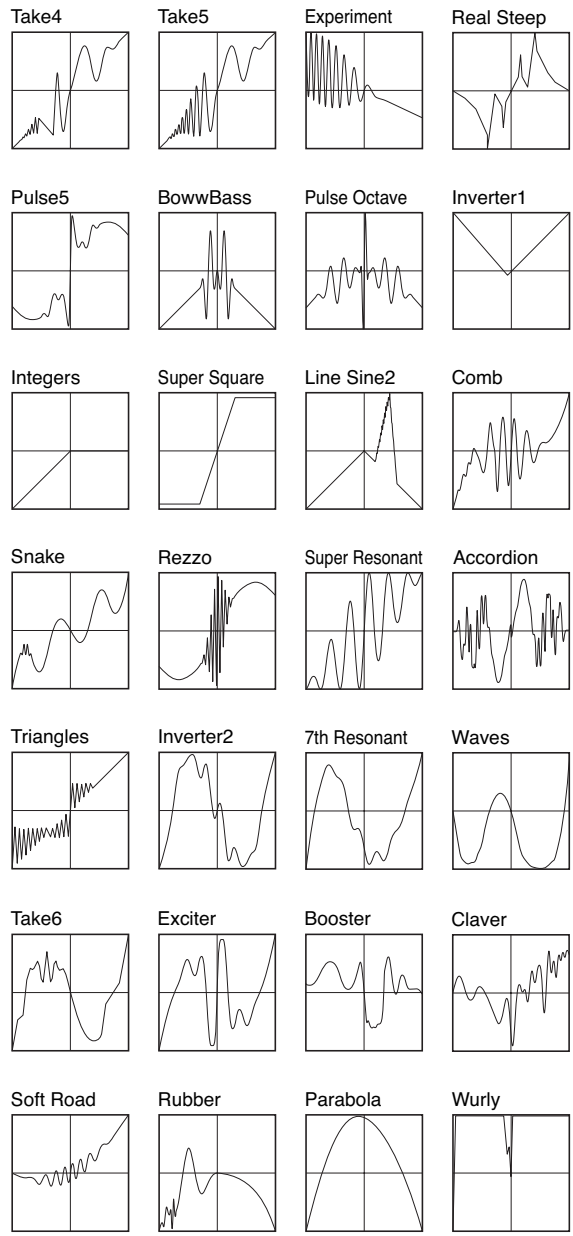
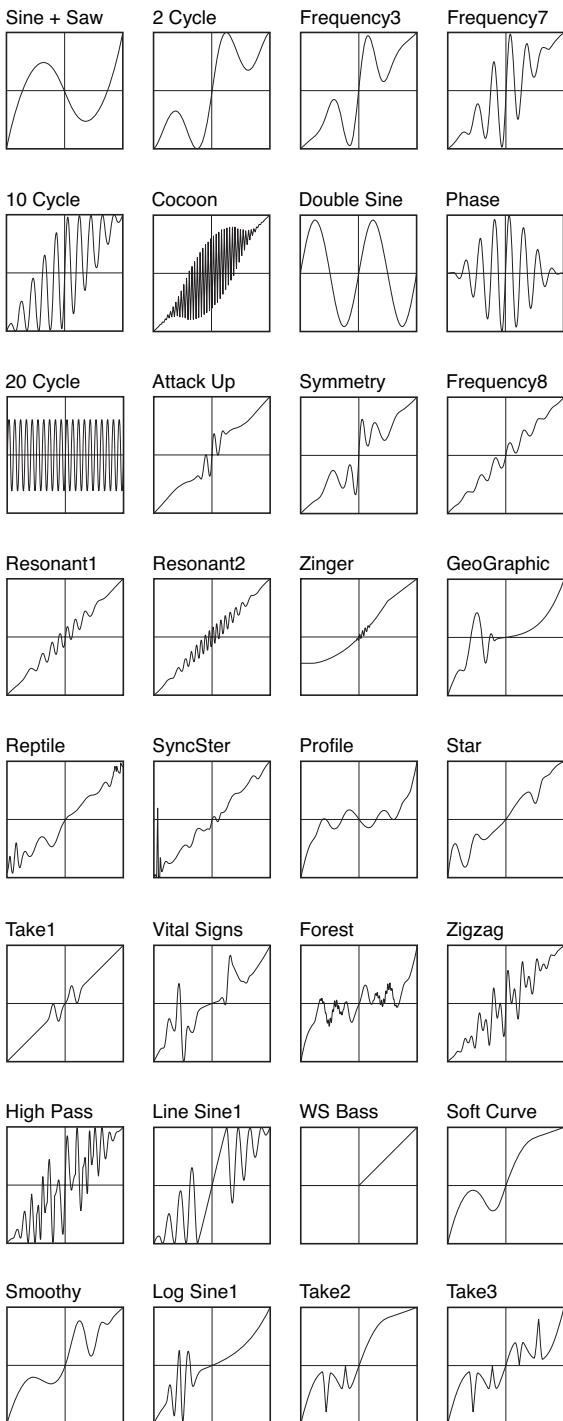
Fuzzy Tube: This is similar to **Fuzzy**, above, with the addition of soft clipping.

Get Fuzzy: This unusual table is noisy only around zero. High-level input signals (or high **Drive** settings) will produce less noisy output, while low-level signals will be much more noisy.



01/W and Waveshaper Effect tables

The rest of the tables are based on those of the classic Korg 01/W and the Waveshaper effect.

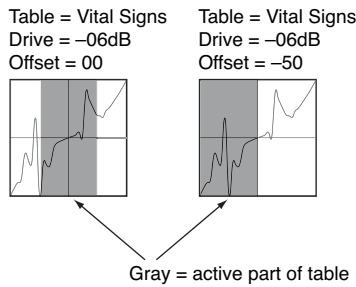


Drive [-36dB...0dB...+36dB]

This sets the volume of the signal going into waveshaper. By reducing the **Drive**, you can make the signal interact with only part of the table. This is particularly useful in combination with **Offset**, as shown in the diagram below. **Drive** can also be modulated to create changes in timbre, as described under “Tip: Modulating Drive,” below.

With a pure sine oscillator, anything greater than 0dB will clip. Often, clipping will sound bad—but some tables, such as **tanh**, **step**, **tube** and **diode**, are specifically made for clipping. With these tables, the harder you drive, the more saturation/overdrive you’ll get.

Drive and Offset



Key Slope [0...75]

This scales the amount of **Drive** as you move up and down the keyboard, with a center point of C4. **Key Slope** can help to keep the timbre even across the keyboard, and also help to minimize aliasing. The **Slope Shape** parameter, below, affects how this parameter works. The steps are in increments of 0.2dB per octave, up to a maximum of 15dB/oct.

Slope Shape [graphics: symmetric, high range only]

Key Slope always attenuates **Drive** above C4. This parameter selects whether or not it also *boosts Drive* below C4.

Offset [0...100]

This introduces a DC Offset into the input signal, shifting the signal in relation to the waveshaper table. With a full-scale input signal, this will make the signal clip on one side or the other, and result in an asymmetric waveform. When used in conjunction with **Drive**, it can select the part of the table used to process the signal. **Offset** can be modulated at note-on, which works well with AMS sources such as Velocity and Exponential Velocity.

Offset also has specific uses with particular tables; see the individual table descriptions for more information. For more information, see the diagram "Drive and Offset," above.

HPF [0...100]

The output of the waveshaper is processed through a simple highpass filter. This filter is primarily intended to prevent DC offsets in the waveshaped signal, which can cause unexpected clipping at the audio outputs, along with other strange results.

This parameter controls the cutoff of the filter. The default value of 5 is generally sufficient to block DC offsets. Higher values will make the sound increasingly thin, which may be useful for creative purposes.

Makeup Gain [-36dB...0dB...+36dB]

This provides additional gain to compensate for loss through the Waveshaper. For information on how to use this, see "Tip: Modulating Drive," below.

Drive Parameter Details

These items appear in the Parameter Details area when any of the parameters in the Waveshaper section other than **Offset** are selected. This includes **Table**, **Drive**, **Key Slope**, **Slope Shape**, **HPF**, and **Makeup Gain**.

AMS [List of AMS Sources]

This selects an AMS source to control the **Drive**. For a list of AMS sources, see "Alternate Modulation Source (AMS) List" on page 1021.

Intensity [-72dB...+72dB]

This controls the depth and direction of the **Drive** modulation.

Tip: Modulating Drive

Modulating **Drive** can be extremely useful for creating dynamic timbres. Depending on the selected table, this modulation will also often cause significant changes in overall level. You can compensate for this with a combination of **Makeup Gain** and **Output Level** modulation:

1. Set up an AMS source to modulate **Drive**.
2. Assign the same AMS source to modulate the main **Output Level**, inversely from **Drive**.

In other words, if you use a positive intensity for Drive AMS, use a negative intensity for Output Level AMS.

3. Adjust the **Output Level AMS Intensity** until the volume level stays sufficiently even.

The actual settings will vary depending on the input level and the selected table. Don't expect the **Output Level** intensity to be the same as that of **Drive**.

4. Increase the **Waveshaper's Makeup Gain** parameter to compensate for the reduction in volume.

Offset Parameter Details

These items appear in the Parameter Details area when the Waveshaper **Offset** parameter is selected.

AMS [List of AMS Sources]

This selects an AMS source to control the **Offset**. For a list of AMS sources, see "Alternate Modulation Source (AMS) List" on page 1021.

Offset can be modulated at note-on only. This works well with AMS sources such as Velocity and Exponential Velocity.

Intensity [-100...+100]

This controls the depth and direction of the AMS modulation for **Offset**.

5-4d: Keyboard Track

Each VPM Oscillator has its own keyboard tracking, which is dedicated to modulating the **Output Level** as you play up and down the keyboard.

OASYS's keyboard tracking can be fairly complex, if desired. You can create different rates of change over up to four different parts of the keyboard.

Tracking for timbre

Most acoustic instruments change in timbre as you play higher or lower pitches. At its most basic, keyboard tracking can compensate for these effects by adjusting the output level of an FM Modulator as you play higher and lower on the keyboard. With Modulators, raising the level will make the timbre brighter; reducing the level will make it darker.

Tracking for aliasing

With FM, aliasing generally increases at higher frequencies (see “Aliasing” on page 331). Reducing Modulator levels at higher pitches is usually the most effective way to minimize aliasing.

How it works: Keys and Ramps

The keyboard tracking works by creating four ramps, or slopes, between five keys on the keyboard. The bottom and top keys are fixed at the bottom and top of the MIDI range, respectively. You can set the other three keys—named **Low Break**, **Center**, and **High Break**—to be anywhere in between.

The four ramp values control the rate of change between each pair of keys. For instance, if the **Low-Center** Ramp is set to 0, the value will stay the same between the **Low Break** key and the **Center** key.

You can think of the resulting shape as being like two folding doors attached to a hinge in the center. At the **Center** key (the main hinge), the keyboard tracking has no effect. The two folding doors swing out from this center point to create changes in the higher and lower ranges of the keyboard.

Key

Low Break [C-1...G9]

This sets the breakpoint note between the two lower ramps—the “hinge” of the lower door.

Center [C-1...G9]

This sets the center of the keyboard tracking—the main “hinge.” At this key, the keyboard tracking has no effect on the volume, or on any AMS destinations.

High Break [C-1...G9]

This sets the breakpoint note between the two higher ramps—the “hinge” of the upper door.

Entering notes from the keyboard

You can enter note numbers directly by playing them on the keyboard. To do so:

1. Select one of the Key parameters.
2. Hold down the ENTER key.
3. While holding ENTER, play a note on the keyboard.

Ramp

Positive ramp values mean that the keyboard tracking output increases as you play farther from the **Center** key; negative ramp values mean that it decreases.

Because of this, the meanings of positive and negative ramp settings will change depending on whether the ramp is to the left or right of the **Center** key.

Also note that, as shown in the graphic “Amp Keyboard Tracking,” below, negative slopes are more steep than positive slopes.

Bottom-Low and Low-Center: negative ramps make the keyboard tracking’s output go down as you play lower on the keyboard, and positive ramps make the output go higher.

Center-High and High-Top: negative ramps make the keyboard tracking’s output go down as you play *higher* on the keyboard, and positive ramps make the output go up.

Bottom-Low [-Inf, -99...+99, +Inf]

This sets the slope between the bottom of the MIDI note range and the **Low Break** key. For normal key track, use negative values.

Low-Center [-Inf, -99...+99, +Inf]

This sets the slope between the **Low Break** and **Center** keys. For normal key track, use negative values.

Center-High [-Inf, -99...+99, +Inf]

This sets the slope between the **Center** and **High Break** keys. For normal key track, use positive values.

High-Top [-Inf, -99...+99, +Inf]

This sets the slope between the **High Break** key and the top of the MIDI note range. For normal key track, use positive values.

Ramp	Change in level
-Inf	Silent in one half-step
-99	Silent in one whole-step
-95	Silent in one octave
-48	Silent in two octaves
-25	Silent in four octaves
00	no change
+25	x2 in four octaves
+50	x2 in two octaves
+99	x2 in one octave
+Inf	x2 in one half-step

+Inf and -Inf ramps

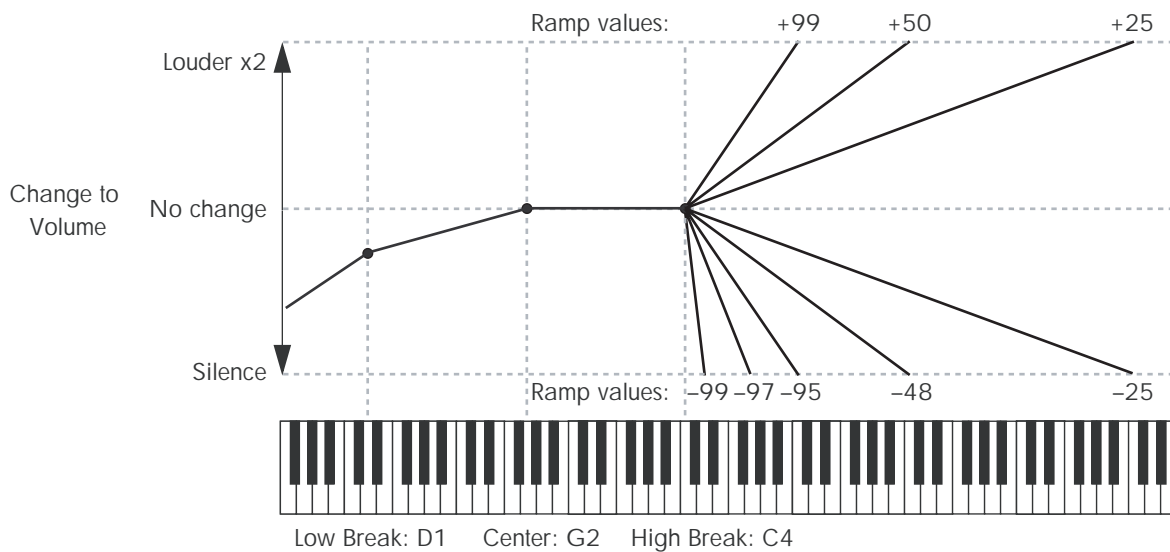
+Inf and **-Inf** are special settings which create abrupt changes for split-like effects. When a ramp is set to **+Inf** or **-Inf**, the keyboard tracking will go to its extreme highest or lowest value over the span of a single key.

When a ramp is set to **+Inf**, the keyboard tracking will go to its highest value (double the programmed volume) over a single half-step.

Similarly, when a ramp is set to **-Inf**, the keyboard tracking will go to its lowest value (complete silence) over a single half-step.

Note: if you set the **Center-High** ramp to **+Inf** or **-Inf**, the **High-Top** parameter will be grayed out. Similarly, if you set the **Low-Center** ramp to **+Inf** or **-Inf**, the **Bottom-Low** ramp will be grayed out.

Amp Keyboard Tracking



Keyboard Track Parameter Details

The **Keyboard Track** graphic appears in the Parameter Details area when any of the Keyboard Track parameters are selected.

5-4e: Ring Modulator

Ring modulation adds new frequencies to the audio by multiplying one input, called the Carrier, by another, the Modulator.

In general, if the frequencies of the Carrier and Modulator are harmonically related, these new, added frequencies create brighter timbres. The brighter the inputs, the more new frequencies are created, and the greater the effect. Small amounts of detuning between the Carrier and Modulator produce more motion and richness in the output.

If the Carrier and Modulator frequencies are not related (by using lots of detune or frequency offset on one of them, for instance), the ring modulator creates dissonant, gong-like tones.

In the MOD-7, Input 1 always acts as the Modulator; it has a direct path into the ring modulator, which is not affected by the **Input Level** control. Depending on the selected VPM Oscillator **Mode**, the Carrier can be either the VPM Oscillator itself (after all applicable FM and waveshaping), or Input 2.

When **Mode** is set to **Waveshaper**, Input 2 is waveshaped before entering the ring modulator. There are many possibilities here, but two simple tables may be particularly useful: **Inverter1** creates a rectified signal, and **Integers** clips the signal to negative values only.

As with FM, ring modulation can produce aliasing—especially at higher frequencies.

For more information about using the ring modulator, including hands-on tutorials, see “Ring Modulation” on page 338.

Crossfade

[Dry, 1:99...49:51, AM, 51:49...1:99, Wet]

This crossfades between the dry and ring-modulated signal. The center value, with equal amounts of wet and dry, produces AM (Amplitude Modulation). You can modulate this value in real-time, as described under “Crossfade Parameter Details,” below

More details on ring modulation

In the most simple case, when both the Carrier and Modulator are sine waves, ring modulation produces two new frequencies. These new frequencies are called sidebands.

One is the “sum,” at the Carrier frequency *plus* the Modulator frequency. The other is the “difference,” at the Carrier frequency *minus* the Modulator frequency.

For instance, let’s say that Carrier is a 1,000Hz sine wave, and the Modulator is a 300Hz sine wave. The two sidebands would be at 1,300Hz (the sum) and 700Hz (the difference).

Notice that neither of these sidebands has a simple musical or harmonic relationship to the original tones. This is why the output can sound like a gong, with clangorous and dissonant overtones.

If the Modulator’s frequency is higher than that of the Carrier, the difference sideband is reflected around 0Hz, with a 180 degree phase shift. For instance, if the Carrier is at 100Hz and the Modulator is at 400Hz, the difference sideband would be 300Hz, 180 degrees out of phase.

The effect becomes much more complex when using inputs other than pure sine waves, since separate sum and difference tones are created for each component frequency in each input.

For instance, let’s say that the Carrier now has two sine waves, at 1000Hz and 2000Hz respectively, and that the Modulator also has two sine waves, at 300Hz and 600Hz. The output of the ring modulator would then include eight different sidebands:

- 1,300Hz (1,000Hz+300Hz)

- 1,600Hz (1,000Hz+600Hz)
- 700Hz (1,000Hz-300Hz)
- 400Hz (1,000Hz-600Hz)
- 2,300Hz (2,000Hz+300Hz)
- 2,600Hz (2,000Hz+600Hz)
- 1700Hz (2,000Hz-300Hz)
- 1400Hz (2,000Hz-600Hz)

If both inputs contain three frequencies each, the number of sidebands grows to 18; if they contain four frequencies each, it grows to 32; with five each, the sidebands grow to 50. So, the effect can become very complicated, very fast!

(If the Carrier and Modulator are harmonically related, the frequencies of some of the sidebands may be the same, resulting in a somewhat simpler tone.)

If one or more sum frequencies are higher than 24kHz (half of the sample rate), this will cause aliasing. Aliasing adds its own sidebands, which may or may not enhance the effect of the ring modulator. If you want to minimize aliasing, avoid using bright tones for both the Carrier and Modulator simultaneously. If one of the sounds is very bright, consider using a dark, lowpassed sound for the other.

Crossfade Parameter Details

These items appear in the Parameter Details area when the Ring Modulator **Crossfade** parameter is selected.

AMS [List of AMS Sources]

This selects an AMS source to control the **Crossfade**. For a list of AMS sources, see "Alternate Modulation Source (AMS) List" on page 1021.

Intensity [-100...+100]

This controls the depth and direction of the AMS modulation for **Crossfade**.

5-4f: Output

On [Checkbox]

This mutes and un-mutes the entire VPM Oscillator, for quick comparisons during editing. This parameter is also shown in the Parameter Details on the Patch Panel.

Note that the Oscillator will still use processing power unless the **Mode** is set to **Off**.

Output Level [0...100]

This sets the basic output level of the VPM Oscillator. It is also shown in the Parameter Details on the Patch Panel.

If the Oscillator is an FM Modulator, the output level affects the brightness of its associated Carrier(s). If the Oscillator is an FM Carrier, the output level affects volume.

EG Select [None, EG1...EG9, Amp EG]

This selects any of the 10 EGs to control the Oscillator's output level. By default, EGs 1-6 are assigned to VPM Oscillators 1-6, EG7 is assigned to the PCM Oscillator, and EG8 is assigned to Filter A **Cutoff**.

None is the same as if the EG was always at its maximum level.

Velocity Sens [-100...+100]

This controls the degree to which output level responds to velocity. Negative settings are useful for creating velocity crossfades between two sets of VPM Oscillators.

Output Level Parameter Details

These items appear in the Parameter Details area when any of the parameters in the Output section are selected. This includes **On**, **Output Level**, **EG Select**, and **Velocity Sens**.

AMS Mode [Add, Multiply]

To calculate the VPM Oscillator's output volume, the main **Level** parameter, **Velocity Sens**, **Key Tracking**, and the selected **EG** are always multiplied together. If the value of any of these is at 0, none of the others has any effect. For instance, if the selected **EG** falls to 0, **Key Tracking** can't bring the level back up again.

The **AMS Mode** parameter determines how AMS modulation (including Int Mod) interacts with these other modulators.

Add: AMS is added in after **Level**, **Velocity Sens**, **Key Tracking**, and the **EG** are multiplied together. This means that even if one of the main values is at 0, AMS can still bring up the volume to its maximum.

You can also think of this as having parallel modulation paths: **EG**, **Key Track**, and **Velocity Sensitivity** on one side, and **AMS** on the other.

Expressed mathematically, this is:

$$\text{Volume} = (\text{Level} * \text{EG} * \text{Key Track} * \text{Vel Sens}) + \text{AMS}$$

Multiply: This is the default, and is similar to the way that most other OASYS Amp modulation works. AMS is multiplied along with all of the other modulators.

Expressed mathematically, this is:

$$\text{Volume} = \text{Level} * \text{EG} * \text{Key Track} * \text{Vel Sens} * (1 + \text{AMS})$$

AMS [List of AMS Sources]

This selects the main modulation source for controlling the **Output Level**. For a list of AMS sources, see "Alternate Modulation Source (AMS) List" on page 1021.

Intensity [-100...+100]

This controls the depth and direction of the **Output Level** modulation.

AMS Int. Mod [List of AMS Sources]

You can modulate the AMS Intensity from another AMS source. This selects that source.

Intensity [-100...+100]

This controls the depth and direction of the Intensity Mod AMS. The result is summed with the main AMS 1 Intensity to produce the final **Output Level** modulation amount.

5-4g: Parameter Details

The Parameter Details area shows information for the selected item, including explanatory graphics and AMS modulation routings.

- The Mode graphic appears when any of the parameters in the Main section are selected.
- Pitch Modulation appears when **Ratio**, (Ratio) **Fine**, **Freq Offset**, (Freq Offset) **Fine**, **Initial Phase**, or **Phase Sync** are selected.
- Feedback Modulation appears when **Feedback** is selected.
- Drive Modulation appears when any of the parameters in the Waveshaper section other than **Offset** are selected. This includes **Table**, **Drive**, **Key Slope**, **Slope Shape**, **HPF**, and **Makeup Gain**.
- Offset Modulation appears when the Waveshaper **Offset** parameter is selected.
- The Keyboard Track graphic appears when any of the parameters in the Keyboard Track section are selected.

- Crossfade Modulation appears when (Ring Mod) **Crossfade** is selected.
- Output Level Modulation appears when any of the parameters in the Output section are selected.

▼ 5-4: Page Menu Commands

The number before each command shows its ENTER + number-key shortcut. For more information on these shortcuts, see “ENTER + 0-9: shortcuts for menu commands” on page 142.

- 0: **Write Program**. For more information, see “Write Program” on page 142.
- 1: **Exclusive Solo**. For more information, see “Exclusive Solo” on page 142.
- 2: **Copy VPM Oscillator**. For more information, see “Copy VPM Oscillator” on page 376.
- 4: **Swap VPM Oscillators**. For more information, see “Swap VPM Oscillators” on page 376.

5-5: VPM Oscillator 2

5-6: VPM Oscillator 3

5-7: VPM Oscillator 4

5-8: VPM Oscillator 5

5-9: VPM Oscillator 6

VPM Oscillators 2 through 6 are identical to VPM Oscillator 1. For detailed parameter explanations, please see “5-4: VPM Osc1” on page 355.

Program P6: Filter

6-1: Filter Basic

Overview

The MOD-7 includes dual multimode resonant filters, including Korg's Multifilter. These filters are almost identical to those of the AL-1, except for the following:

- There is no **Trim** parameter. (This was unnecessary even in the AL-1, since the filter will not clip internally.) Output volume is still available and modulatable.
- The patch panel allows individual access to Filters A and B, and so the **Routing** parameter provides only **Parallel** and **4-Pole** modes. You can create serial routing using the patch panel, if desired.
- Similarly, since Filters A and B have independent outputs which can be routed separately to the main mixer, there are no filter-specific Pan or Pan AMS

controls. The main mixer supports modulatable Pan for all 6 inputs.

For detailed descriptions of the filter parameters, see "5-1: Filter Basic" on page 188.

For information about using the filters in the MOD-7, including hands-on tutorials, see "Filtered VPM" on page 334.

Filters and the Analog parameter

When the Oscillator Main page **Analog** parameter is greater than 0, Filters A and B each get a different random detune value (including when **Link** is set to On).

If you want the two filters to be perfectly in tune, turn **Analog** to 0.

6-2: Multi Filter

The Multi Filter is identical to that of the AL-1. For detailed information, see "5-2: Multi Filter" on page 191.

6-3: Filter Modulation

The Filter Modulation page is almost identical to that of the AL-1. For detailed information, see "5-3: Filter Modulation" on page 192.

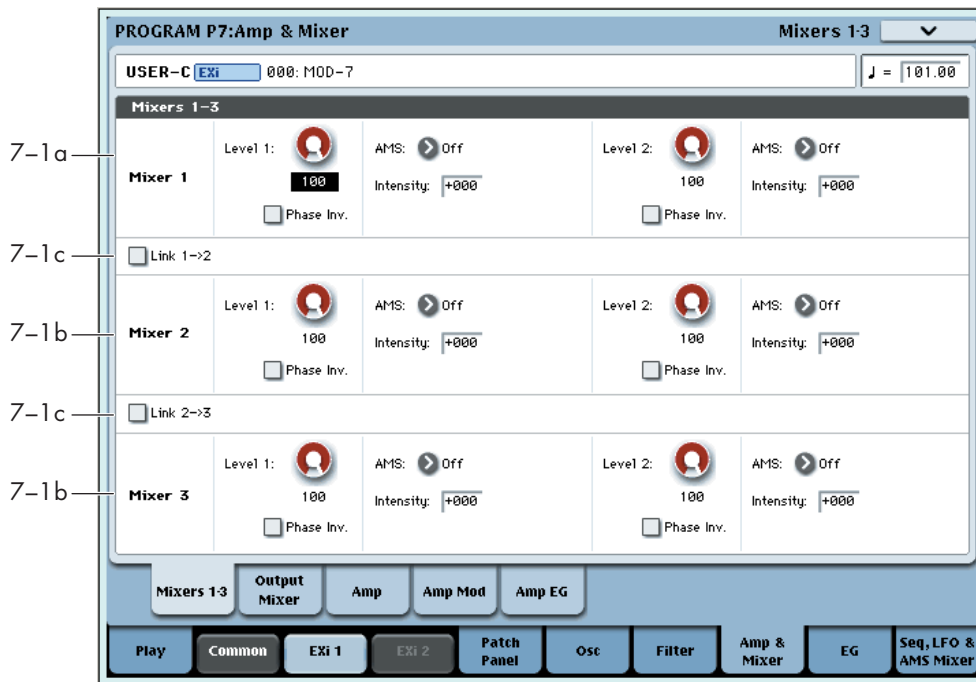
There is one exception: in the Filter A and B **EG Select** parameters, you can select any of the MOD-7 envelopes: EG1...EG9, plus the Amp EG.

6-4: Filter LFO Mod

The Filter LFO Mod page is identical to that of the AL-1. For detailed information, see "5-4: Filter LFO Mod" on page 195.

Program P7: Amp

7-1: Mixers 1-3



Overview

These are the three 2-in, 1-out mixers on the Patch Panel. They can be used for mixing signals together, or for additional control of volume and phase. All input levels can be modulated via AMS.

Tip: using a VPM Oscillator as a mixer

The three mixers should be sufficient for almost all purposes. In a pinch, however, you can also create a mixer out of an unused VPM Oscillator. To do so, set the Mode to Waveshaper, and set the Table to Linear. Note that this has a much higher CPU cost than a normal mixer.

Tip: creating splits between elements

You can easily create a keyboard or velocity split between two different sounds within a single MOD-7 patch. To do so:

1. Create the two elements of the patch.
For instance, three VPM oscillators creating a bell timbre, and three others creating a pad.
2. Route the two elements to two inputs of any mixer.
You can use one of Mixers 1-3, or the main mixer.
3. On the mixer, set input 1's level to 100, and input 2's level to 0.
4. Set an AMS Mixer to Gate.
5. In the AMS Mixer, set the Source to Note Number to create a keyboard split, or to Velocity or Exp Velocity to create a velocity split.
6. Set both the Below and At & Above outputs to fixed values; 00 for below, 99 for above.

7. The Threshold controls the split point; set it as desired.

When the Source is set to Note Number, a Threshold of 00 is middle C.

8. Assign the output of the AMS Mixer to modulate the two mixer inputs from step (1).
9. Set the AMS Intensity to -100 for input 1, and +100 for input 2.

Now, if the input is below the Threshold, input 1 will be heard; if the input is above the Threshold, input 2 will be heard.

7-1a: Mixer 1

Input 1

Level [0...100]

This controls the volume level for input 1.

Phase Invert [Off, On]

This inverts the phase of input 1.

AMS [List of AMS Sources]

This selects the main modulation source for controlling the Level. For a list of AMS sources, see "Alternate Modulation Source (AMS) List" on page 1021.

Intensity [-100...+100]

This controls the depth and direction of the Level modulation.

Input 2

The controls for Input 2 are the same as those for "Input 1," above.

7-1b: Mixers 2 and 3

The controls for Mixers 2 and 3 are the same as those for "7-1a: Mixer 1," above.

7-1c: Link buttons

The Link buttons let you combine two or three of the mixers together, cascading the output of one into the next.

To create a 4-in, 1-out mixer, use either of the Link buttons. To create a 6-in, 1-out mixer, use both of them.

Internally, Mixers 2 and 3 have a third input dedicated to the Link function. This input is unity gain only, without a volume control.

Link 1->2 [Off, On]

This merges the output of Mixer 1 into the output of Mixer 2.

Link 2->3 [Off, On]

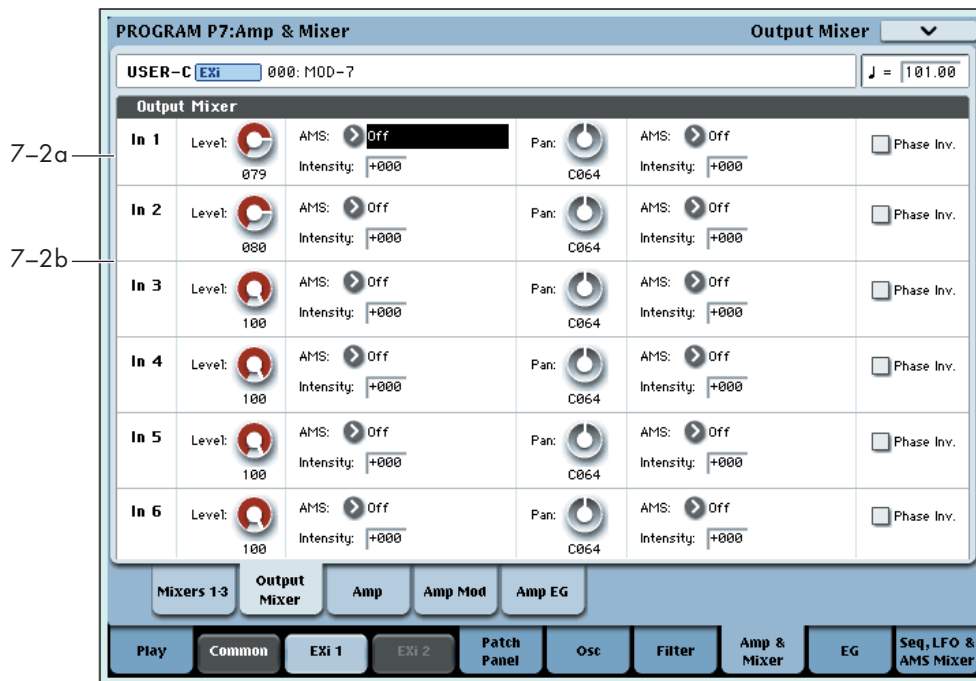
This merges the output of Mixer 2 into the output of Mixer 3.

▼ 7-1: Page Menu Commands

The number before each command shows its ENTER + number-key shortcut. For more information on these shortcuts, see "ENTER + 0-9: shortcuts for menu commands" on page 142.

- **0: Write Program.** For more information, see "Write Program" on page 142.
- **1: Exclusive Solo.** For more information, see "Exclusive Solo" on page 142.

7-2: Main Mixer



The Main Mixer is a 6-in, stereo-out mixer, which takes signals from the Patch Panel and routes them to the Amp section.

Important: In order to hear the output of any block on the Patch Panel, including the VPM Oscillators, the PCM Oscillator, the Noise Generator, the Audio Input, and the Filters, the signal must eventually be patched into the Main Mixer.

In the Main Mixer, you can:

- Control the volume level, pan, and phase for each of the six inputs
- Modulate volume levels and pan via AMS.

7-2a: Input 1

Level [0...100]

This controls the volume level for Input 1.

AMS [List of AMS Sources]

This selects an AMS source to control the **Level**. For a list of AMS sources, see "Alternate Modulation Source (AMS) List" on page 1021.

Intensity [-100...+100]

This controls the depth and direction of the **Level** AMS modulation.

Pan [L000...C064...R127]

This controls the input's stereo pan. A setting of L000 places the sound at the far left, C064 in the center, and R127 to the far right.

AMS [List of AMS Sources]

This selects an AMS source to modulate **Pan**. For a list of AMS sources, see "Alternate Modulation Source (AMS) List" on page 1021.

Intensity [-127...+127]

This controls the depth and direction of the AMS modulation for **Pan**.

For example, if **Pan** is set to C064 and **AMS** is set to Note Number, **positive (+)** intensities will cause the sound to move toward the right as you play higher than C4, and toward the left as you play lower than C4.

Negative (-) intensities will have the opposite effect.

Phase Invert [Off, On]

This inverts the phase of Input 1.

Tip: Creating random panning

Mixer inputs have no random pan setting per se. However, you can create this effect easily using AMS. To do so:

1. Set the input's Pan to C064.

2. Set the Pan AMS Intensity to +64.

3. Assign an unused LFO to Pan AMS.

Next, make the following settings in the LFO:

4. Enable the Key Sync check-box.

5. Set the Waveform to Random 1.

6. Enable the Stop check-box.

Stop makes the LFO generate a single value at note-on, and then hold that value. Now, the input will have a different random pan position each time you play a note.

7-2b: Inputs 2...6

The controls for Inputs 2 through 6 are the same as those for Input 1, above.

▼ 7-2: Page Menu Commands

The number before each command shows its ENTER + number-key shortcut. For more information on these shortcuts, see "ENTER + 0-9: shortcuts for menu commands" on page 142.

- 0: **Write Program**. For more information, see "Write Program" on page 142.
- 1: **Exclusive Solo**. For more information, see "Exclusive Solo" on page 142.

7-3: Amp

The Amp page is identical to that of the STR-1. For detailed information, see "6-1: Amp" on page 273.

7-4: Amp Modulation

The Amp Modulation page is identical to that of the STR-1. For detailed information, see "6-2: Amp Modulation" on page 274.

7-5: Amp EG 

The Amp EG interacts with the Amp and Amp Modulation settings to control the overall volume of the MOD-7. This EG always affects that overall volume, but it can also be used as an EG and AMS source elsewhere in the MOD-7.

The Amp EG is almost identical to EGs 1-9, with the following exceptions:

- Levels can only be positive.
- The Amp EG cannot be reset after it has entered its release phase.

For more information, please see "8-1: EG 1" on page 370.

Program P8: EG 1–9

The MOD-7 has nine assignable EGs, in addition to the Amp EG. Each of these can be used as an AMS modulation source to control a wide variety of parameters.

By default, EGs 1–6 are assigned to Output Level on VPM Oscillator 1–6, EG 7 is assigned to Output Level on the PCM Oscillator, and EG 8 is assigned to Filter A Cutoff.

These EGs are similar to those of the AL-1, but with slightly simplified AMS modulation, **Sustain Level** modulation, and a new parameter: **Trigger at Note-On**.

8–1: EG 1 AMSource

The EGs, or Envelope Generators, let you create complex, time-varying changes to AMS-modulatable parameters. The controls on this page specify the shape of the EG. Among other things, you can:

- Create the basic EG shape by setting the levels and times of each segment.
- Control the curvature of each EG segment, for subtle control over the sound of the EG.
- Set up complex modulation of EG levels and times.
- Set up an AMS source, such as an LFO, to restart the EG.

One thing that you can't do on this page is to control how much effect the EG has on the parameters it modulates. To do that, you'll need to adjust the AMS intensities on the pages for the individual parameters.

8–1a: EG Reset

AMS

[List of AMS Sources]

This selects an AMS source to reset the EG to the start point. For instance, you can use a tempo-synced LFO to trigger the EG in a repeating rhythm. This reset is in addition to the initial note-on, which always causes the EG to start.

For a list of AMS sources, see “Alternate Modulation Source (AMS) List” on page 1021.

Threshold

[-99...+99]

This sets the AMS level which will trigger the EG reset. Among other things, you can use this to adjust the exact point in an LFO's phase at which the EG will be reset, effectively controlling its “groove” against other rhythmic effects.

When the threshold is **positive**, the EG triggers when passing through the threshold moving upwards. When the threshold is **negative**, the EG triggers when passing through the threshold moving downwards.

Note: with some LFO shapes, and with faster LFO speeds, the LFO may not always reach the extreme values of +99 or -99. In this case, setting the **Threshold** to these values may cause inconsistent behavior, or may mean that the EG doesn't reset at all. If this happens, reduce the **Threshold** until the EG triggers consistently.

Trigger at Note-On

[Check-box]

On means that the EG will start automatically at note-on. This is the default.

Off means that the EG will only start when triggered via the selected AMS source. This is useful for delayed EGs, or triggered effects such as those described below.

Note: even when this is set to **Off**, if the selected AMS trigger source is above the threshold at note-on, then the EG will trigger instantly.

Tip: Multiple Rhythmic Envelopes via the Step Sequencer

1. Set up several EGs with **Trigger at Note-On** set to **Off**, and the trigger AMS source set to the per-voice Step Sequencer.
2. Set each EG to use a different threshold value, so that the first to trigger has a low threshold, the next to trigger has a slightly higher threshold, and so on.

You can then use the Step Sequencer to trigger each EG at a specified time, synced to tempo. For complex rhythmic variations, you can then loop the Step Sequencer, modulate its start point, and reset the Step Sequencer from another AMS source.

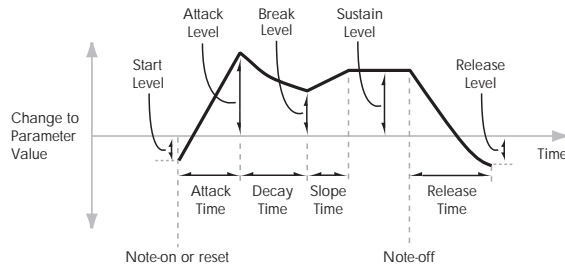
Tip: Multiple Rhythmic Envelopes via LFOs

1. Set up several EGs with **Trigger at Note-On** set to **Off**, and the trigger AMS source set to one or more LFOs.
2. Set the LFO(s) to sync to tempo, with a large note value (such as a whole note).
3. Set the LFO waveform(s) to **Triangle**.
4. Using the same trick as above, set the EG's thresholds to different levels.

You could also use this method with non-tempo-synced LFOs and slow EGs, to create gentle, evolving sounds.

8–1b: Envelope

EG



Envelopes create a modulation signal by moving from one level to another over a specified time, and then moving to another level over another period of time, and so on.

The parameters below let you set five levels, the amount of time it takes to go from each of the levels to the next, and the shape (from linear to curved) of each transition.

Level

Each of the five levels can be either positive or negative.

Positive levels will make the cutoff frequency (or other AMS destination) go up from its programmed value; **negative** levels will make it go down.

Start [-99...+99]

This sets the initial EG level, at note-on.

Attack [-99...+99]

This sets the level at the end of the Attack time.

Break [-99...+99]

Break, short for Break Point, sets the level at the end of the Decay time.

Sustain [-99...+99]

This sets the level at the end of the Slope time. Once it reaches the Sustain level, the EG will stay there until note-off, unless it is reset via AMS.

Release [-99...+99]

This sets the level at the end of the Release time.

Time

Higher values mean longer times, as shown below:

EG Value	Actual Time
00	0.667 ms
10	10 ms
20	44 ms
30	104 ms
40	224 ms
50	464 ms
60	944 ms
70	1.8 seconds
80	3.8 seconds

EG Value	Actual Time
90	10.9 seconds
99	87.3 seconds

Attack [00...99]

This sets how long the EG takes to move from the Start level to the Attack level.

The minimum attack time is 2/3 of a millisecond—as fast as the most punchy of classic analog synths.

For the fastest possible attack time, you can set the Start level to +99; in this case, the EG will start instantaneously at its maximum value.

Decay [00...99]

This sets the time it takes to move from the Attack level to the Break level.

Slope [00...99]

This sets how long the EG takes to move from the Break level to the Sustain level. Once it reaches the Sustain level, the EG will stay there until note-off (unless it is reset via AMS).

Release [00...99]

This sets how long it takes the EG to move from the Sustain level to the Release level.

Curve

For the sake of simplicity, most of the diagrams in this manual show envelopes as being made out of straight lines. In actuality, though, envelopes are more likely to be made out of curves.

In other words, each segment's level will change quickly at first, and then slow down as it approaches the next point. This tends to sound better than straight, linear segments.

Classic analog synth envelopes made these curved shapes naturally. The OASYS goes a step further than vintage synths, however, and lets you control the amount of curvature separately for each of the four envelope segments.

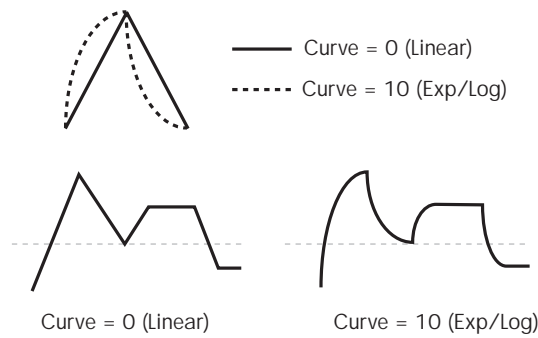
When you change the curvature, the EG times remain the same. However, greater curvature will tend to *sound* faster, because the value changes more quickly at the beginning.

Different curve settings for up and down

You may find that different amounts of curvature are suitable for segments which go up and segments which go down.

For instance, a curve of 3 is a good default setting for upward segments, such as Attack. On the other hand, a curve of 6 or more is good for downward segments, such as Decay and Release.

EG Curve



Attack [0 (Linear), 1...9, 10 (Exp/Log)]

This sets the curvature of the Attack segment - the transition from the Start level to the Attack level.

Decay [0 (Linear), 1...9, 10 (Exp/Log)]

This sets the curvature of the Decay segment - the transition from the Attack level to the Break level.

Slope [0 (Linear), 1...9, 10 (Exp/Log)]

This sets the curvature of the Slope segment - the transition from the Break level to the Sustain level.

Release [0 (Linear), 1...9, 10 (Exp/Log)]

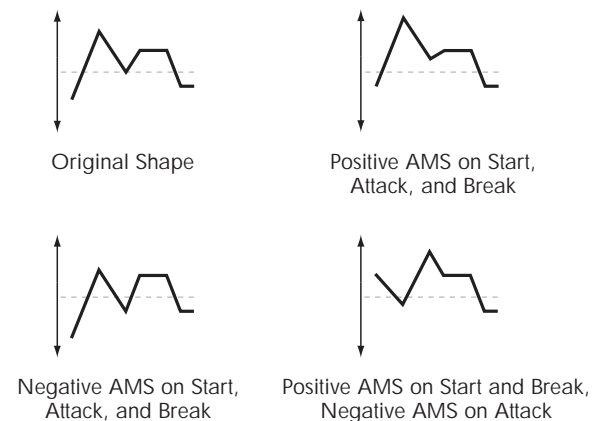
This sets the curvature of the Release segment - the transition from the Sustain level to the Release level.

8-1c: Level Modulation

These settings let you use an AMS source to control the Level parameters of the EG. The Start, Attack, Break, and Sustain levels share a single AMS source, but each has its own modulation intensity.

By using different settings for each of the four levels, you can cause both subtle and dramatic changes to the EG shape, as shown below.

EG Level Modulation



Once an EG segment begins, it can't be modulated

Once the EG has started a segment between two points, that segment can no longer be modulated. This includes both the time of the segment, and the level reached at the end of the segment.

For instance, if the EG is in the middle of the Decay time, you can no longer modulate either the Decay time or the Break level.

As another example, let's say that you've assigned the Common LFO to modulate Break Level. The LFO may be moving all the time, but the Break Level is only affected by the LFO's value at the instant that the Decay segment starts. After that, the level is fixed.

Finally, this also means that modulating the Start level, Attack level, or Attack time will not affect notes that are already sounding, unless the EG is then reset via AMS.

AMS [List of AMS Sources]

This selects an AMS source to control the EG's Level parameters.

For a list of AMS sources, see "Alternate Modulation Source (AMS) List" on page 1021.

Start [-99...+99]

This controls the depth and direction of the AMS modulation for the Start level.

For example, if you set the AMS source to Velocity and set Start to +99, the Start level will increase as you play harder. If you instead set Start to -99, the Start level will decrease as you play harder.

Attack [-99...+99]

This controls the depth and direction of the AMS modulation for the Attack level.

Break [-99...+99]

This controls the depth and direction of the AMS modulation for the Break level.

Sustain [-99...+99]

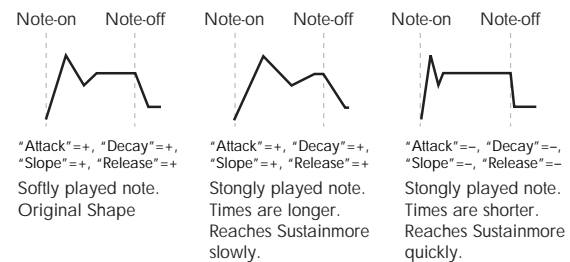
This controls the depth and direction of the AMS modulation for the Sustain level.

8-1d: Time Modulation

These settings let you use an AMS source to control the Time parameters of the EG. The Attack, Decay, Slope, and Release times share a single AMS source, but each has its own modulation intensity.

EG Time Modulation

AMS=Velocity, Intensity = a positive (+) value



AMS [List of AMS Sources]

Selects the AMS source to control the EG's Time parameters. Velocity and Keyboard Track can both be useful here, for instance.

For a list of AMS sources, see "Alternate Modulation Source (AMS) List" on page 1021.

Attack [-99...+99]

This controls the depth and direction of the AMS modulation for the Attack time.

When the AMS source is at its maximum value—for instance, when Velocity is at 128—a setting of +8 will make the segment time almost twice as long, and a setting of -8 will cut the segment time almost in half.

For example, if you set the AMS source to Velocity and set Attack to +99, the Attack time will get much longer at higher velocities. If you instead set Attack to -99, the Attack time will get much shorter at higher velocities.

Decay [-99...+99]

This controls the depth and direction of the AMS modulation for the Decay time.

Slope [-99...+99]

This controls the depth and direction of the AMS modulation for the Slope time.

Release [-99...+99]

This controls the depth and direction of the AMS modulation for the Release time.

▼ 8–1: Page Menu Commands

The number before each command shows its ENTER + number-key shortcut. For more information on these shortcuts, see “ENTER + 0-9: shortcuts for menu commands” on page 142.

- 0: **Write Program**. For more information, see “Write Program” on page 142.
- 1: **Exclusive Solo**. For more information, see “Exclusive Solo” on page 142.
- 2: **Copy Envelope**. For more information, see “Copy Envelope” on page 216.
- 3: **Swap Envelope**. For more information, see “Swap Envelope” on page 216.

8–2: EG 2 

8–3: EG 3 

8–4: EG 4 

8–5: EG 5 

8–6: EG 6 

8–7: EG 7 

8–8: EG 8 

8–9: EG 9 

The MOD-7’s EGs 2 through 9 are identical to EG1. For detailed explanations, please see “8–1: EG 1” on page 370.

Program P9: Step Sequencer, LFO 1-4, and AMS Mixers

The MOD-7 has one per-voice Step Sequencer and four assignable LFOs, in addition to the EXi Program's Common LFO and Common Step Sequencer. Each of these can be used as an AMS modulation source to control a wide variety of parameters.

There are also eight AMS Mixers: four full-functioned, and another four which support only the **A+B** and **Amt AxB Mixer Types**.

9-1: Step Sequencer AMSource

The MOD-7's Step Sequencer identical to that of the AL-1. For detailed explanations, please see "8-1: Step Sequencer," on page 207.

9-2: LFO 1 AMSource

9-3: LFO 2 AMSource

9-4: LFO 3 AMSource

9-5: LFO 4 AMSource

The MOD-7's LFOs 1, 2, 3, and 4 are identical to those of the AL-1. For detailed explanations, please see "8-2: LFO 1," on page 209.

9-6: AMS Mixers 1-2 AMSource

9-7: AMS Mixers 3-4 AMSource

The MOD-7's AMS Mixers 1 through 4 are identical to those of the AL-1. For detailed explanations, please see "9-1: AMS Mixer," on page 213.

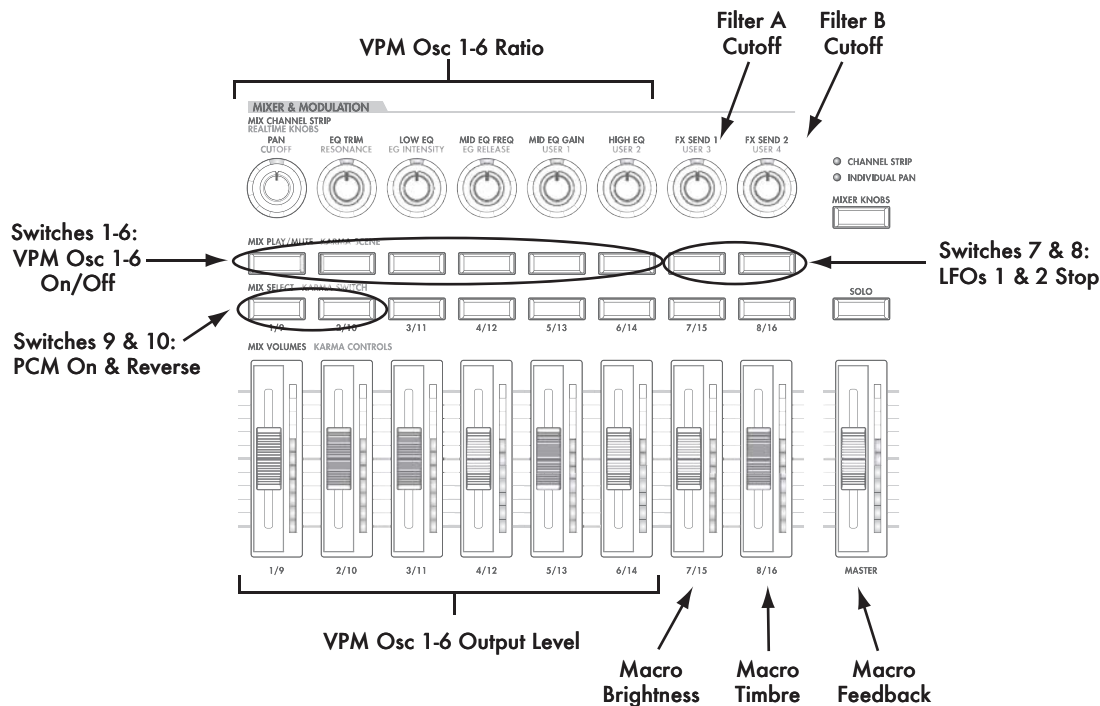
9-8: AMS Mixers 5-6 AMSource

9-9: AMS Mixers 7-8 AMSource

The MOD-7's AMS Mixers five through 8 are similar to those of the AL-1, but support only the **A+B** and **Amt AxB Mixer Types**. For detailed explanations, please see "9-1: AMS Mixer," on page 213.

MOD-7: Tone Adjust

MOD-7 Tone Adjust Default Settings



Tone Adjust provides an elegant physical interface to the MOD-7's parameters. Most of the factory sounds use the default layout, as shown above. You can also customize the layout for individual sounds, if desired. For more information about Tone Adjust, please see "0-9f: Tone Adjust," on page 26.

Common Tone Adjust parameters

Except as noted below, the Common Tone Adjust parameters behave as described under "Common Tone Adjust Parameters," on page 28.

Filter/Amp EG Attack Time.
(-99...+99, CC#73)

This scales the attack time of EG8 and the Amp EG. It interacts with CC# 73.

Filter/Amp EG Decay Time.
(-99...+99, CC#75)

This scales the decay time of EG8 and the Amp EG. It interacts with CC# 75.

Filter/Amp EG Sustain Level.
(-99...+99, CC#70)

This scales the sustain levels of EG8 and the Amp EG. It interacts with CC# 70.

Filter/Amp EG Release Time.
(-99...+99, CC#72)

This scales the release time of EG8 and the Amp EG. It interacts with CC# 72.

Filter EG Attack Time, Decay Time, Sustain Level, and Release Time apply to EG8.

Pitch EG Attack Time, Decay Time, Sustain Level, and Release Time are not supported by the MOD-7.

MOD-7 Tone Adjust parameters

In addition to the Common Tone Adjust parameters listed above, the MOD-7 adds a number of its own parameters.

Note that these additional parameters are separate for each EX_i, as opposed to being shared by both EX_i in the Program.

All of the additional parameters are listed below. Tone Adjust parameters may affect the internal parameters in one of two ways: they may be **Relative**, in which case they scale the existing parameter value, or **Absolute**, in which case they over-write the existing value. Unless otherwise noted, all of the MOD-7 parameters are **Absolute**.

The full name of the currently selected parameter is shown in the status line at the top of the Control Surface page, as well as in the popup menu. Some parameters with longer names may show an abbreviation for the slider, knob, and switch labels.

Macro Parameters

- Brightness
- Brightness Vel Sens
- Timbre
- Feedback
- Detune

Noise

- Saturation
- Filter Freq

PCM Oscillator

On/off
MS Select
MS Bank
MS Min
MS Max
Start Offset
Reverse
Transpose
Tune

VPM Oscillators 1...6

On/off
Mode
Feedback
Ratio
Table

Drive
Output Level

Filters A and B

Type
Cutoff
Resonance
EG Int
LFO Int

LFOs

In addition to supporting the standard Tone Adjust LFO parameters, the MOD-7 adds the following separate controls:

- LFO 1 through 4 Waveform
- LFO 3 and 4 Speed

Step Sequencer

Attack Smoothing
Decay Smoothing

MOD-7: Page Menu Commands

Copy VPM Oscillator

This command copies all the parameters of one VPM Oscillator to another VPM Oscillator. A dialog box allows you to select the source and destination Oscillators, within the current Program.

Swap VPM Oscillators

This command swaps all of the parameters between two VPM Oscillators, like copying each to the other in a single step. Note that it does not automatically copy any Patch Panel connections; you'll need to do that manually, if necessary.

For instance, let's say that you've created a custom algorithm bit by bit, and you end up with two chains of Modulators and Carriers:

VPM Osc 1->VPM Osc 2->VPM Osc 6

VPM Osc 4->VPM Osc 5->VPM Osc 3

To make the algorithm easier to understand, you might want to do the following:

1. Use the Swap VPM Oscillator command to swap the parameters of VPM Osc 3 and VPM Osc 6.
2. Manually correct the Patch Panel connections to VPM Osc 3 and 6, as necessary.

Combination mode

Combination P0: Play

This is the main page of Combination mode. Among other things, you can:

- Select combinations
- Edit the KARMA function in simple ways
- Make audio input and resampling settings for use in Combination mode
- Use the control surface

Auto Song Setup

The Auto Song Setup feature copies the current Program or Combination into a Song, and then puts the OASYS in record-ready mode.

If inspiration for a phrase or song strikes you while you're playing, you can use this function to start recording immediately. To do so:

1. **Hold down the ENTER key and press the SEQUENCER REC/WRITE key.**

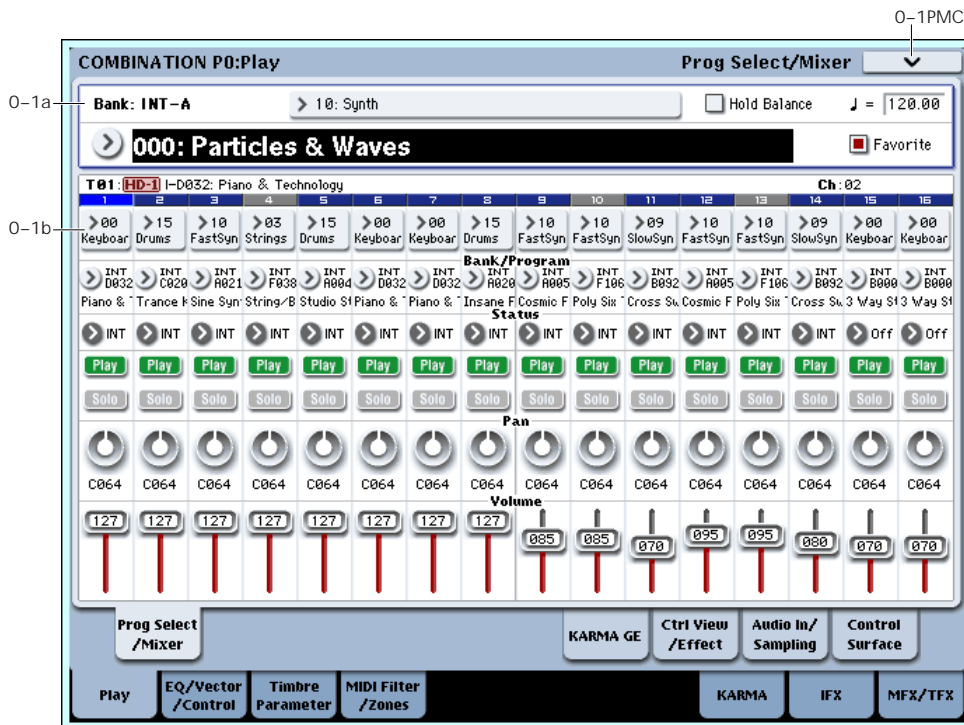
The Setup to Record dialog box will open and ask "Are you sure?"

2. **Press OK.**

You will automatically enter Sequencer mode, and will be in the record-ready state.

3. **Press the START/STOP key to start the sequencer and begin recording.**

0-1: Program Select/Mixer



This is the main page for selecting and playing Combinations. You can also set the Program, status, pan, and volume for each of the 16 Timbres.

Tip: Wherever you are in the Combination mode pages, pressing EXIT three times (or fewer) will take you back to this page, and select the Combination name. You can then immediately use the numeric keys or Δ/∇ switches to select a different Combination.

For instance, if you're on any page other than P0: Play:

- Press it once to go to the previously-selected tab on the main P0 page, such as Control Surface or Prog Select/Mixer.
- Press it again to go to the first tab on the main P0 page—the main Combination Play page. If you had

previously selected a parameter on this page, that parameter will be selected.

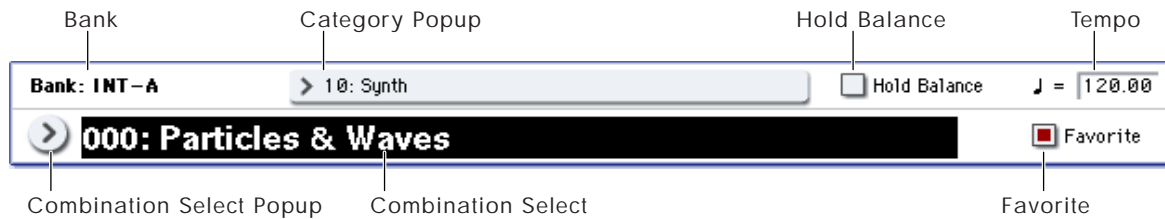
- Press it a third time to select the main Combination name parameter.

0-1a: Combination Select

Bank [INT-A...INT-G, USER-A...USER-G]

This indicates the currently selected combination bank.

Press one of the BANK SELECT INT A – USER G switches to select the desired bank.



Each bank contains rewritable combination program areas for 128 combinations (a total of 1,792).

Bank	No.	Description
INT-A...C	000...127	Preloaded combinations
INT-D...G, USER-A...G	000...127	User combinations

Note: Pressing one of the BANK SELECT INT A–USER G switches while the **Program Select** parameter is selected in this page will change the timbre program bank (rather than the combination bank).

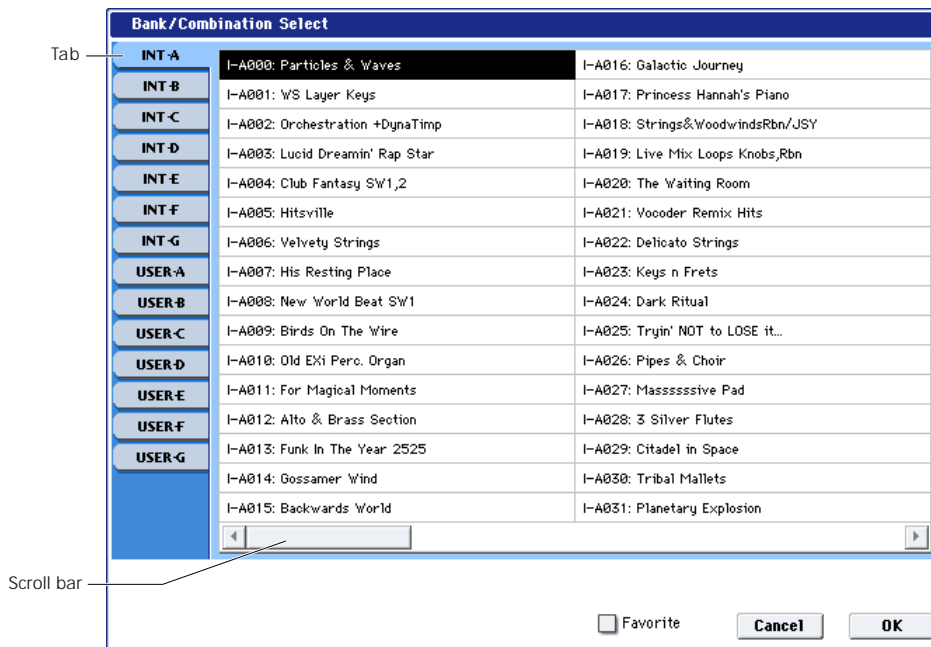
Combination Select [000...127]

Here you can select the desired Combination.

To switch combinations

- Choose “Combination Select,” use numeric keys 0–9 to input the desired combination number, and press the ENTER switch.
- Choose “Combination Select” and turn the VALUE dial or use the Δ/∇ switches.

Bank/Combination Select menu



Bank/Combination Select

- Press the popup button located at the left of “Combination Select” to access the Bank/Combination Select menu.
- Press one of the tabs at left to select a bank.
- Select a combination from the list. You can directly press your choice within the list, or use the Δ/∇ switches.

Note: On this page only, the VALUE slider functions as a modulation source - which means that you can't use it to select combinations.

- If the “0–1a: Combination Select” parameter is selected, the BANK SELECT INT A–USER G switches will switch combination banks.
- From the Bank/Combination Select menu you can view and select combinations by bank.
- From the Category/Combination Select menu you can view and select combinations by category.
- In the Bank/Combination Select menu or Category/Combination Select menu, you can use the Favorite function to view and select combinations whose “Favorite” setting is on.
- You can use a foot switch to select combinations. For more information, see the Global parameter “Foot Switch Assign” on page 717. For a list of the functions that can be assigned to the footswitch, see “Foot Switch Assignments” on page 1035.
- You can transmit MIDI program changes from a connected external MIDI device.

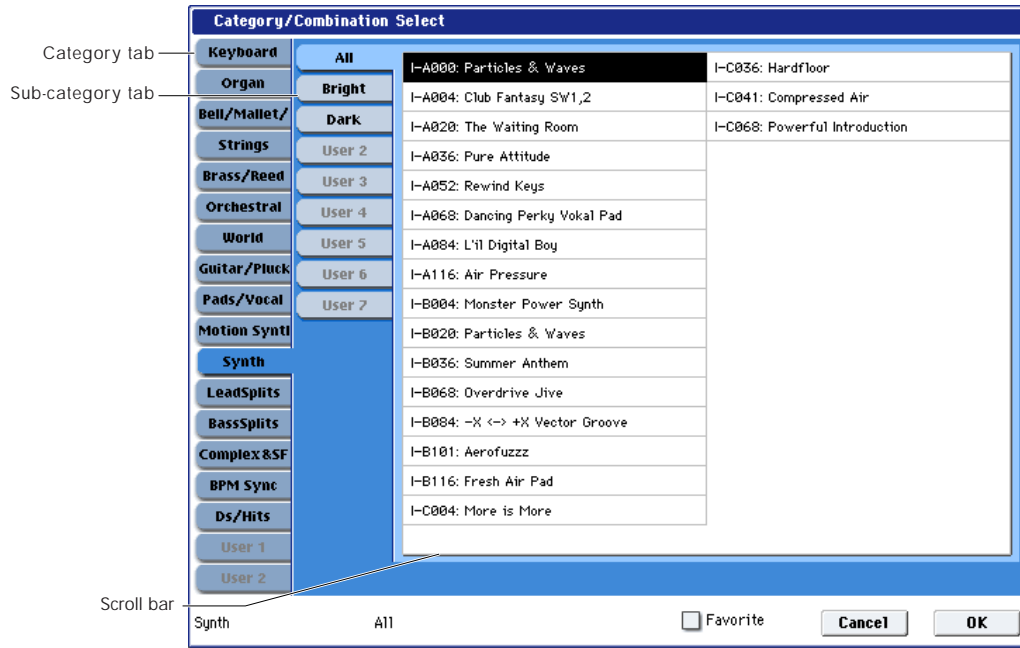
If the screen cannot display all of the available items, use the scroll bar.

- If you check “Favorite” in the menu, the combinations you marked as Favorites will be shown.

If the selected bank contains no combinations for which Favorite is turned on, this cannot be chosen.

- Press the OK button to execute, or press the Cancel button to cancel your selection.

Category/Combination Select menu



Category/Combination Select

You can select combinations by category and sub-category. All combinations are organized into up to eighteen categories, and each category is further organized into eight sub-categories. You can use these categories and sub-categories to select combinations.

1. Press "Category/Combination Select" to display the menu.
2. Press a tab in the left-most column to select a category. You cannot choose a category tab to which no combinations have been assigned.
3. Press a tab in the second from left column to select a sub-category.

All: All combinations in the category will be shown. Choose this when you don't need to use sub-categories.

0...7: The combinations will be shown by sub-category.

You cannot select the tab of a sub-category to which no combinations have been assigned.

Select a combination from the list. You can directly press your choice within the list, or use the Δ/∇ switches.

If there are more combinations than can be shown in the screen, use the scroll bar to see the remaining combinations.

4. If you check "Favorite" in the menu, the combinations you marked as Favorites will be shown.
You cannot select this if no combinations in the selected category are marked as Favorites.
5. Press the OK button to execute, or press the Cancel button to cancel your selection.

Note: The category of each combination can be specified in the "Write Combination" dialog box.

Favorite

[Off, On]

On (checked): Turns on the Favorite setting for combinations. Only combinations that you marked as favorites will be shown and can be selected in the Bank/Combination Select menu and Category/Combination Select menu. If you mark frequently-used combinations as Favorites (i.e., check the Favorite setting for those combinations), it will be easy to find them later.

Note that you must write the Combination in order to save changes to this setting.

♪ (Tempo)

[040.00...240.00, EXT]

This is the tempo for the current Combination, which applies to tempo-synced LFOs and Wave Sequences, the Vector EG, EXi Step Sequencers, KARMA, and tempo-synced effects.

EXT means that the tempo will sync to external MIDI clocks. You'll see this if the Global MIDI page **MIDI Clock** parameter is set to **External MIDI**, or if it's set to **Auto** and the OASYS is currently receiving MIDI clocks. For more information, please see "MIDI Clock (MIDI Clock Source)" on page 710.

040.00...240.00 allow you to set a specific tempo in BPM, with 1/100 BPM accuracy. In addition to using the standard data entry controls, you can also just turn the TEMPO knob, or by playing a few quarter-notes on the TAP TEMPO button.

Hold Balance

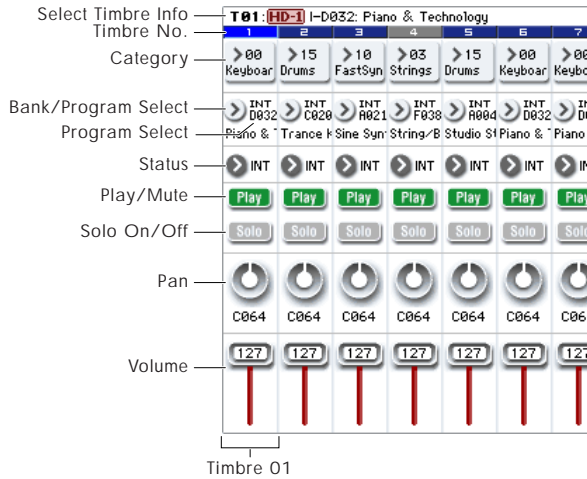
[Off, On]

On (checked): When any one of the volume sliders is moved, the volume of the other timbres will change as well. The volume balance of timbres 1-16 will be maintained. This is useful when you wish to adjust the overall volume.

0-1b: Timbre Program Select

Selected Timbre Info

This area shows information on the timbre selected for editing. T: Timbre number/program bank/number/name, Ch: MIDI channel/number.



Gray color and [Inactive] warning in Timbre Info

Normally, the numbers for un-selected Timbres use a dark blue background, and a light blue background highlights the selected Timbre.

If the background is gray, instead, this means that the maximum amount of EXi Fixed Resources has been exceeded, and the EXi Program assigned to the Timbre will be muted and inactive. In this case, the Selected Timbre Info will also show the warning [Inactive] after the Program's name.

For more information on this subject, including ways to get more out of the system, see "CX-3 & STR-1: Limitations on EXi fixed resources" on page 382.

Timbre 01 (Timbre Number)

This indicates the timbre number. Below each timbre number are shown various parameters which you can edit for that timbre.

Category (Timbre Program) [00...17]

Here you can select the program used by each timbre by program category and sub-category. All programs are organized into up to eighteen categories and eight sub-categories.

Press this popup button to get the Category/Program Select menu, then select the desired category and sub-category, and finally select the desired program.

Category/Program Select

1. Press "Category" to get the Category/Program Select menu.
2. Press a tab in the left-most column to select a category. You can't select the tab for a category if no programs are assigned to that category.
3. Press a tab in the second from left column to select a sub-category.

All: All programs in the category will be shown. Choose this if you don't need to see sub-categories.

0...7: The programs will be shown by sub-category. You can't select the tab for a sub-category if no programs are assigned to that sub-category.

Select the desired program from the list. You can directly press a program in the list, or use the Δ/∇ switches.

If there are more programs than can be shown in the screen, use the scroll bar to see the remaining programs.

4. If you check "Favorite" in the menu, the programs you marked as Favorites will be shown.

You cannot select this if no programs in the selected category are marked as Favorites.

5. Press the OK button to execute, or press the Cancel button to cancel your selection.

Program Select [INT-A...F, USER-A...G: 000...127 G, g(1)...g(9), g(d): 001...128]

Here you can select the program used by each timbre. The lower line displays part of the program name.

To switch the program of a timbre

- Choose Program Select, use numeric keys 0-9 to input the program number, and press the ENTER switch.
- Choose Program Select and turn the VALUE dial or use the Δ/∇ switches.
- If the Program Select parameter is selected, the BANK I-A-U-G switches will switch program banks. (If Timbre Program Select is selected, the BANK switch LED of the program bank selected for that timbre will light.)
- From the Bank/Program Select menu you can view and select programs by bank.
- From the Category/Program Select menu you can view and select programs by category.
- In the Bank/Combination Select menu or Category/Program Select menu, you can use the Favorite function to view and select programs whose "Favorite" setting is check.
- You can transmit MIDI program changes from a connected external MIDI device.

MIDI When you select a Combination on the OASYS, a MIDI program change for the selected combination number will be transmitted on the global MIDI Channel (Global 1-1a). At the same time, bank select, program change, and volume (CC#7) messages will be transmitted on the MIDI channel specified for each timbre whose Status (0-1b, 2-1a) is set to EXT or EX2. However, these messages will not be transmitted for timbres that are set to the same MIDI channel as the global MIDI channel. In this case, EX2 timbres will show the "Program" Bank as "-", and will transmit the bank number that was specified in "Bank Select" (2-1a).

When you play on the OASYS keyboard and controllers, MIDI messages are transmitted on the global MIDI channel. At the same time, timbres whose Status is set to EXT or EX2 will transmit the same messages on their own MIDI channel.

If bank select and program change messages are received on a MIDI channel that matches the MIDI channel of a timbre whose **Status** is INT, the program of that timbre will change. However if the MIDI channel of the incoming message matches the global MIDI channel “MIDI Channel,” then the combination will change.

If you do not want the combination to change, you can either change the global MIDI channel so that it does not match the channel on which the program change messages are being received, or you can uncheck “Combination Change” (Global 1–1c). You can also uncheck “Bank Change” so that only the program number will change and the bank will remain the same.

If you wish to change the program assigned to certain timbres without changing the combination, you can also set **Enable Program Change** (3–1a) so that the program will change on certain timbres but not on others.

Bank/Program Select

1. Press the popup button at the left of Program Select to get the Bank/Program Select menu.
2. Press the left tab to select a bank.
3. Choose the desired program from the list. You can directly press a program in the list, or use the Δ/∇ switches.

If there are more programs than can be shown in the screen, use the scroll buttons to see the remaining programs.

4. If you check “Favorite,” only the programs you marked as Favorites will be shown.

You cannot select this if no programs in the selected bank are marked as Favorites.

5. Press the OK button to execute, or press the Cancel button to cancel your selection.

Status [Off, INT, EXT, EX2]

This sets whether the Timbre controls the internal sounds, or external MIDI devices.

When controlling external MIDI devices, it also allows you to choose between using the internal Bank Select numbers (as set by the front-panel buttons), or using custom Bank Select settings to match the external device.

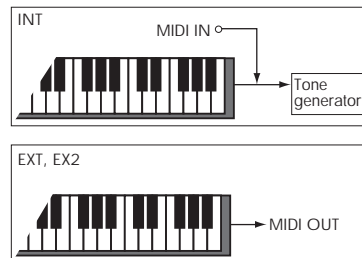
Off: Use this to disable the Timbre. With this setting, the Timbre’s Program will not sound, and MIDI data will not be transmitted. Also, any EXi fixed resources used by the Program will be freed.

INT: Use this to make the Timbre play internal sounds. With this setting, the Timbre’s Program will respond to both the local keyboard and MIDI input on the Timbre’s MIDI channel. The Timbre will not transmit MIDI data.

EXT: Use this to play an external MIDI device, with Bank Select via the front-panel Bank buttons. With this setting, the Timbre’s Program will not respond to either the local keyboard or MIDI input. MIDI will be transmitted to external devices on the selected MIDI channel.

EX2: Use this to play an external MIDI device, with custom-set Bank Select via the **Bank Select LSB** and **MSB** parameters, on the **MIDI** tab of the **Timbre Parameters** page. In all other ways, this is the same as **EXT**.

For more information, see “Bank Select MSB (When Status = EX2)” on page 415.



Using the control surface to make timbre settings

You can use the control surface to edit the mix parameters for each Timbre, including PLAY/MUTE, Solo On/Off, Pan, Volume, FX sends, and EQ. These can also be controlled from the mixer section of the front panel, or from the P0– Control Surface page of the LCD screen.

For more information, see “Adjusting the mix” on page 76 of the Operation Guide.

Play/Mute [Mute, Play]

This setting mutes a timbre. The setting will alternate each time you press the Play/Mute button.

Mute: The timbre will not sound.

Play: The timbre will sound.

Tip: You can use the control surface to control this parameter. (“Using the control surface to make timbre settings” on page 381)

Solo On/Off [On, Off]

This setting switches the Solo function on/off.

Only timbres that are set to Solo On will be heard. Other timbres (and audio inputs: 0–8a) will be muted.

The setting will alternate each time you press the Solo button.

MIDI Timbres that have been silenced by the Mute or Solo functions will not transmit note-on/off messages on the MIDI channel assigned for their track when the timbre’s **Status** (2–1a) is BTH, EXT, or EX2.

The Solo function operates differently depending on the setting of the **Exclusive Solo** page menu command. If Exclusive Solo is off, you can turn Solo on for more than one timbre.

If Exclusive Solo is on, pressing a Solo button will turn Solo on for only that timbre.

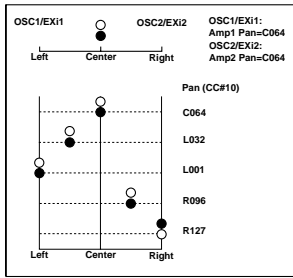
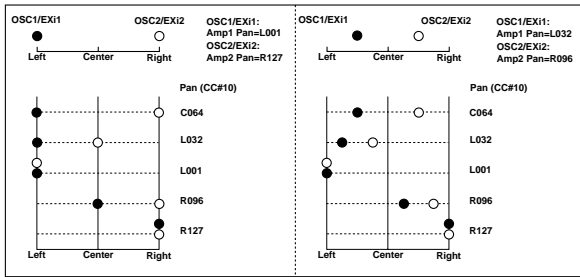
⚠ **Solo** settings are not preserved when you write a combination.

Tip: You can use the control surface to control this parameter. (“Using the control surface to make timbre settings” on page 381)

Pan [RND, L001...C064...R127]

This specifies the pan of each timbre.

L001...C064...R127: A setting of L001 is far left and R127 is far right. A setting of C064 will reproduce the pan setting of the Program mode.



If a mono insert effect is in use, the settings you make here will be ignored. In this case, the “Pan (CC#8)” parameter in P8– Insert FX page will adjust the panning of the sound after the insert effect (“Mixer” on page 804).

RND: The oscillator pan will change randomly at each note-on.

Tip: You can use the control surface to control this parameter. (“Using the control surface to make timbre settings” on page 381)

MIDI If **Status** (2–1a) is set to INT, CC#10 (pan) messages can be received to control the setting. CC#10 values of 0 or 1 will place the sound at far left, 64 at center, and 127 at far right. (exclude RND) Pan can be controlled by messages received on the **MIDI Channel** (2–1a).

Volume [000...127]

Adjusts the volume of each timbre 1–16.

Tip: You can use the control surface to control this parameter. (“Using the control surface to make timbre settings” on page 381)

MIDI The volume of each timbre is determined by multiplying this volume value with the MIDI volume (CC#7) and expression (CC#11).

If **Status** (0–1b, 2–1a) has been set to INT, incoming MIDI CC#7 or CC#11 messages will control the volume of a timbre. (However these messages will not affect the setting of this parameter.)

If **Status** is EXT or EX2, the value of this parameter will be transmitted as MIDI CC#7 when the combination is changed. However this will not be transmitted by a timbre that is set to the same MIDI channel as the global MIDI channel. This message is transmitted on the **MIDI Channel** (2–1a) specified for each timbre.

Timbre 02... 16 (Timbre Number)

Here you can specify the program etc. for each Timbre 2 through 16. These settings are the same as for Timbre 1, as described above.

CX-3 & STR-1: Limitations on EXi fixed resources

! OASYS processing power is shared between synthesizer voices and effects.

Synthesizer voices typically use *dynamic* resource allocation, so that they only use processing power when notes are being played. Effects, on the other hand, use *fixed* allocation; once you call up an effect in an IFX, MFX, or TFX slot, it always uses processing power, whether or not any audio is passing through it.

EXi with fixed resources

The HD-1 is completely dynamic, as are some EXi instruments, such as the AL-1. Others EXi may use a combination of fixed and dynamic allocation.

For instance, the CX-3 includes fixed elements—such as the built-in rotary speaker, amp, and vibrato chorus—along with dynamically allocated individual voices. These fixed elements take up a reasonable amount of processing power, while each additional voice uses only a small amount more.

The STR-1 uses a much smaller amount of fixed resources for its modeled feedback—about as much processing power as a single STR-1 voice.

Limits on usage of fixed resources

When you load an EXi which uses fixed resources, the fixed elements start using processing power immediately. This means that, as with effects, you can only load so many of them into a single Combination or Song.

To leave room for dynamic voices and effects, OASYS limits these fixed elements to a little over 35% of the total processing power. When this limit is reached, the system won’t let you load any more EXi with fixed elements. You’ll still be able to add effects, and load other HD-1 and EXi Programs.

For instance, you can use up to four CX-3s simultaneously, or sixteen STR-1s simultaneously, or a combination of the two (e.g., two CX-3s and eight STR-1s). For information on other EXi, see their documentation.

Each EXi in each Program counts towards the maximum. For instance, a Program which uses two CX-3s counts as two, not as one.

You can see the current amount of EXi fixed processing in the effects resource meter, shown at the top of the IFX Insert Effects and Track View tabs, as well as the MFX Routing tab. For more information, see “About effects resources” on page 787.

Gray Timbre/Track number, and [Inactive] shown after Program name

If you've already loaded Programs which use the maximum amount of EXi fixed resources, and then load additional Programs which require fixed resources, the newly added Programs will not sound.

To let you know that this has happened, the Timbre/Track number (at the top of the mixer channel) will turn gray, and the Selected Timbre/Track Info will show the warning [Inactive] after the Program name.

You can re-enable an inactive Program by removing or disabling other Programs which use EXi fixed resources. For instance:

1. Start with an empty Combination.
2. Load Program USER-F 000 Felix'sDaKat into Timbre 1 through 4.

This Program uses a single CX-3, so loading it into four separate Timbres uses up all of the available EXi fixed resources.

3. Load the same Program into Timbre 5.

Since there are no remaining EXi fixed resources, the Timbre number will turn gray, and the Program won't make any sound. Let's fix that:

4. Set Timbre 1's Status to Off
or
Change Timbre 1 to use an HD-1 or AL-1 Program (such as INT-A 000), instead of a CX-3.

This frees up the EXi fixed resources formerly used by Timbre 1; Timbre 5 will then return to its normal color, and its Program will make sound again.

These same steps will work with Tracks in Sequencer mode.

Use Program Changes to optimize resource usage

If you're using OASYS for multitimbral sequencing (with different Programs on different MIDI channels), you can optimize the EXi fixed resource usage by only having these Programs loaded when they are needed.

For instance, if you're playing a CX-3 only during the chorus of a song, you can use Program Change to switch that channel to an HD-1 or AL-1 Program during the verse.

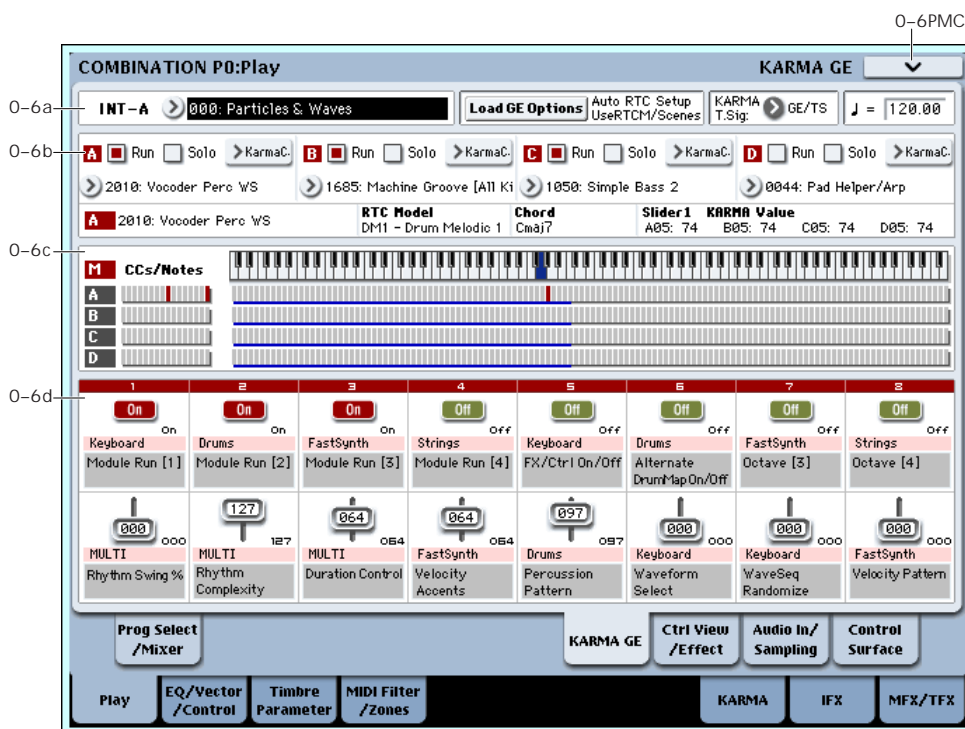
Neither the HD-1 nor the AL-1 uses fixed resources, so this will free up OASYS computing power. You can then use this power for more voices of other sounds, or for other EXi with fixed resources on different Timbres or Tracks.

▼ 0-1: Page Menu Commands

The number before each command shows its ENTER + number-key shortcut. For more information on these shortcuts, see "ENTER + 0-9: shortcuts for menu commands" on page 142.

- 0: **Write Combination.** For more information, see "Write Combination" on page 461.
- 1: **Exclusive Solo.** For more information, see "Exclusive Solo" on page 142.
- 1: **Copy From Program.** For more information, see "Copy From Program" on page 461.

0-6: KARMA GE



This page gives you an overview of the four KARMA Modules (A-D), and lets you make basic adjustments.

For more detailed editing of KARMA parameters, see "Combination P7: KARMA" on page 430.

The settings of the KARMA ON/OFF and LATCH switches, KARMA SCENES 1–8 switches, KARMA SLIDERS 1–8, and KARMA SWITCHES 1–8 are saved independently for each Combination.

0–6a: Combination Select, Load GE Options, KARMA T.Sig, Tempo

Bank [INT–A...INT–G, USER–A...USER–G]

Combination [0...127]

These are the bank, number, and name of the current Combination. For more information, see “0–1a: Combination Select” on page 377.

Load GE Options [Dialogue]

For more information, see “Load GE Options” on page 7.

KARMA T.Sig (KARMA Time Signature)
[GE,/TS, 1/4...16/4, 1/8...16/8, 1/16...16/16]

Please see “KARMA T.Sig (Time Signature)” on page 8.

♪ (Tempo) [040.00...240.00, EXT]

This is the tempo for the current Combination, which applies to tempo-synced LFOs, Wave Sequences, and Vector EGs, EXi Step Sequencers, KARMA, and tempo-synced effects.

EXT means that the tempo will sync to external MIDI clocks. For more information, see “Tempo” on page 379.

040.00...240.00 allow you to set a specific tempo in BPM, with 1/100 BPM accuracy.

0–6b: GE Select

The phrases and patterns produced by a KARMA Module are generated by a **GE (Generated Effect)**. Based on input note data from the keyboard, the GE creates phrases and patterns using numerous internal parameter settings to control the development of the note data, the rhythm, the chord structure, the velocity etc. MIDI control changes and pitch bend etc. can also be generated in synchronization with the phrase or pattern. In this way you can produce phrases and patterns in which the GE freely varies the tone or pitch.

A (Module A)

Run [Off, On]

Turns on the selected Module(s). When off, the Module (s) may still playing, but they are muted. In this case, turning Run on allows the Module to resume playback from its present location. The Run settings are stored with the combination.

Solo [Off, On]

Solos the selected Module(s), even if their Run button(s) are Off (unchecked). This setting will be cleared when you reselect the combination.

It will not be remembered when you write the combination.

GE Select [Preset 0000...2047, USER–A U–A000...U–A127, ..., USER–L U–L000...U–L127]

This selects the GE for the KARMA module. There are a total of 3,584 to choose from: 2,048 preset GEs, and 1,536 rewritable User GEs (12 banks of 128 each).

Preset GEs are part of the system software.

User GEs may be included with new banks of sounds, and can also be created using KARMA OASYS software (dedicated software for the OASYS*). For more information on loading User GEs, see “Load .KGE” on page 773.

* Made by Karma Lab (<http://www.karma-lab.com>). Macintosh and Windows are supported. English version only.

GE Bank Select [Preset...USER–L]

This selects the GE bank. The Preset bank is part of the system software; User banks can be loaded from disk. For more information, see “GE Select,” above.

GE Category Select [Arpeggio...Real-Time]

This lets you select a GE by category, from Arpeggio through Real-Time.

B, C, D (Module B, C, D)

Here you can make settings for Modules B through D. These settings are the same as for Module A. See “A (Module A).”

Selected KARMA Module Info

This displays information for the KARMA Module specified by the Module Control Setting.

GE Number & Name [A:0000(PRE):24 characters]

This displays the GE number and full GE name for the specified KARMA Module. If you select the “GE Select” parameter (see “GE Select” on page 384) for another Module, it will display the GE number & name for that Module, until the Module Control Setting is changed.

RTC Model [List of RTC Models]

This shows the GE’s RTC Model, as specified internally for each preset GE.

RTC stands for “Real Time Control.” RTC models provide a level of standardization for controlling the over 200 internal parameters of a GE. For more information, see “Load GE Options” on page 7.

Chord [Chord name]

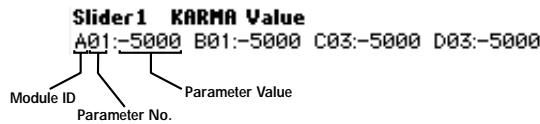
This shows the name of the chord detected for the KARMA Module specified by the Module Control setting. If “M” Master is selected, the chord for the last of the Modules in operation will be displayed. (In other words, if Modules A, B and C are running, the chord for Module C will be displayed.)

Note: Chord detection is affected by the key zone (Combination 7–1b) and “Transpose” (Combination 7–3b: Module Parameter-Control) of each KARMA Module, and by the “Dynamic MIDI Destination” (Combination 7–8) “Chord Scan” and “Smart Scan” settings.

KARMA Value

When you move or press a KARMA SLIDER or SWITCH, this area shows the number and value of the GE Real-Time Parameters or Perf Real-Time Parameters assigned to the control. This lets you see which parameters are being controlled by the slider or switch, and how.

Display example



Module ID [A, B, C, D, P]

This shows the type of parameter assigned to the slider or switch, and the module to which it belongs.

A, B, C, D: The control is assigned to a GE Real-Time Parameter from the indicated KARMA Module.

P: The control is assigned to a Perf Real-Time Parameter.


Parameter No. [01...32]

When **Module ID** is **A, B, C,** or **D**, this shows the number of the assigned GE Real-Time Parameter (01...32). These parameters are assigned to controls on the 7–5: GE Real-Time Parameters page.

If **Module ID** is **P**, this shows the number of the assigned Perf Real-Time Parameter (01...08). These parameters are assigned to controls on the 7–6: Perf Real-Time Parameters page.

Parameter Value

This area shows the current value of the GE Real-Time Parameter or Perf Real-Time Parameter. This will change as you move the slider or operate the switch.

 A slider or switch can have multiple parameters assigned to it. A maximum of four assigned parameters can be displayed here in the available space. If there are more, they will not be displayed (but a “>” will be added to the end of the line). They will still function when the control is activated, but you cannot view their values directly.

0–6c: Note/CC Activity

S (Scene) [1...8]

The blue square in the upper left of the section shows the current scene of the selected KARMA module.

The number in parentheses is the default Scene, as stored in the Combination.

Module [M, A...D]

These labels identify the CC and note information shown to their right.

They also work as module select buttons, duplicating function of the front-panel MODULE CONTROL button. To select a module, just touch its label; the selected module is shown in red.

Module CCs/Notes and Scan Zones

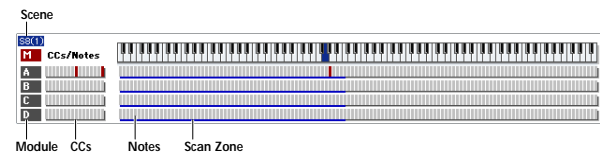
CCs/Notes A...D

These are real-time displays of the notes and/or CC messages generated by each of the KARMA Modules.

Scan Zone

The key zone settings of the KARMA Modules are displayed as solid blue lines under the notes display.

For more information, see “Bottom (Key Zone Bottom)” on page 431.



0–6d: Realtime Controls

This displays the values, names, and stored settings of KARMA SLIDERS 1–8 and KARMA SWITCHES 1–8. Note that each Scene can have separate values and stored settings for each of the sliders and switches.

KARMA SWITCHES 1...8

Current Value 1...8

This shows the current setting of the KARMA SWITCH. You can control this either by using the physical front-panel switch, or by touching the on-screen switch.

Stored Value 1...8

This shows stored value of the KARMA SWITCH for the current Scene, as written into the Combination.

Control Timbre Category 1...8

This shows the category of the Program(s) being played by the switch’s KARMA module. For instance, if the KARMA module is playing a drum pattern, this would show **Drums**.

If the module is playing multiple Programs of different categories, this will show **Multi**.

Name 1...8

This shows the name of the KARMA SWITCH. You can assign this name in Program 7–9: Name/Map.

KARMA SLIDERS 1...8

Current Value 1...8

This shows the current setting of the KARMA SLIDER. You can change this either by using the physical front-panel slider, or by touching the on-screen slider and then using any of the data-entry controls.

Stored Value 1...8

This shows stored value of the KARMA SLIDER for the current Scene, as written into the Combination.

Control Timbre Category 1...8

This shows the category of the Program(s) being played by the slider's KARMA module. For instance, if the KARMA module is playing a drum pattern, this would show **Drums**.

If the module is playing multiple Programs of different categories, this will show **Multi**.

Name 1...8

This shows the name of the KARMA SLIDER. You can assign this name in Program 7-9: Name/Map.

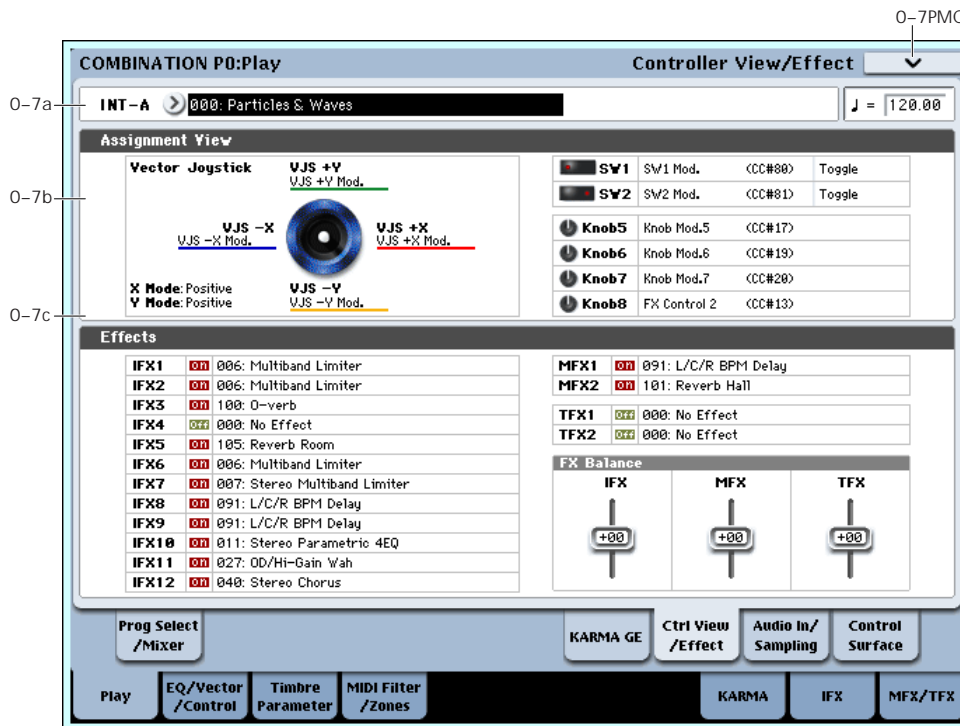
▼ 0-6: Page Menu Commands

The number before each command shows its ENTER + number-key shortcut. For more information on these shortcuts, see "ENTER + 0-9: shortcuts for menu commands" on page 142.

- 0: **Write Combination**. For more information, see "Write Combination" on page 461.

- 1: **Exclusive Solo**. For more information, see "Exclusive Solo" on page 142.
- 2: **Copy From Program**. For more information, see "Copy From Program" on page 461.
- 3: **Copy KARMA Module**. For more information, see "Copy KARMA Module" on page 464.
- 4: **Initialize KARMA Module**. For more information, see "Initialize KARMA Module" on page 465.
- 5: **Copy Scene**. For more information, see "Copy Scene" on page 151.
- 6: **Swap Scene**. For more information, see "Swap Scene" on page 151.
- 7: **Capture Random Seed**. For more information, see "Capture Random Seed" on page 151.
- 8: **Auto Assign KARMA RTC Name**. For more information, see "Auto Assign KARMA RTC Name" on page 465.

0-7: Controller View/Effect



Here you can view the function that is assigned to the vector joystick, SW1 and 2, and knobs 5-8, and view information about the effects. You can also adjust the FX Balance.

0-7a: Combination Select

Bank [INT-A...INT-G, USER-A...USER-G]

Combination [000...127]

These are the bank, number, and name of the current Combination. For more information, see "0-1a: Combination Select" on page 377.

♪ **(Tempo)** [040.00...240.00, EXT]

This is the tempo for the current Combination, which applies to tempo-synced LFOs, Wave Sequences, and Vector EGs, EXi Step Sequencers, KARMA, and tempo-synced effects.

EXT means that the tempo will sync to external MIDI clocks. For more information, see "Tempo" on page 379.

040.00...240.00 allow you to set a specific tempo in BPM, with 1/100 BPM accuracy.

0–7b: Assignment View

VJS

This area shows information about the vector joystick.

X Mode, Y Mode: These indicate the behavior of the vector CC for the X-axis and Y-axis.

VJS +X, VJS -X, VJS +Y, VJS -Y: These indicate the controller transmitted by the +X, -X, +Y, and -Y vectors.

(See “1–6a: Vector CC Control” on page 406)

SW1, SW2, Knob5...8

SW1, SW2: These indicate the functions assigned to SW1 and 2.

Knob5...8: These indicate the functions assigned to knobs 5–8. For more information, see “1–8: Set Up Controllers” on page 412.

0–7c: Effects

IFX1...12, MFX1, 2, TFX1, 2: This area indicates the effect assigned to each insert effect, master effect, and total effect, and its on/off status.

FX Balance

IFX: This controls the “Wet/Dry” balance of all insert effects. A setting of +10 is Wet or -Wet, a setting of +0 leaves the settings of the combination unmodified, and a setting of -10 is Dry.

MFX: This controls the MFX1 and 2 “Return.” A setting of +10 is 127, a setting of +0 leaves the settings of the combination unmodified, and a setting of -10 is 000.

TFX: This controls the “Wet/Dry” balance of TFX1 and 2. A setting of +10 is Wet or -Wet, a setting of +0 leaves the settings of the combination unmodified, and a setting of -10 is Dry.

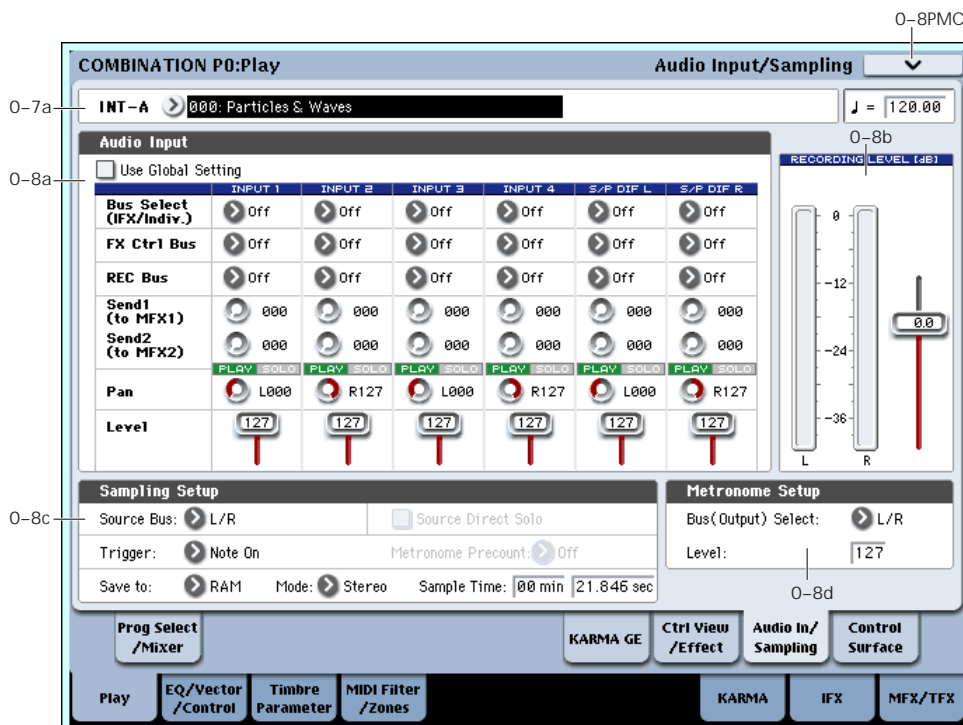
When you edit these settings, the change will occur immediately in the sound, but the values of the original combination parameters will not change until you save the combination. When you save the combination, the values will be updated and these sliders will be reset to 0.

▼ 0–7: Page Menu Commands

The number before each command shows its ENTER + number-key shortcut. For more information on these shortcuts, see “ENTER + 0-9: shortcuts for menu commands” on page 142.

- 0: **Write Combination.** For more information, see “Write Combination” on page 461.
- 1: **Exclusive Solo.** For more information, see “Exclusive Solo” on page 142.
- 2: **Copy From Program.** For more information, see “Copy From Program” on page 461.

0–8: Audio Input/Sampling



This page lets you adjust the settings for the analog and digital audio inputs, and the sampling-related settings for Combination mode.

You can sample incoming audio signals or resample internal OASYS sounds, including KARMA and real-time performances. The OASYS can also be used as a 6-in, 10-out effect processor.

For example, you can:

- Play an guitar through an audio input, while listening to a KARMA phrase—and sample only the guitar input, without any of the KARMA sounds.
- Play a guitar as above, but sample both the guitar and the KARMA phrase together.
- Sample yourself while playing OASYS sounds in real-time, including controller movements, KARMA, effects, etc.

Using the control surface to adjust Audio Inputs

You can use the control surface to adjust the Audio Input **Send1** (to MFX1), **Send2** (to MFX2), **PLAY/MUTE**, **Solo On/Off**, **Pan**, and **Level**.

For more information, please see “0–9c: Audio Inputs” on page 22.

 The control surface will control the Global mode settings if “Use Global Setting” is On (checked).

0–8a: Audio Input

These parameters control the level, pan, play/mute and solo status, send levels, and bus assignments for each of the analog and digital inputs. For more information, see “0–8a: Audio Input” on page 12.

Use Global setting [Off, On]

Each Combination can either use the single, Global audio input mixer setup, or have its own custom settings. For more information, see “Use Global setting” on page 12.

Input1, Input2, Input3, Input4

S/P DIF L, S/P DIF R

Bus Select (IFX/Indiv.) [L/R, IFX1...12, 1...8, 1/2...7/8, Off]

FX Ctrl Bus (FX Control Bus) [Off, 1, 2]

REC Bus [Off, 1...4, 1/2, 3/4]

Send1 (to MFX1) [000...127]

Send2 (to MFX2) [000...127]

PLAY/MUTE [Off, On]

Solo ON/OFF [Off, On]

Pan [L000...C064...R127]

Level [000...127]

0–8b: Recording Level [dB]

These parameters are the same as in Program mode P0– Audio Input/Sampling. For more information, please see “0–8b: Recording Level [dB]” on page 14.

Recording Level [–Inf, –72.0 ... +0.0 ... +18.0]

The **Recording Level** setting applies to all of Combination mode, and is not saved with individual Combis.

0–8c: Sampling Setup

Here you can select the source to be sampled, and the method by which to initiate sampling.

Source Bus [L/R, REC1/2...3/4, Audio Input1/2...3/4, S/P DIF L/R, Indiv.1/2...7/8]

Source Direct Solo [Off, On]

Trigger [Sampling START SW, Note On]

Metronome Precount [Off, 4, 8, 3, 6]

Save to [RAM, DISK]

Mode (Sample Mode) [L-Mono, R-Mono, Stereo]

Sample Time [min sec]

These parameters are the same as in Program mode P0– Audio Input/Sampling. For more information, please see “0–8c: Sampling Setup” on page 15.

The **Sampling Setup** settings apply to all of Combination mode, and are not saved with individual Combinations.

0–8d: Metronome Setup

Here you can specify the output destination and volume of the metronome sound that is heard when you begin sampling. The metronome is valid only if **Trigger** is set to Sampling START SW.

Bus (Output) Select [L/R, L, R, 1...8]

Level [000...127]

These parameters are the same as in Program mode. For more information, please see “0–8d: Metronome Setup” on page 388.

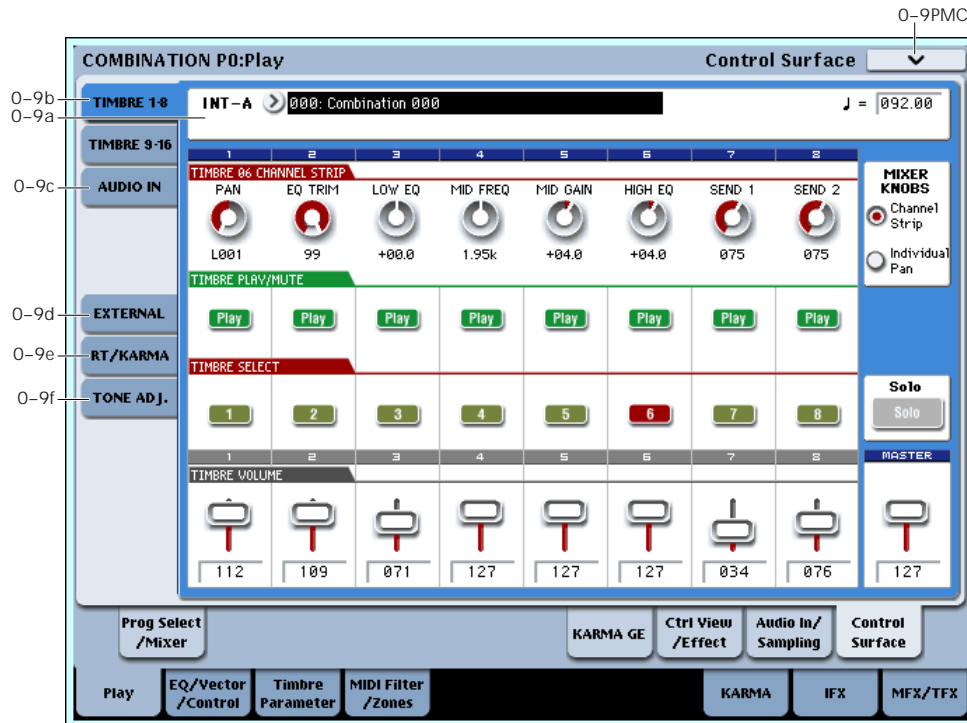
▼ 0–8: Page Menu Commands

The number before each command shows its ENTER + number-key shortcut. For more information on these shortcuts, see “ENTER + 0-9: shortcuts for menu commands” on page 142.

- **0: Write Combination.** For more information, see “Write Combination” on page 461.
- **1: Exclusive Solo.** For more information, see “Exclusive Solo” on page 142.
- **2: Copy From Program.** For more information, see “Copy From Program” on page 461.
- **3: Optimize RAM.** For more information, see “Optimize RAM” on page 143.
- **4: Select Sample No.** This applies only when **Save to** is set to **RAM**. For more information, see “Select Sample No.” on page 143.

- 4: **Select Directory.** This applies only when **Save to** is set to **Disk**. For more information, see “Select Directory” on page 144.
- 5: **Auto Sampling Setup.** For more information, see “Auto Sampling Setup” on page 144.

0–9: Control Surface



The Control Surface is the set of 9 sliders, 8 knobs, and 16 switches to the left of the LCD display. It looks like a mixer, but it can do other things as well, including editing sounds, controlling KARMA, and sending MIDI messages to external devices.

This page shows you the current values for each of the sliders, knobs, and buttons, along with information about what they are controlling. For instance, you can:

- Adjust the volume and pan for all 16 Timbres
- Control each Timbre’s EQ settings and Master Effects Send levels
- Modulate sounds and effects using the Real Time Knobs
- Control KARMA, and select KARMA scenes, using the sliders and switches
- Edit sounds using Tone Adjust
- Assign sliders, knobs, and switches to different Tone Adjust parameters

For more information about the Control Surface, see:

- “Front-panel LEDs for sliders and knobs” on page 19
- “Jump/Catch” on page 19
- “RESET CONTROLS” on page 19

Local Control On/Off and the Control Surface

The Control Surface generates and receives MIDI CCs and System Exclusive messages, so that you can record knob, switch, and slider movements into a sequencer. This means that the Global mode **Local Control** setting is important:

- If **Local Control** is On, the physical Control Surface will work properly as long as MIDI is **not** being looped back into the OASYS.
- If **Local Control** is Off, you **must** loop back MIDI into the OASYS in order for the physical Control Surface to work properly.
- Regardless of the **Local Control** setting, you can always edit Control Surface parameters via the touch-screen.

For more information, see “Local Control and the Control Surface” on page 709.

Control Assign Switches and Tabs

You can switch the Control Surface between its different functions using either the tabs on the left side of the LCD display, or the front-panel Control Assign switches. The tabs and the front-panel switches mirror one another; when you change one of them, the other changes as well.

In Combi mode, you can select one of five different functions:

TIMBRE/TRACK lets you adjust the volume, pan, EQ, and send levels for each of the 16 Timbres, eight at a time. The LEDs to the right of the switch show whether you're currently editing Timbres 1–8 or 9–16; press the **TIMBRE/TRACK** button to toggle between the two.

If you switch to one of the other Control Assign modes, and then go back to **TIMBRE/TRACK**, it will automatically return to the previously selected group (1–8 or 9–16).

AUDIO INPUTS lets you adjust the volume, pan, and send levels for the analog and S/P DIF audio inputs. In Sequence mode, you can also use this to select two banks of hard-disk recording tracks, as shown by the LEDs to the right of the switch.

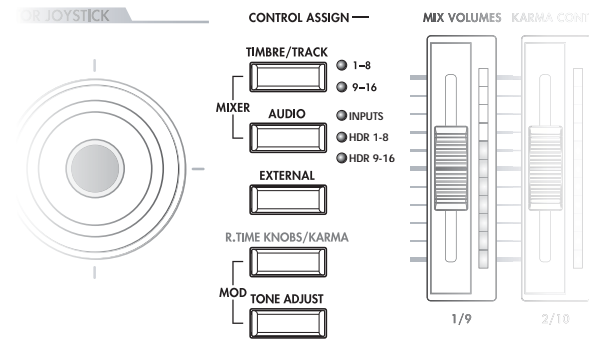
EXTERNAL lets you send MIDI messages to external MIDI devices.

R.TIME KNOBS/KARMA lets you modulate sounds and effects with the knobs, and control KARMA with the sliders and switches.

TONE ADJUST lets you edit Programs within the context of the Combi, and without making any changes to the original Program data. You also get hands-on access to these edits, using the sliders, knobs, and switches.

You can freely change back and forth between the different functions, without losing any of your edits.

Control Assign switches



0–9a: Combi Select & Tempo

This section duplicates the most important information from the main Play page.

Bank [INT A–E, USER A–G]

This is the Bank of the current Combi.

Combi [000–127]

This is the current Combi.

Tempo [040.00...240.00, EXT]

This is the tempo for the current Combination, which applies to tempo-synced LFOs and Wave Sequences, the Vector EG, EXi Step Sequencers, KARMA, and tempo-synced effects.

EXT means that the tempo will sync to external MIDI clocks. For more information, see “Tempo” on page 379.

040.00...240.00 allow you to set a specific tempo in BPM, with 1/100 BPM accuracy.

0–9b: Timbre 1–8/9–16

This Control Assign setting lets you adjust the volume, pan, EQ, and FX send settings for Timbres 1–16.

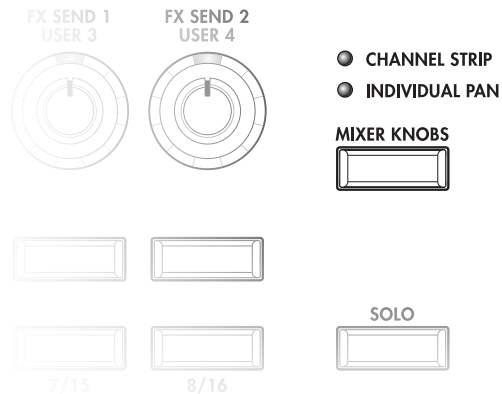
Mixer Knobs [Channel Strip, Individual Pan]

The Mixer Knobs switch is on the front panel, immediately to the right of the knobs, and is also duplicated in the on-screen display. The eight knobs can control two different sets of parameters, depending on the setting of this switch.

Channel Strip: With this setting, the eight knobs will control the Pan, EQ, and FX Send settings for the selected Timbre. Use the **TIMBRE/TRACK** button to select a group of 8 Timbres (1–8 or 9–16), and then use the **SELECT** buttons to choose the specific Timbre.

Individual Pan: With this setting, the knobs will control the Pan for the current group of Timbres. Knob 1 controls the pan for Timbre 1 (or 9), knob 2 controls the pan for Timbre 2 (or 10), and so on.

Mixer Knobs switch



Knobs 1–8, Channel Strip

When the Mixer Knobs switch is set to Channel Strip, the knobs provide quick access to the Pan, EQ, and FX Send parameters. The Pan and EQ parameters duplicate the similarly-named parameters found on the Combi editing pages; changing them here will change them in the editing pages, and vice-versa.

Pan [Random, L001...C064...R127]

This controls the stereo pan of the selected Timbre. A setting of **L001** places the sound at the far left, **C064** in the center, and **R127** to the far right.


Random is available only via the LCD. (Otherwise, it would be difficult to use the knob to sweep smoothly from left to right.) With the **Random** setting, each note will have a different, random pan position.

Note: With some EXi instruments, such as the CX-3, notes cannot be panned individually. For these EXi, **Random** pan will move all sounding notes to a different pan position at each note-on.

EQ Trim [00...99]

This controls the volume level going into the EQ.

High settings of the Low, Mid, and High Gain controls can cause substantial increases in the overall level. You can compensate for this by turning down the input trim.

 *Note:* if the EQ page EQ Bypass parameter is turned On, then none of the EQ parameters here will have any effect.

Low EQ [–18.0...+18.0dB]

This controls the gain of the 80Hz Low Shelf EQ, in increments of 0.5dB.

Mid EQ Freq [100Hz...10.0kHz]

This sets the center frequency for the Mid sweep EQ.

Mid EQ Gain [–18.0...+18.0dB]

This controls the gain of the Mid Sweep EQ, in increments of 0.5dB.

High EQ [–18.0...+18.0dB]

This controls the gain of the 10kHz High Shelf EQ, in increments of 0.5dB.

Send 1 [000...127]

This controls the send level into FX Send 1. If the Timbre's **Output Bus** parameter is set to L/R or OFF, it scales the Oscillator send levels. If the **Output Bus** is set to IFX 1–12, it directly controls the post-IFX send levels.

Send 2 [000...127]

This controls the send level into FX Send 2. For more details, see **Send 1**, above.

Knobs 1–8, Individual Pan

When the Mixer Knobs switch is set to Individual Pan, the knobs will control the Pan for the current group of Timbres. Knob 1 controls the pan for Timbre 1, knob 2 controls the pan for Timbre 2, and so on.

These duplicate the Combi's Timbre Pan parameters; changing them here will change them in the editing pages, and vice-versa.

Pan 1/9 [Random, L001...C064...R127]

This controls the stereo pan of either Timbre 1 or Timbre 9, depending on whether the **TIMBRE/TRACK** button is set to 1–8 or 9–16.

A setting of **L001** places the sound at the far left, **C064** in the center, and **R127** to the far right.

Random is available only via the LCD. (Otherwise, it would be difficult to use the knob to sweep smoothly from left to right.) With the **Random** setting, the pan position will be different for each note-on.

Note: with some EXi sounds, such as the CX-3, **Random** pan may affect all notes at once.

Pan 2/10–8/16 [Random, L001...C064...R127]

These control the stereo pan of Timbres 2–8 or 10–16, depending on the setting of the **TIMBRE/TRACK** button. For more details, see **Pan 1/9**, above.

Play/Mute switches 1–8

The top row of switches allow you to turn each of the Timbres on and off.

Play/Mute 1/9 [Play, Mute]

This controls the play/mute status of either Timbre 1 or Timbre 9, depending whether the **TIMBRE/TRACK** button is set to 1–8 or 9–16.

When this switch is on (LED = on), Timbre 1 will play. When the switch is off (LED = off), Timbre 1 will be muted.

Play/Mute 2/10–8/16 [Play, Mute]

These control the play/mute status of Timbres 2–8 or 10–16, depending on the setting of the **TIMBRE/TRACK** button.

For more details, see **Play/Mute 1/9**, above.

Solo switch and Select switches 1–8

Solo [Off, On]

Solo lets you isolate one or more Timbres or Audio Inputs, so that you hear them by themselves. It does this by temporarily muting all non-soloed Timbres and Audio Inputs.

Solo uses the Select switches. These switches can show and control either which Timbre is currently selected, or which Timbres are soloed. The main Solo button lets you switch back and forth between the two views.

When the Solo button is **Off** (LED = Off), the Select switches select the current Timbre; when the Solo button is **On** (LED = On or blinking), the Select switches let you solo one or more Timbres.

When Solo is **On**, and one or more Timbres or Audio Inputs are soloed, the Solo LED will blink on and off to remind you that solo is in use.

Note: The main Solo button merely changes the functions of the Select switches. It does not enable or clear the individual solo states.

Clearing all solos

To turn off **Solo** for all Timbres and Audio Inputs at once:

1. Press and hold the **RESET CONTROLS** button.
2. While holding **RESET CONTROLS**, press the **SOLO** button.

Exclusive Solo menu parameter

The menu's **Exclusive Solo** parameter also affects the way that Solo works. When **Exclusive Solo** is **Off** (unchecked), you can solo multiple Timbres and Audio Inputs at once.

When **Exclusive Solo** is **On** (checked), only one Timbre or Audio Input can be soloed at a time. In this mode, pressing a Solo switch automatically disables any previous solos.

Select 1–8/9–16 [Off, On]

These buttons either select or solo the Timbre, depending on the state of the **Solo** switch. For more details, see **Solo**, above.

Volume Sliders 1–8

These sliders adjust the volume level of the Timbres.

Volume 1/9 [000...127]

This controls the volume of either Timbre 1 or Timbre 9, depending on whether the **TIMBRE/TRACK** button is set to 1–8 or 9–16.

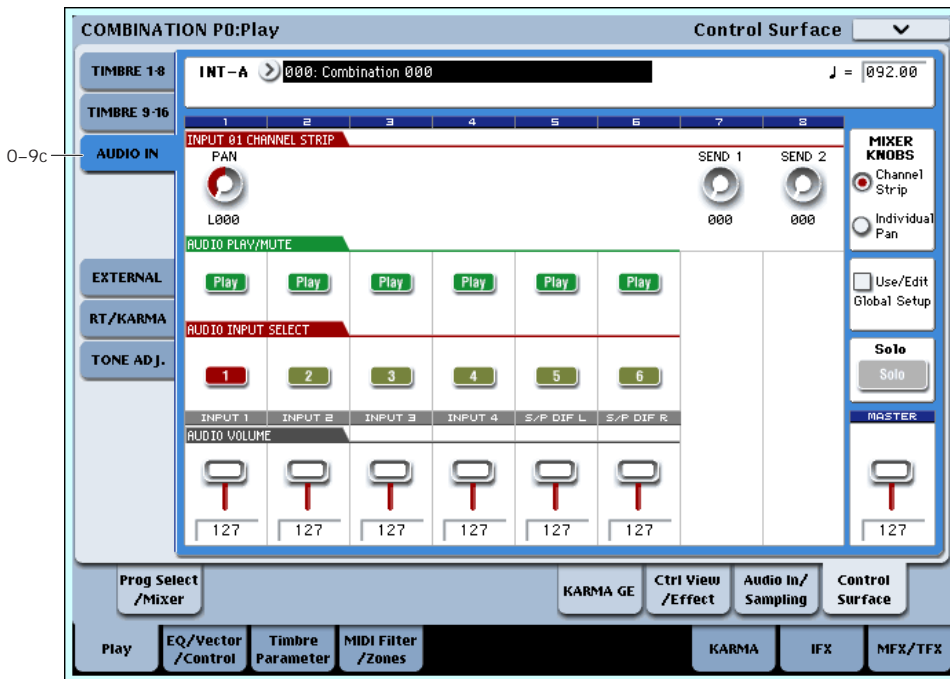
Volume 2/10–8/16 [000...127]

These control the volume of Timbres 2–8 or 10–16, depending on the setting of the **TIMBRE/TRACK** button. For more details, see **Volume 1/9**, above.

Master Volume Slider

Master Volume [000...127]

This controls the volume of the main stereo outputs, after the Total Effects. It does not affect Individual Outputs 1–8. For more information, see the diagram “Master Volume” on page 393.



0–9c: Audio Inputs

This Control Assign setting lets you adjust the volume, pan, and FX send settings for each of the six audio inputs: Analog 1–4, and S/P DIF left and right.

You can use this page to mix sounds from other sources into the OASYS outputs - as an on-stage submixer, for instance.

In Sequencer mode, two additional Audio Control Assign settings are available: HDR 1–8 and HDR 9–16. These select the two banks of hard-disk recording tracks, for control of volume, pan, sends, EQ, solo, and mute.

Use/Edit Global Setup [Off, On]

Combis can use the single, Global audio input mixer setup, or can instead have their own custom settings.

When **Use/Edit Global Setup** is **On**, the Combi uses the Global settings. This is the default, and lets you change freely between different Programs and Combinations without affecting the audio inputs.

Also, any edits made on this page will affect the Global setting, along with any other Programs, Combis, or Songs which use the Global setting.

On the other hand, it may sometimes be convenient to save a particular mixer setup with an individual Combi, to set up special sub-mixer settings or effects

processing for particular inputs. In this case, set **Use/Edit Global Setup** to **Off**, and the audio inputs will use the Combi’s custom settings.

Mixer Knobs [Channel Strip, Individual Pan]

This switch controls whether the knobs show the pan settings for all 6 inputs at once (Individual Pan), or the pan and FX Send levels for the selected input (Channel Strip). For more information, please see “Mixer Knobs” on page 392.

Knobs 1–8, Channel Strip

When the Mixer Knobs switch is set to Channel Strip, the knobs provide quick access to the selected input’s Pan and FX Send parameters.

Pan [L000...C064...R127]

This controls the stereo pan of the selected input. A setting of **L000** places the sound at the far left, **C064** in the center, and **R127** to the far right.

Send 1 [000...127]

This controls the send level into FX Send 1. If the input’s **Output Bus** parameter is set to L/R or OFF, it scales the programmed send level. If the **Output Bus** is set to IFX 1–12, it directly controls the post-IFX send levels, overwriting any previous setting.

Send 2 [000...127]

This controls the send level into FX Send 2. For more details, see “Send 1,” above.

Knobs 1–6, Individual Pan

When the Mixer Knobs switch is set to Individual Pan, knobs 1–4 control the pan settings for analog inputs 1–4, respectively, and knobs 5–6 control the pan settings for the left and right S/P DIF inputs. Knobs 7 and 8 have no effect.

Audio Input Pan (1–6) [L000...C064...R127]

These control the pan for Analog Inputs 1–4 and S/P DIF Left and Right, respectively. A setting of **L000** places the sound at the far left, **C064** in the center, and **R127** to the far right.

Play/Mute switches 1–6

The top row of switches allow you to mute any or all of the audio inputs.

Play/Mute (1–6) [Play, Mute]

When this switch is on (LED = on), the input will be enabled. When the switch is off (LED = off), the input will be muted.

Solo switch and Select switches 1–6

Solo [Off, On]

Solo lets you isolate one or more Timbres or Audio Inputs, so that you hear them by themselves. It does this by temporarily muting all non-soloed Timbres and Audio Inputs.

The Select switches can show and control either which Input is currently selected, or which Inputs are soloed. The main Solo button lets you switch back and forth between the two views.

When the Solo button is **Off** (LED = Off), the Select switches select the current Input; when the Solo button is **On** (LED = On or blinking), the Select switches let you solo one or more Inputs.

When Solo is **On**, and one or more Timbres or Audio Inputs are soloed, the Solo LED will blink on and off to remind you that solo is in use.

Note: The main Solo button merely changes the functions of the Select switches. It does not enable or clear the individual solo states.

For more information, see “Clearing all solos” on page 391, and “Exclusive Solo menu parameter” on page 391.

Select (1–6) [Off, On]

This switch either selects or solos the input, depending on the Solo switch setting. For more details, see “Solo,” above.

Sliders 1–6

Audio Input Volume (1–6) [000...127]

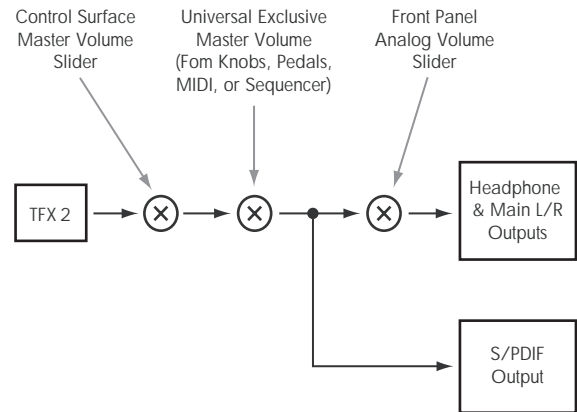
These sliders adjust the volume levels of the audio inputs.

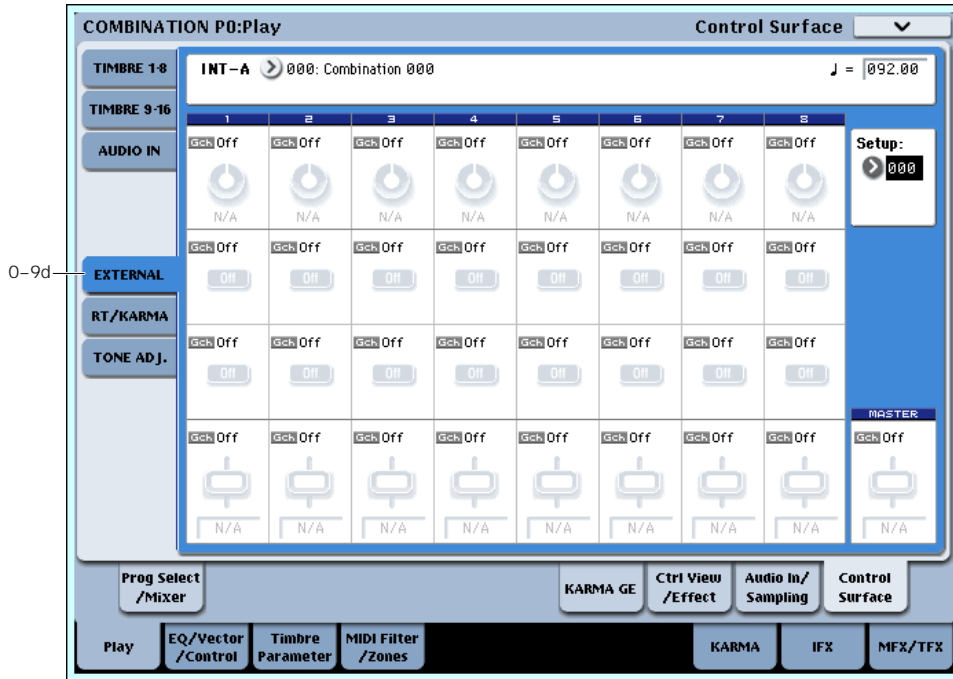
Master Volume Slider

Master Volume [000...127]

This controls the volume of the main stereo outputs, after the Total Effects. It does not affect Individual Outputs 1–8.

Master Volume





0-9d: External

This Control Assign setting lets you send MIDI messages to external devices. Each slider, knob, and switch can be assigned to a separate MIDI controller and MIDI channel. The eight drum pads also have separate settings which apply only when Control Assign is set to External.

In Global mode, you can create up to 128 different External Setups. For instance, you might make one setup for controlling several different pieces of MIDI gear on stage, another for controlling a software synthesizer (such as one of Korg's Legacy Collection synths), and so on. For more information, see "1-2: External 1" on page 714.

These External Setups are completely separate from the Combi. You can think of External mode as being a separate control surface which just happens to share OASYS's sliders, knobs, switches, and drum pads.

When you select an External Setup, it stays selected even when you change Combis, or switch to Program or Sequencer modes. This makes it easy to select different OASYS sounds without disrupting any external MIDI control, and vice-versa.

Setup [000...127]

This selects the Global setup for the knobs, sliders, switches, and drum pads.

Note: this selection is not stored with the Combi.

Knobs 1-8

MIDI Channel (1-8) [01...16, Gch]

This read-only parameter shows the MIDI Channel assigned to the knob. Each can send on a different channel, if desired.

Gch means that the knob will transmit on the Global MIDI Channel, as set in Global mode. This allows you to re-direct any number of sliders, knobs, switches, and pads to a different channel at once, without editing the individual controls.

CC# Assign (1-8) [Off, 000...119]

This read-only parameter shows the MIDI CC sent by the knob.

Value (1-8) [000...127]

This is the current value of the knob's MIDI CC.

Switches 1-16

MIDI Channel (1-16) [01...16, Gch]

This read-only parameter shows the MIDI Channel for the switch. Each can send on a different channel, if desired.

Gch means that the slider will transmit on the Global MIDI Channel, as set in Global mode.

CC# Assign (1-16) [Off, 000...119]

This read-only parameter shows the MIDI CC sent by the switch.

Switch On/Off (1-16) [Off, On]

This is the current value of the switch's MIDI CC. When the switch is turned on, it sends a value of 127; when it is turned off, it sends a value of 0.

Sliders 1-8 & Master Slider

MIDI Channel (1-8) [01...16, Gch]

This read-only parameter shows the MIDI Channel for the slider. Each can send on a different channel, if desired.

Gch means that the slider will transmit on the Global MIDI Channel, as set in Global mode.

CC# Assign (1–8)

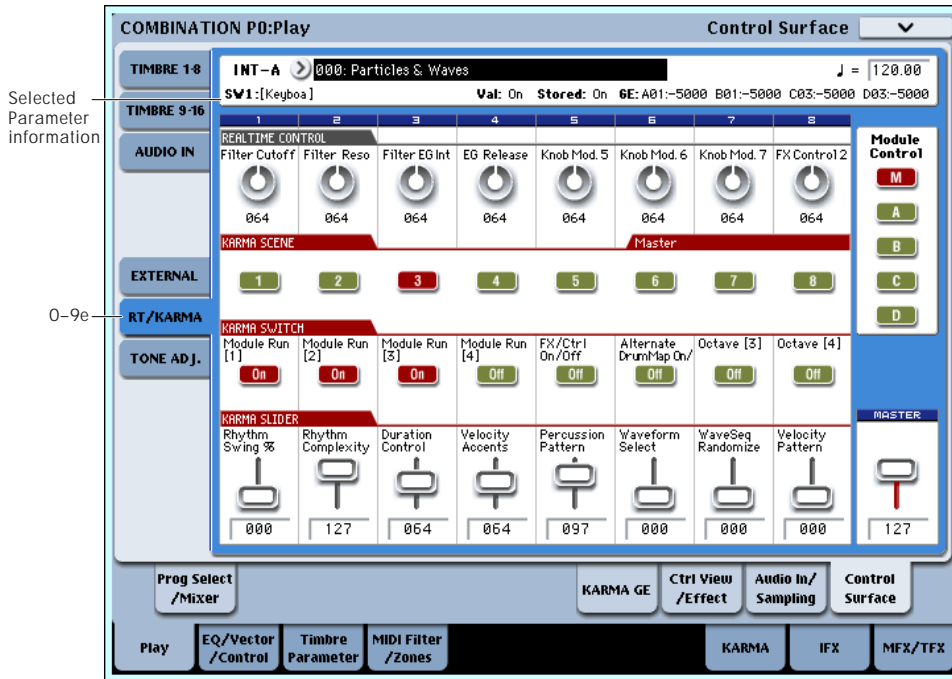
[Off, 000...119]

Value (1–8)

[000...127]

This read-only parameter shows the MIDI CC sent by the slider.

This is the current value of the slider’s MIDI CC.



0–9e: RT/KARMA (Real Time Knobs/KARMA) AMSource

This Control Assign setting lets you modulate Program, Combi and Effects parameters with the eight knobs, and control KARMA with the switches and sliders.

Selected parameter information

When you select a KARMA Slider or Switch, this area shows detailed information about its KARMA parameter assignments.

Control [SW1...8, SL1...8]

This shows which Switch or Slider is currently selected.

Assignment [Name]

Each KARMA Slider or Switch can control multiple internal parameters simultaneously. The group of parameters can be given a single name, which is shown here.

You can select different names, if desired. For more information, see “7–9: Name/Note Map” on page 125.

Module and Parameter [A...D 01...32, P 01...08]

This read-only display shows the KARMA parameter(s) assigned to the Slider or Switch.

A, B, C, and D mean that the slider or switch controls a GE Real-Time Parameter from the corresponding KARMA Module. The following number identifies the specific parameter within the module. For instance, A22 is parameter 22 of Module A.

P means that the switch is controlling a Performance Real-Time Parameter.

You can assign many parameters to a single slider or switch, if desired. Due to space limitations, however, only first four parameters will be shown here. If there are more assignments than can be displayed, you’ll see a “>” symbol after the fourth parameter.

To change the parameter assignments, use the KARMA GE RTP and Perf RTP pages. For more information, please see “7–5: GE Real-Time Parameters” on page 113, and “7–6: Perf Real-Time Parameters” on page 116.

Parameter Value [Depends on parameter]

This shows the value of the GE or Performance Real-Time Parameters assigned to the selected Slider or Switch. The range can vary, depending on the individual parameters.

KARMA Module Control

Module Control [M, A, B, C, D]

When used to control KARMA, the Control Surface sliders and switches are five layers deep: one for each Module (A-D), and a Master Layer capable of controlling selected parameters from all of the Modules at once. Each layer has its own Slider, Switch, and Scene settings.

The **Module Control** radio buttons (and the front-panel **MODULE CONTROL** button) let you switch between these five layers.

To select a different layer, just press its on-screen radio button, or use the front-panel **MODULE CONTROL** button to step through each layer in turn. When you do so, all of the KARMA Sliders, Switches and Scenes will update instantly to show their current values and names within the selected layer.

Knobs 1–8

Knobs 1–4 all have dedicated functions which correspond to MIDI CCs. Knobs 5–8 can be assigned to a wide variety of functions, many of which also have corresponding MIDI CCs.

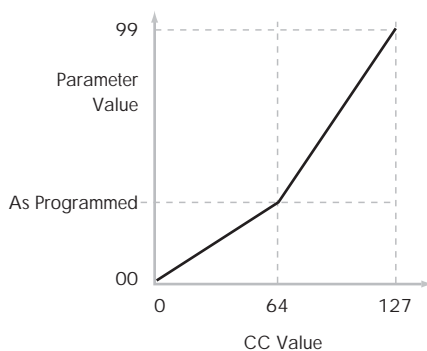
When you move the knob, it will send the corresponding MIDI CC to all Timbres on the Global Channel. (To edit individual Programs, use Tone Adjust instead.)

Also, when the CC is received via MIDI or generated by KARMA, the knob value will change to match the CC value.

Note that the Knob 1–8 settings of the individual Programs do not apply in Combi mode.

Unless otherwise noted, “scaling” means that the parameters are at their programmed values when the controller is at 64, at their minimum when the controller is at 0, and at their maximum when the controller is at 127. For another look at this, see the diagram below.

CC scaling of parameters



Knob 1: CUTOFF (CC#74) [000...127]

This knob scales the cutoff frequencies of Filters A and B, and transmits and receives MIDI CC #74.

Knob 2: RESONANCE (CC#71) [000...127]

This knob scales the resonance of Filters A and B, and transmits and receives MIDI CC #71.

Knob 3: Filter EG Intensity (CC#79) [000...127]

This knob scales the effect of the Filter EG on the cutoff frequencies of Filters A and B. It also transmits and receives MIDI CC#79.

Knob 4: EG Release (CC#72) [000...127]

This knob scales the release time of the Filter and Amp EGs, and transmits and receives MIDI CC#72.

Knobs 5–8 [000...127]

You can set knobs 5–8 to a wide variety of modulation functions, using the Controller Setup page (P1–8).

Many of the functions scale a particular set of Program parameters. All of the settings also correspond to MIDI messages—usually CCs.

KARMA SCENES 1-8

KARMA Scenes [1...8]

A KARMA SCENE includes the settings for all of the KARMA SLIDERS and SWITCHES. Each Combi can contain up to eight Scenes.

To select a Scene, just press its switch - you’ll see all of the KARMA SLIDERS and SWITCHES update instantly to their new values.

KARMA SWITCHES 1-8

KARMA Switches [Off, On]

These switches control KARMA Performance or GE (Generated Effect) Real-Time Parameters, as assigned on the KARMA Perf RTP and GE RTP pages.

The switches indicate the current on/off status.

The parameters assigned to the switches and their on/off status can be edited in the GE RTP page or the KARMA Perf RTP page.

KARMA SLIDERS 1-8

KARMA Sliders [000...127]

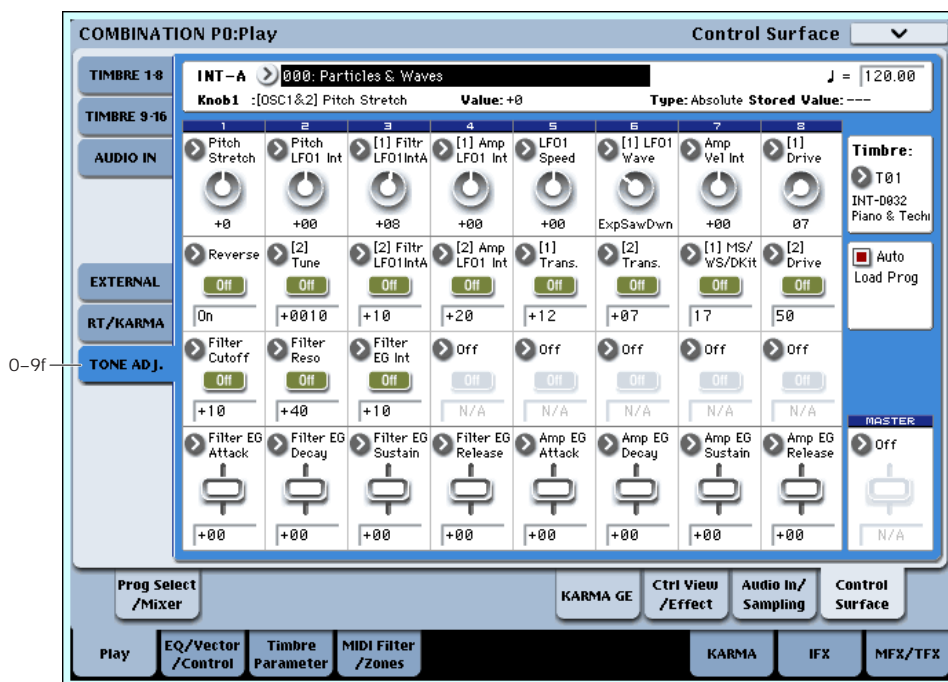
These sliders control KARMA Performance or GE Real-Time Parameters, as assigned on the KARMA Perf RTP and GE RTP pages.

The current values are shown under the sliders. The parameters assigned to the sliders and their value can be edited in the GE RTP page or the KARMA Perf RTP page.

Master Volume Slider

Master Volume [000...127]

This controls the volume of the main stereo outputs, after the Total Effects. It does not affect Individual Outputs 1–8. For more information, see the diagram “Master Volume” on page 393.



0–9f: Tone Adjust

Tone Adjust provides two important features simultaneously:

- It lets you use all of the sliders, knobs, and switches to control Program parameters - like the knobs on an analog synth, or the drawbars on an organ.
- It lets you modify Programs for use within a specific Combi, including everything from subtle tweaks (like changing LFO speeds) to dramatic changes (such as selecting a different Multisample). Any changes that you make are stored with the Combi, and do not alter the original Program.

Each of the sixteen Timbres has its own set of tone adjust parameters, but only one Timbre is shown at a time.

For more information, see:

- “Tone Adjust and MIDI SysEx” on page 27
- “Interaction between Tone Adjust and MIDI CCs” on page 27
- “Absolute, Relative, and Meta parameters” on page 27

Saving Tone Adjust Edits

In Program mode, when you make edits via Tone Adjust and then save the results, the Program data is changed—just as if you’d edited the internal parameters directly. For more information, see “Saving Tone Adjust Edits” on page 27.

In Combi mode, however, all Tone Adjust edits are stored within the Combi; the Program itself is not changed. This lets you alter the way that a Program sounds in one specific Combi without affecting the way that it sounds in Program mode, or in any other Combis or Songs.

Timbre select

Timbre

[1...16]

This selects the Timbre whose Tone Adjust parameters appear on the screen and the Control Surface. You can switch back and forth between the different Timbres as much as you like, without losing your edits.

This parameter is the same as the selected Timbre in TIMBRE/TRACK mode; changing one will also change the other.

You can use a shortcut to change the current Timbre directly from the Control Surface, without leaving Tone Adjust mode:

1. **Press and hold the TONE ADJUST button.**
2. **While holding TONE ADJUST, press a PLAY/MUTE or SELECT button to select a Timbre.**

The PLAY/MUTE buttons select Timbres 1–8, and the SELECT buttons select Timbres 9–16.

3. **Release the TONE ADJUST button.**

The Control Surface and screen will change to show the Tone Adjust parameters for the newly selected Timbre.

Auto Load PRG

[Off, On]

When you first load a Program into a Timbre, this parameter determines whether or not the Program’s Tone Adjust settings will be loaded as well.

These settings include the parameters assigned to each slider, knob, and switch, along with the on/off state of any Switches assigned to Absolute parameters.

Note that any edits you’ve made using Tone Adjust in Program mode will already have been stored into the Program’s parameters. This means that the Program will still sound the same, whether or not you load the Tone Adjust settings.

Once the Program has been loaded, you can change any or all of the Tone Adjust settings as desired, including both assignments and values. All such edits are stored in the Combi, without affecting the original Program.

If **Auto Load PRG** is **On**, Tone Adjust settings will be automatically loaded along with the Program.

If **Auto Load PRG** is **Off**, then the relationship between the types of the old and new Programs will determine what happens, as shown in the table below:

If the old Program is...	And the new Program is...	Then Tone Adjust parameters and values are...
An HD-1 Program	An HD-1 Program	kept the same
A HD-1 Program	An EXi Program	loaded from the new Program
Any EXi Program	A HD-1 Program	loaded from the new Program
An EXi Program	An EXi Program with the same EXi assigned to the same slots as the previous Program	kept the same
An EXi Program	An EXi Program which does not use the same EXi as the previous Program	loaded from the new Program

Selected parameter information

This status line shows detailed, read-only information about the currently selected Tone Adjust parameter.

(Control) [Knob1...8, SW1...16, Slider1...8, Slider M]

This is the physical controller assigned to the Tone Adjust parameter. **Slider M** is the Master Slider.

(Assignment) [Full Parameter Name]

This shows the full name of the parameter assigned to the controller. You can change this using the "Assign" parameter, below.

Value [Current Parameter Value]

This shows the current value of the parameter. The range of values will vary depending on the parameter assigned to the control.

Type [Relative, Absolute, Meta]

This shows the type of the parameter, which relates to how edits to the parameter are saved. For more information, see "Absolute, Relative, and Meta parameters" on page 27.

Stored Value [Original Parameter Value]

This shows the original value of the parameter, before the effects of Tone Adjust. It applies only to Tone Adjust parameters which control a single Program parameter.

If you un-assign a parameter from a control, it will revert to this value.

Knobs 1-8

Assign [List of Tone Adjust assignments]

This lets you assign a Tone Adjust parameter to the knob.

The first group of parameters are the Common set, which are supported by most Program types. For a full list, see "Common Tone Adjust Parameters" on page 399.

After the Common parameters, the items in the list will vary depending on the Program type. For more information, please see:

"HD-1 Tone Adjust Parameters," on page 30.

"AL-1: Tone Adjust," on page 214.

"CX-3: Tone Adjust," on page 236.

"STR-1: Tone Adjust" on page 282.

"MS-20EX Tone Adjust parameters" on page 309

"PolysixEX Tone Adjust parameters" on page 325.

Other EXi instruments will have their own set of parameters, as described in their manuals.

Assignments are exclusive

Each controller can be assigned to only one parameter, and each parameter can be assigned to only one controller.

To swap a parameter from one control to another, you'll need to first un-assign it from the old control, and then assign it to the new control.

Value [Depends on parameter]

This shows the current value of the parameter. The range of values will vary depending on the parameter assigned to the control.

Switches 1-16

Tone Adjust switches act a little differently than knobs and sliders.

When a switch is assigned to a **Relative** parameter, or an **Absolute** parameter with more than two states:

Switch On = **On Value** (see below)

Switch Off = the Program's stored value

When a switch is assigned to a two-state **Absolute** parameter, such as **Hold**, the switch status directly reflects the parameter value:

Switch On = **On**

Switch Off = **Off**

Assign [List of Tone Adjust assignments]

This lets you assign a Tone Adjust parameter to the switch. For more information, see "Assign," above.

On Value [Depends on parameter]

The parameter is set to this value when the switch is On.

When the switch is assigned to a two-state **Absolute** parameter, such as **Hold**, this will always be the same as the **Switch Status** (see below).

Switch Status**[Off, On]**

This simply shows whether the switch is On or Off. The status is also shown by the LEDs in the physical buttons.

Sliders 1–8 and Master Slider

These work identically to Knobs 1–8, as described above.

Common Tone Adjust Parameters

These parameters affect both Oscillators in a HD-1 Program, or both EXi in an EXi Program. Some EXi instruments may not support all of the Common Tone Adjust parameters; for details, please see the individual EXi manuals.

Unless otherwise noted, all of the following Tone Adjust parameters are **Relative**.

Off. This means that the Tone Adjust control has no effect.

Filter Cutoff. This scales the cutoff frequency of all of the filters at once. For instance, in the HD-1, it affects both Filters A and B.

This parameter interacts with CC# 71.

Filter Resonance. This scales the resonance of all of the filters at once - for instance, in the HD-1, it affects both Filters A and B. It interacts with CC# 74.

Filter EG Intensity. This scales the effect of the Filter EG on the cutoff frequency. It affects all of the filters at once; for instance, in the HD-1, it affects both Filters A and B.

–99 means no modulation. +99 means maximum modulation in the same direction, positive or negative, as the original Program. For instance, if the original Program's EG Intensity was set to –25, then setting the Tone Adjust to +99 moves the EG Intensity to –99.

This parameter interacts with CC# 79.

Amp Velocity Intensity. This scales the effect of velocity on the Amp level.

–99 removes the velocity modulation entirely. +99 means maximum modulation in the same direction, positive or negative, as the original Program.

Filter/Amp EG Attack Time. This scales the attack times of the Filter and Amp EGs, along with other related parameters.

When the value is +1 or more, this also affects the Amp EG's Start and Attack Levels, Start Level AMS, and Attack Time AMS, as described below:

Between values of +1 and +25, the Start Level, Start Level AMS, and Attack Time AMS will change from their programmed values to 0. Over the same range, the Attack Level will change from its programmed value to 99.

This parameter interacts with CC# 73.

Filter/Amp EG Decay Time. This scales the decay and slope times of the Filter and Amp EGs. It interacts with CC# 75.

Filter/Amp EG Sustain Level. This scales the sustain levels of the Filter and Amp EGs. It interacts with CC# 70.

Filter/Amp EG Release Time. This scales the release times of the Filter and Amp EGs. It interacts with CC# 72.

Filter EG Attack Time. This scales the attack times of the Filter EGs.

Filter EG Decay Time. This scales the decay and slope times of the Filter EGs.

Filter EG Sustain Level. This scales the sustain levels of the Filter EGs.

Filter EG Release Time. This scales the release times of the Filter EGs.

Amp EG Attack Time. This scales the attack times of the Amp EGs.

Amp EG Decay Time. This scales the decay and slope times of the Amp EGs.

Amp EG Sustain Level. This scales the sustain levels of the Amp EGs.

Amp EG Release Time. This scales the release times of the Amp EGs.

Pitch EG Attack Time. This scales the attack times of the Pitch EG (or EGs, in the case of some EXi instruments).

Pitch EG Decay Time. This scales the decay and slope times of the Pitch EG (or EGs, in the case of some EXi instruments).

Pitch EG Sustain Level. This scales the sustain levels of the Pitch EG (or EGs, in the case of some EXi instruments). **Note:** this does not apply to the HD-1.

Pitch EG Release Time. This scales the release times of the Pitch EG (or EGs, in the case of some EXi instruments). It interacts with CC# 77.

Pitch LFO1 Intensity. This scales the effect of LFO1 on the Pitch.

–99 removes the LFO modulation entirely. +99 means maximum modulation in the same direction, positive or negative, as the original Program.

LFO1 Speed. This scales LFO1's frequency. When the LFO is in MIDI/Tempo mode, this adjusts the Base Note. For more information, please see "Frequency" on page 85.

This parameter interacts with CC# 76.

LFO1 Fade. This scales LFO1's fade-in time. For more information, please see "Fade" on page 86.

LFO1 Delay. This scales LFO1's delay time - the time between note-on and the onset of the LFO. For more information, please see "Delay" on page 86.

This parameter interacts with CC# 78.

LFO1 Stop. This **Absolute** parameter controls whether LFO1 is stopped or running. For more information, please see "Stop" on page 85.

The **PROG** setting restores the Program's original values - convenient if Oscillator 1's LFO was stopped, but Oscillator 2's was not.

LFO2 Speed. This scales LFO2's frequency. When the LFO is in MIDI/Tempo mode, this adjusts the Base Note. For more information, please see "Frequency" on page 85.

LFO2 Fade. This scales LFO2's fade-in time. For more information, please see "Fade" on page 86.

LFO2 Delay. This scales LFO2's delay time - the time between note-on and the onset of the LFO. For more information, please see "Delay" on page 86.

LFO2 Stop. This **Absolute** parameter controls whether LFO2 is stopped or running. For more information, please see "Stop" on page 85.

Common LFO Speed. This scales the Common LFO's frequency. When the LFO is in MIDI/Tempo mode, this adjusts the Base Note.

Unison. This **Absolute** parameter turns **Unison** on and off. For more information, please see "Unison" on page 35.

Of Voices. This **Absolute** parameter sets the number of Unison voices. If **Unison** is not **On**, this parameter has no effect. For more information, please see "Number of voices" on page 35.

Detune. This **Absolute** parameter sets amount of detuning between the Unison voices. If **Unison** is not **On**, this parameter has no effect. For more information, please see "Detune" on page 35.

Thickness. This **Absolute** parameter sets the pattern of detuning between the Unison voices. If **Unison** is not **On**, or if **Detune** is set to 0, this parameter has no effect. For more information, please see "Thickness" on page 36.

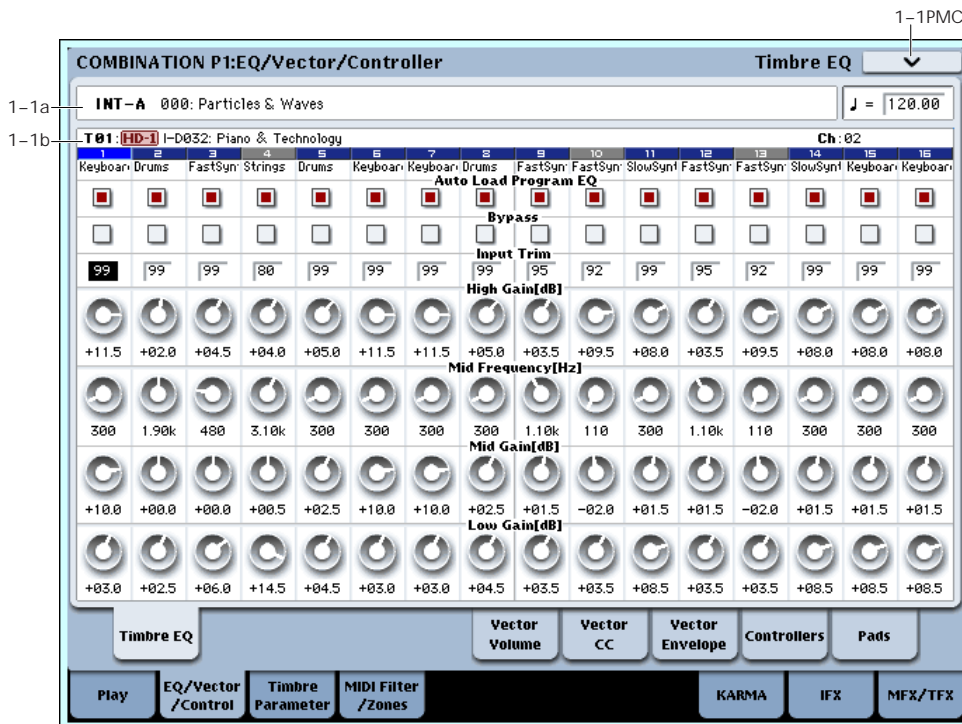
▼ 0–9: Page Menu Commands

The number before each command shows its ENTER + number-key shortcut. For more information on these shortcuts, see "ENTER + 0-9: shortcuts for menu commands" on page 142.

- 0: **Write Combination.** For more information, see "Write Combination" on page 461.
- 1: **Exclusive Solo.** For more information, see "Exclusive Solo" on page 142.
- 2: **Copy From Program.** For more information, see "Copy From Program" on page 461.
- 3: **Copy Tone Adjust.** This is available only when **Control Assign** is set to **TONE ADJUST**. For more information, see "Copy Tone Adjust" on page 463.
- 4: **Reset Tone Adjust.** This is available only when **Control Assign** is set to **TONE ADJUST**. For more information, see "Reset Tone Adjust" on page 463.
- 3: **Copy Scene.** This is available only when **Control Assign** is set to **RT KNOBS/KARMA**. For more information, see "Copy Scene" on page 151.
- 4: **Swap Scene.** This is available only when **Control Assign** is set to **RT KNOBS/KARMA**. For more information, see "Swap Scene" on page 151.

Combination P1: EQ/Vector/Controller

1-1: Timbre EQ



Each Timbre has a dedicated three-band EQ, with sweepable mid band. This page lets you view and adjust the settings for all 16 Timbres at once.

Timbre EQ and the control surface

You can use the Control Surface to adjust almost all of the Timbre EQ parameters (except for **Bypass**). To do so:

1. Press the CONTROL ASSIGN MIXER TIMBRE/TRACK switch to select either timbres 1-8 or 9-16.
2. Use the MIX SELECT 1/9-8/16 switches to select the timbre you want to control.
3. Press the MIXER KNOBS switch to select CHANNEL STRIP.
4. Use the MIX CHANNEL STRIP knobs 2-6 to adjust the EQ TRIM, LOW EQ gain, MID EQ frequency and gain, and HIGH EQ gain, as desired.

1-1a: Combination Name

Bank [INT-A...INT-G, USER-A...USER-G]
Combination Name [(000...127: Name)]

These display-only parameters show the bank, number, and name of the current Combination.

♩ (Tempo) [040.00...240.00, EXT]

This is the tempo for the current Combination, which applies to tempo-synced LFOs and Wave Sequences, the Vector EG, EXi Step Sequencers, KARMA, and tempo-synced effects.

EXT means that the tempo will sync to external MIDI clocks. For more information, see "Tempo" on page 379.

040.00...240.00 allow you to set a specific tempo in BPM, with 1/100 BPM accuracy.

1-1b: 3 Band Parametric EQ

Select Timbre Info — T01: [HD-1] I-D032: Piano & Tec
 Timbre Number — 1 2 3 4
 Timbre Category — Keyboard: Drums FastSyn: Strings

Selected Timbre Info

This area displays information about the timbre selected for editing – T: timbre number/program bank/number/name, Ch: MIDI channel number.

Timbre Number

This indicates the timbre number. The various parameters below each timbre number make settings for the corresponding timbre.

Timbre Category

This shows the abbreviated category name of the Program assigned to the Timbre.

Timbre 01 (Timbre Number)

Auto Load Prog EQ [Off, On]

When you first load a Program into a Timbre, this parameter determines whether or not the Program's EQ settings will be loaded as well.

Once the Program has been loaded, you can change any or all of the EQ settings as desired. All such edits are stored in the Combination, without affecting the original Program.

Regardless of this setting, subsequent edits to the Program's EQ in Program mode will not affect the Combination.

On: the Program's EQ settings will be loaded automatically along with the Program. This is the default setting.

Off: the Program's EQ settings won't be loaded. Use this if you've set up the EQ in a specific way, and then want it to stay unchanged while you try out different Programs.

Bypass [On, Off]

If this is **On (checked)**, all of the EQ will be disabled, including "Input Trim." Bypass can be convenient for comparing the results of the EQ with the original signal.

Input Trim [00...99]

This controls the volume level going into the EQ. Note that this parameter uses a linear scale; 50 is equivalent to -6dB, 25 is the same as -12dB, and so on.

High settings of the Low, Mid, and High Gain controls can cause substantial increases in the overall level. You can compensate for this by turning down the input trim.

High Gain [-18.0...+00.0...+18.0dB]

This controls the gain of the 10kHz High Shelf EQ, in increments of 0.5dB.

Mid Frequency [100Hz...10kHz]

This sets the center frequency for the Mid sweep EQ.

Mid Gain [-18.0...+00.0...+18.0dB]

This controls the gain of the Mid Sweep EQ, in increments of 0.5dB.

Low Gain [-18.0...+00.0...+18.0dB]

This controls the gain of the 80Hz Low Shelf EQ, in increments of 0.5dB.

Timbre 02...16 (Timbre Number)

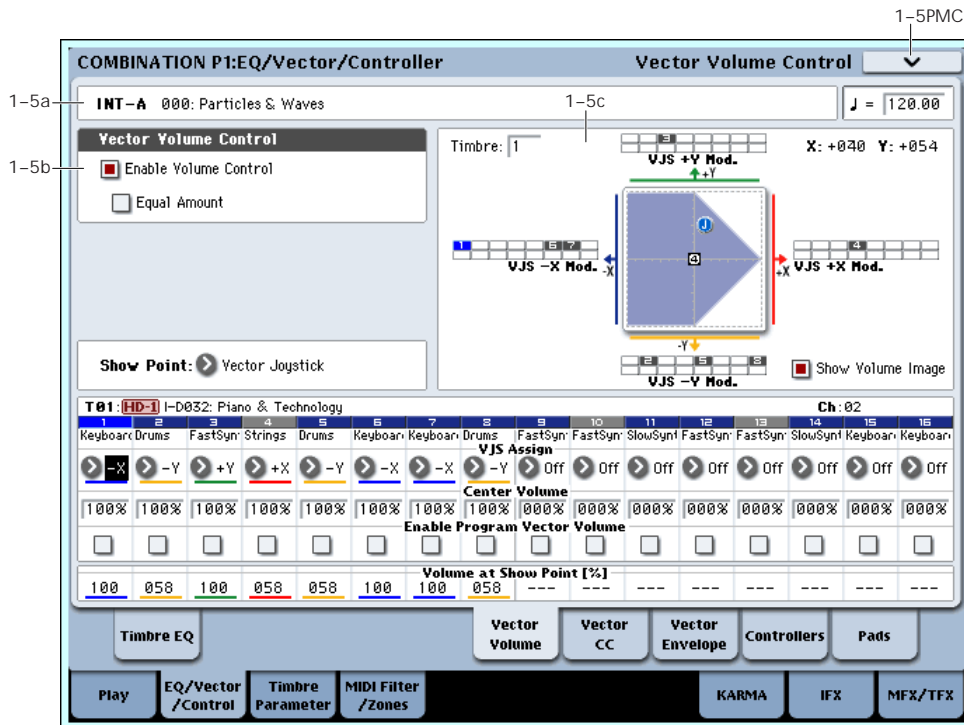
These parameters adjust the three-band EQ (with sweepable mid range) for timbres 2 through 16. They are the same as for timbre 1. See "Timbre 01".

- **0: Write Combination.** For more information, see "Write Combination" on page 461.
- **1: Exclusive Solo.** For more information, see "Exclusive Solo" on page 142.
- **2: Copy From Program.** For more information, see "Copy From Program" on page 461.
- **3: Show EQ Graphic.** For more information, see "Show EQ Graphic" on page 463.

▼ 1-1: Page Menu Commands

The number before each command shows its ENTER + number-key shortcut. For more information on these shortcuts, see "ENTER + 0-9: shortcuts for menu commands" on page 142.

1-5: Vector Volume Control



Vector Synthesis lets you control Timbre volumes and Program & Effects parameters by moving the Vector Joystick, by using the programmable Vector Envelope, or by the combination of the two.

For more background information on Vector Synthesis, please see “What does Vector mean?” on page 39, and “Vector Joystick and Vector Envelope” on page 39.

Program and Combi Vectors work together

In Combi mode, each Timbre’s Program still has its own Vector EG, which controls volume and CCs as it did in Program mode. You can disable the Program Vector Volume and CC control separately for each Timbre, if desired.

There is also a separate Combi-wide Vector EG, with its own Vector Volume and CC control settings. As with the Program Vector, you can disable the Combi Volume and CC control separately for each Timbre.

How Combi Vector Volume works

In Program mode, Vector Volume fades between the two Oscillators. Oscillator 1 is always at maximum volume when the Vector position is all the way to the left (–X), and Oscillator 2 is always at maximum when the Vector Position is all the way to the right (+X).

In Combi mode, on the other hand, the Vector can fade between any or all of the 16 Timbres. You can assign each of the Timbres to be controlled by any of the four Vector axes (+X, –X, +Y, –Y), or to not be controlled at all.

This lets you set up complex transitions between different Programs, including between HD-1 and different EXi instruments.

1-5a: Combination Name

Bank [INT–A...INT–G, USER–A...USER–G]

Combination Name [(000...127: Name)]

These display-only parameters show the bank, number, and name of the current Combination.

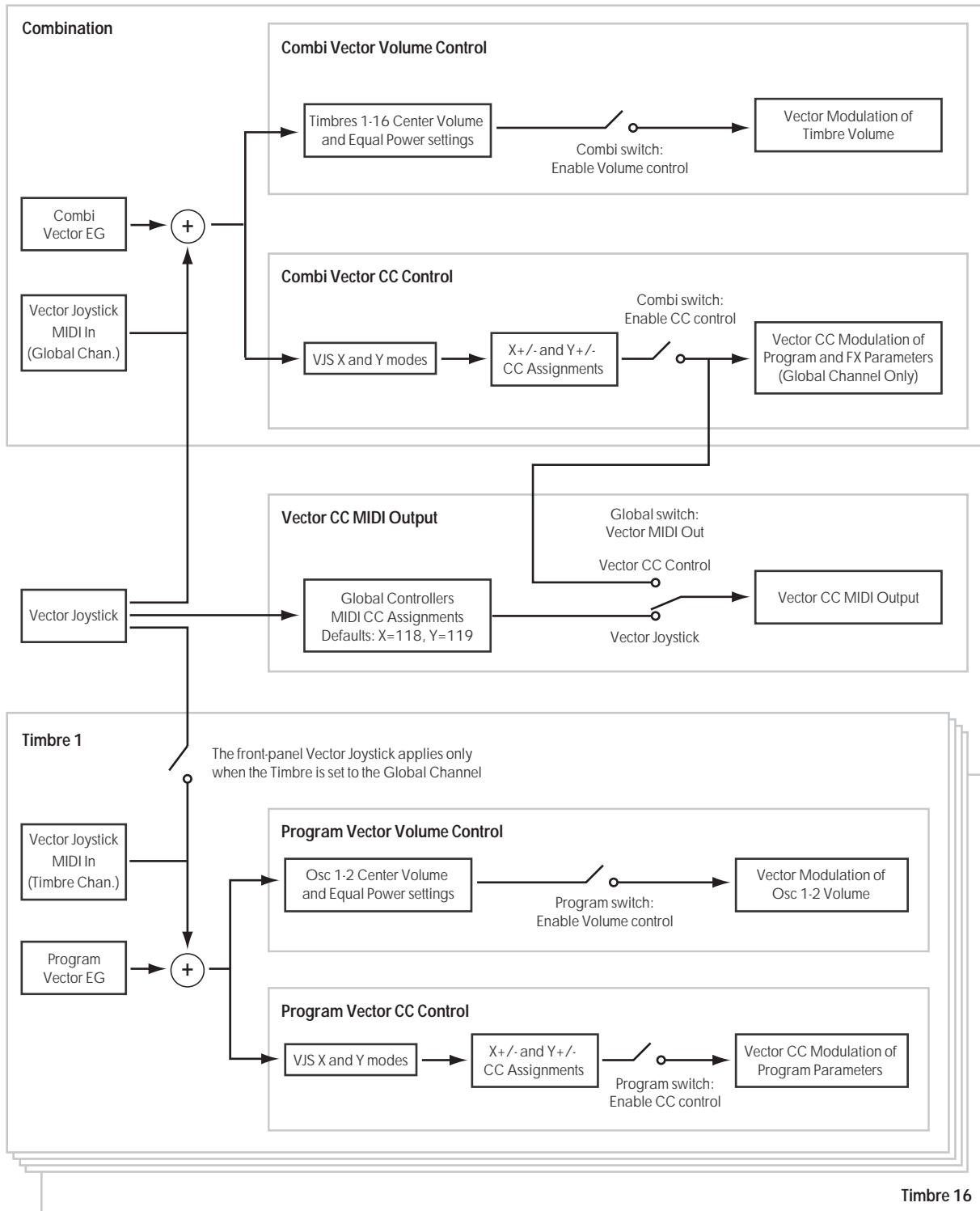
♩ (Tempo) [040.00...240.00, EXT]

This is the tempo for the current Combination, which applies to tempo-synced LFOs and Wave Sequences, the Vector EG, EXi Step Sequencers, KARMA, and tempo-synced effects.

EXT means that the tempo will sync to external MIDI clocks. For more information, see “Tempo” on page 379.

040.00...240.00 allow you to set a specific tempo in BPM, with 1/100 BPM accuracy.

Vector Synthesis system, Combi mode



1-5b: Vector Volume Control

Vector Volume Control lets you adjust the relative volumes of the 16 Timbres by moving the Vector Joystick (or the Vector Envelope) from left to right on the X axis, and up and down on the Y axis.

The **Equal Amount** check-box makes the Vector create a smooth fade between the Timbres, while the individual Timbre **Center Volume** parameters allow you to create more complex fade shapes.

Enable Volume Control

[Off, On]

When this box is checked, the Vector position will control the volumes of all Timbres whose **VJS Assign** parameter is not set to **Off**.

When this box is not checked, the Vector position will not directly affect volume. However, it's still possible for the Vector to control volume via Vector CCs and AMS, depending on the individual Program's parameter settings.

Equal Amount

[Off, On]

This applies only when **Enable Volume Control** is On.

When **Equal Amount** is On, the Vector will fade between all four Vector axes while maintaining a total amount of 100%. This provides a smooth fade between the different sounds, and is the type of volume control used by classic Vector synths.

Note that this will work best when the Programs assigned to each of the four axes have equivalent volumes. For instance, you might create a Combi with four Programs, each sounding at the same volume and assigned to a different axis. You could then add a fifth Program, assign it to one of the axes, and then use the Timbre volume sliders to reduce the levels of both Programs on that axis by 50%—so that their combined volume is the same as any one of the other Programs.

Also, when this is checked, the **Center Volume** parameters will be grayed out, since **Equal Amount** sets them automatically.

When **Equal Amount** is Off, the individual Timbre **Center Volume** parameters determine the way in which Vector position affects volume.

Note: For an interesting variation on this effect, turn **Equal Amount Off**, and instead set all of the Timbre **Center Volumes** to 50%. The Timbres will still fade together smoothly, but with a more gentle effect towards the extremes of the Vector axes.

1-5c: Vector Graphic

Vector Graphic

This shows a diagram of the vector space, including the five points of the Vector EG (labeled 0-4) and the current position of the Vector Joystick (labeled J).

The transitions between the EG's points are shown by black lines, and the loop transition is shown by a gray line.

Show Volume Image

[Off, On]

The vector graphic includes an image representing the Vector Volume Control settings for the current Timbre (see **Timbre Select**, below). You can use the **Show Volume Image** check-box to toggle this part of the graphic on and off.

Timbre Select

[01...16]

This selects the Timbre whose volume image will be shown.

Show Point

[VJS, Vector EG Point 0...4]

You can view the volume and CC values for the current position of the Vector Joystick, or for any of the EG's five points. This selects the point whose values will be shown.

Timbre Volume & CC Display

This read-only display shows the volume and CC values for the current Vector point, as selected by the Show Point parameter, above.

Timbre 01

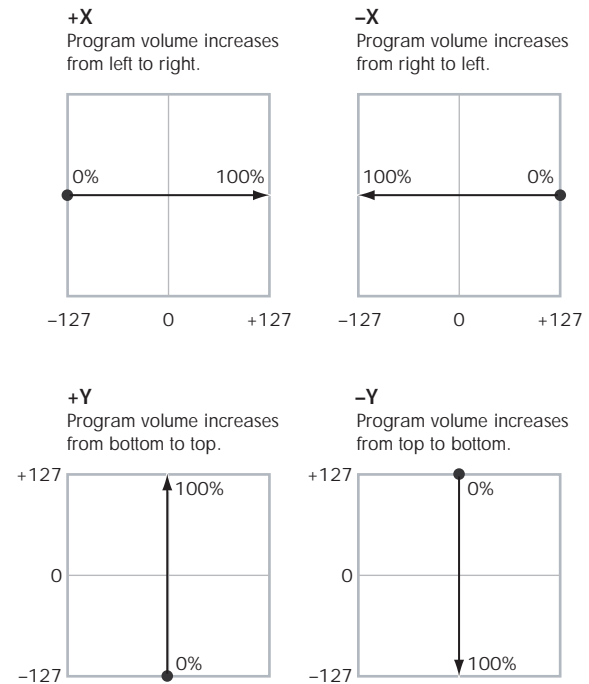
VJS Assign

[Off, +X, -X, +Y, -Y]

This assigns an axis of the Vector to control the Timbre's volume. See the diagram "VJS Assign and Program Volume," below, for more details.

Off means that the Vector position will not affect the Timbre's volume.

VJS Assign and Program Volume



Center Volume

[0, 25, 50, 75, 100%]

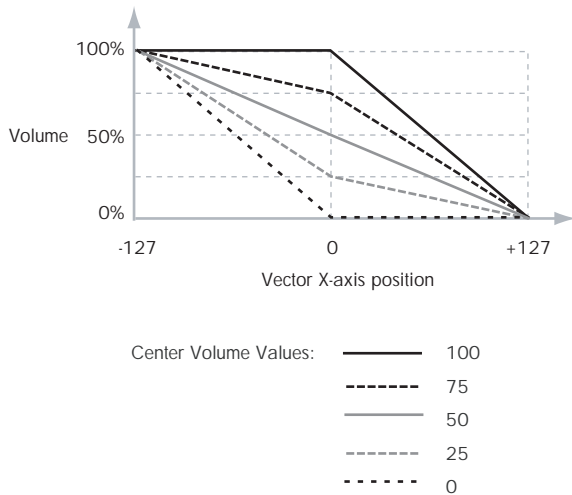
This sets the volume of Timbre 1 at the center point. It applies only when **Equal Amount**, above, is set to **Off**.

The volumes at the extreme ends of the axis are fixed, depending on the setting of the **VJS Assign** parameter.

For instance, if **VJS Assign** is set to **-X**, the Timbre will always be at 100% volume on the left side, and 0% (silent) on the right side.

This parameter applies only to the Combi Vector Volume control, and does not change the Program's individual Vector Volume settings.

Timbre Center Volume, VJS Assign = -X



Enable Program Vector Volume [Off, On]

When this is turned **On**, the Program’s Vector Volume control will function as it does in Program mode, crossfading between Oscillators 1 and 2. The crossfade

will be controlled by the combination of the Program’s Vector EG and the Vector Joystick, and is not affected by the Combi’s Vector EG.

When this is turned **Off**, the Program’s Vector Volume control will be disabled.

Timbres 02–16

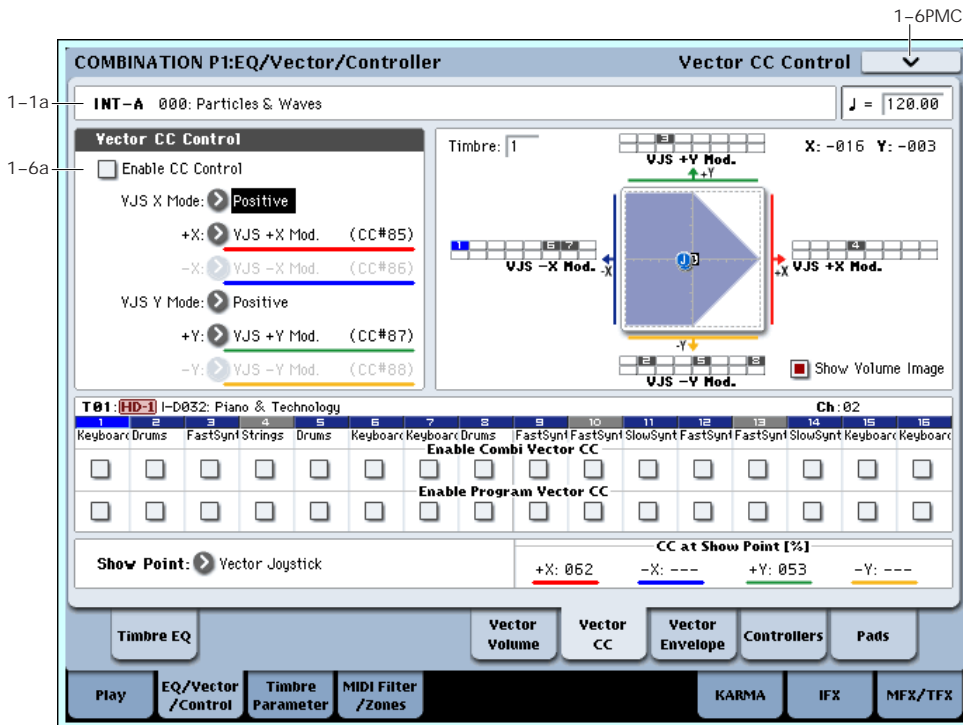
The parameters for Timbres 2–16 are identical to those for Timbre 01, as described above.

▼ 1–5: Page Menu Commands

The number before each command shows its ENTER + number-key shortcut. For more information on these shortcuts, see “ENTER + 0-9: shortcuts for menu commands” on page 142.

- **0: Write Combination.** For more information, see “Write Combination” on page 461.
- **1: Exclusive Solo.** For more information, see “Exclusive Solo” on page 142.
- **2: Copy From Program.** For more information, see “Copy From Program” on page 461.

1–6: Vector CC Control



1–6a: Vector CC Control

Vector CC Control lets you use the combination of the Vector Joystick and the Vector EG to control the Combi’s Effects.

Each of the four directions of the Vector can send a different MIDI CC, including left (-X), right (+X), up (+Y), and down (-Y). You can choose between several different patterns combining these four directions by using the VJS X Mode and VJS Y Mode parameters.

The Vector CCs are also sent to all Global Channel Timbres. These may modulate Program parameters, like any other MIDI CCs, depending on the settings within each individual Program.

Finally, you can optionally send these CCs out to external MIDI instruments. A global parameter allows you to enable or disable this MIDI output; by default, it is disabled.

Program and Combi Vectors work together

In Combi mode, each Timbre’s Program still has its own Vector EG, which controls volume and CCs as it did in Program mode. You can disable the Program’s Vector Volume and CC control separately for each Timbre, if desired.

Program Vector CCs affect only their own Program, even if other Timbres are set to the same MIDI channel.

There is also a separate Combi-wide Vector EG, with its own Vector Volume and CC control settings. Combi Vector CCs affect all Timbres set to the Global channel. As with the Program Vector, you can disable the Combi Volume and CC control separately for each Timbre.

Vector and MIDI

The Vector features interact with MIDI in two different ways: through the Vector Joystick, and through the Vector CC Control.

The **Vector Joystick** sends and receives two MIDI controllers: one for the X axis, and the other for the Y axis. In Global mode, you can assign these to any MIDI CC numbers you like. The defaults are CC#118 for the X axis, and CC#119 for the Y axis.

The Vector Joystick and its CCs *control* the Vector position, in conjunction with the Vector EG.

The **Vector CC Control**, on the other hand, is *generated by* the Vector position. Normally, this will only affect internal sounds and effects. If you like, however, you can also enable a Global parameter to send these generated CCs to external MIDI devices.

Note that, in Combi mode, only the Combi’s Vector CCs can be sent to external MIDI instruments; the individual Program’s vector CCs are only used internally.

Enable CC Control

[Off, On]

When this box is checked, the Vector position will control the CCs assigned to +X, -X, +Y, and -Y, as set below.

When this box is not checked, the Vector position will not affect these CCs. However, the joystick will still send and receive its dedicated MIDI CCs, just like other physical controllers. See “Vector and MIDI,” above, for more information.

This parameter affects only the Combi Vector CCs. Even if this is turned **Off**, the individual Programs’ Vector CCs will still function normally.

VJS X Mode [Positive, Negative, Xfade, Split]

You can set up the Vector to send out CCs in several different patterns, as shown in the graphic below. This controls the pattern for the X axis.

Note that this setting affects only CC Control; it has no effect on Volume Control. Also, it applies only to the Combi Vector CCs, and has no effect on the individual Program Vector CCs.

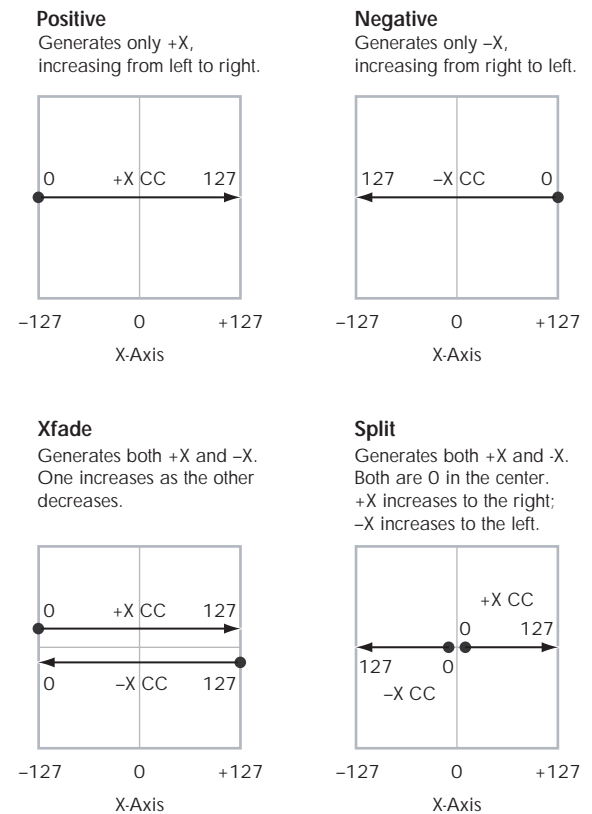
Positive sends out only +X, starting at 0 at the far left, and increasing to 127 at the far right. -X is disabled in this mode.

Negative sends out only -X, starting at 0 at the far right, and increasing to 127 at the far left. In this mode, +X is grayed out.

Xfade sends out both +X and -X, overlapping throughout the X axis. As one increases, the other decreases.

Split sends out both +X and -X, with a split in the center. +X is sent when the point moves to the right of the center, and -X is sent when the point moves to the left of center.

Vector CC Modes



+X

[Off...MIDI CC#119]

This assigns the controller sent by the +X vector. You can use this as an AMS source to control Program parameters, or as a Dmod source to control Effects parameters. It will be grayed out if the VJS X Mode, above, is set to Negative.

In addition to the standard list of MIDI controllers, you can also assign the +X vector to duplicate the function of several front-panel controllers, including JS X, JS+X, JS-X, Knobs 5-8, and SW 1-2.

For instance, if you assign +X to Knob 6, the vector’s +X will use the controller assigned to Knob 6 on the Controller Assign page.

Finally, you can also assign +X to control the Master Volume.

-X [Off...MIDI CC#119]

This assigns the controller sent by the -X vector. It will be grayed out if the VJS X Mode, above, is set to Positive.

The selections are the same as for +X, above.

VJS Y Mode [Positive, Negative, Xfade, Split]

This controls the Vector CC pattern for the Y axis. For more information, see the description under VJS X Mode, above.

+Y [Off...MIDI CC#119]

This assigns the controller sent by the +Y vector. It will be grayed out if the VJS Y Mode, above, is set to Negative.

The selections are the same as for +X, above.

-Y [Off...MIDI CC#119]

This assigns the controller sent by the -Y vector. It will be grayed out if the VJS Y Mode, above, is set to Positive.

The selections are the same as for +X, above.

Show Point [VJS, Vector EG Point 0...4]

You can view the volume and CC values for the current position of the Vector Joystick, or for any of the EG's five points. This selects the point whose values will be shown.

CC at Show Point [%]

This read-only display shows the volume values for the current Vector point, as selected by the Show Point parameter, above.

Timbre 01

Enable Combi Vector CC [Off, On]

This controls whether or not the Timbre will receive the Combi Vector CCs.

If this is **On**, the Timbre will receive the CCs, and the Timbre's Program will respond to them according to its own AMS settings.

If this is **Off**, the Timbre will not receive the CCs. This can be useful if the Combi's Vector CCs are causing unwanted modulation, or conflicting with the Program's own Vector CCs.

Enable Program Vector CC [Off, On]

This controls whether or not the Program's own Vector CCs will be active.

If this is **On**, the Program's Vector CCs and Vector EG will work as AMS sources, just as they did in Program mode. The CCs will not affect any other Timbres, even if they are set to the same MIDI channel.

Note that, in some cases, the Vector CCs may have been used for modulating the Program's effects via Dmod. This functionality is not carried into the Combi; for modulating the Combi effects, use the Combi's Vector CCs instead.

If Enable Program Vector CC is **Off**, then the Program's Vector CCs will have no effect. This can be useful if they are conflicting with the Combi's Vector CCs.

Timbres 02-16

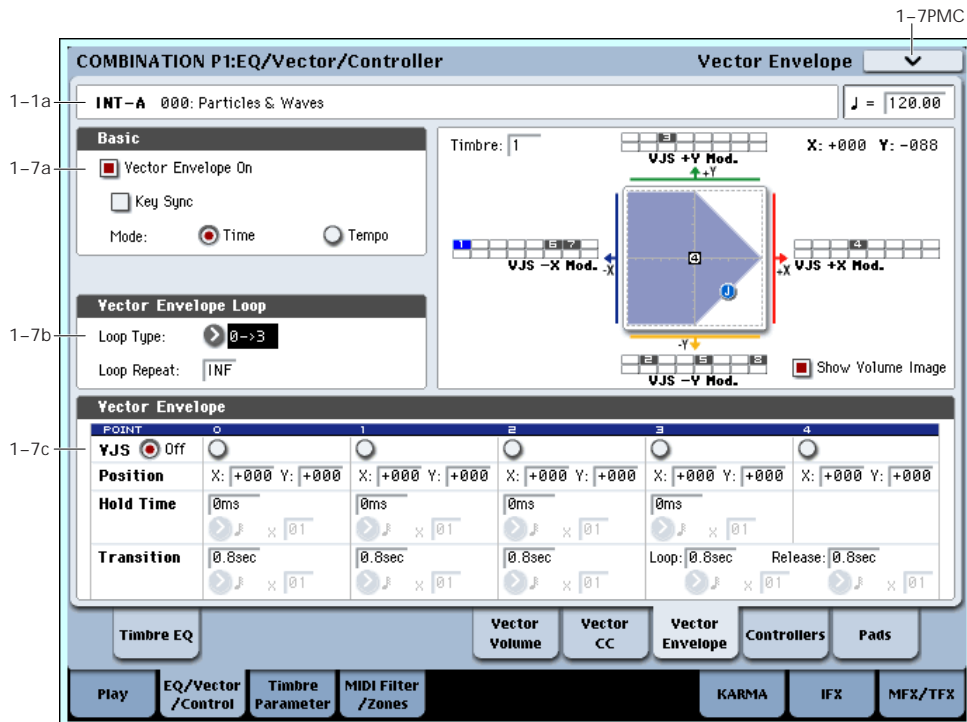
The settings for Timbres 2-16 are identical to those for Timbre 01, as described above.

▼ 1-6: Page Menu Commands

The number before each command shows its ENTER + number-key shortcut. For more information on these shortcuts, see "ENTER + 0-9: shortcuts for menu commands" on page 142.

- **0: Write Combination.** For more information, see "Write Combination" on page 461.
- **1: Exclusive Solo.** For more information, see "Exclusive Solo" on page 142.
- **2: Copy From Program.** For more information, see "Copy From Program" on page 461.

1-7: Vector Envelope



The Vector Envelope works together with the Vector Joystick to control the Vector position. It's particularly convenient for modulating effects, since it's the only Combi-wide programmable modulation source outside of KARMA.

The Vector Envelope is different from the other envelopes in several ways:

- Each point has two “levels” - one for the X axis, and one for the Y axis.
- The envelope times can be based on seconds and milliseconds, or synced to tempo.
- Each point has a hold time, as well as a transition time to the next point.
- The envelope can loop between two points, for either a specified number of repeats, or as long as you hold the note.

Vector Volume and CC control use separate EGs

There are actually two different Vector EGs, which share the same parameters: one for Volume Control, and the other for CC Control.

All of the notes on the Combi's Global Channel share a single CC Control EG. This EG starts when you first play a note, and continues as long as any notes are held down on the keyboard. When you release all of the notes, the EG goes into its release phase.

Each note then has its own, additional Volume Control EG, which lets you crossfade between Programs to create complex, evolving timbres. The **Key Sync** parameter applies only to this per-note EG.

When the **Key Sync** parameter is **Off**, the CC Control and Volume Control EGs are completely synchronized.

When **Key Sync** is **On**, each note's Volume Control EG will start at note-on, and go into release at note-off. All the notes will still share a single CC Control EG.

1-7a: Basic

Vector Envelope On [Off, On]

On (checked): When this box is checked, the Vector EG will work with the Vector Joystick to control the vector position.

Off (unchecked): When this box is not checked, the Vector EG will not run. The vector position will be controlled solely by the Vector Joystick.

Key Sync [Off, On]

The Key Sync parameter applies only to Vector Volume control. As described under “Vector Volume and CC control use separate EGs,” above, Vector CC control always acts as if Key Sync were Off.

On (checked): When Key Sync is **On**, the Vector Volume EG starts each time you press a key, and an independent EG runs for each note. This is the normal setting.

Off (unchecked): When Key Sync is **Off**, the Vector Volume EG starts from the phase determined by the first note in the phrase, so that the EGs for all notes being held are synchronized together.

Mode [Time, Tempo]

Time: When the Mode is set to **Time**, you can set the EG segment times in seconds or milliseconds.

Tempo: When the Mode is set to **Tempo**, the Vector EG will synchronize to the system tempo, as set by either the Tempo knob or MIDI Clock. Instead of using

seconds and milliseconds, you can specify the EG times as rhythmic values, using the Base Note and Multiplier parameters.

1-7b: Vector Envelope Loop

The Vector EG can loop between two points, and can continue to loop either for as long as you hold the note, or for a specified number of repeats. You can also turn the loop off completely, if you like.

Loop Type [0->3, 1->3, 2->3, 0<->3, 1<->3]

This selects the start and end points of the loop, and whether the loop is forwards only or forwards-backwards.

The first three selections, 0->3, 1->3, and 2->3, loop forwards only. For instance, when **Loop Type** is set to 1->3, the EG will play as follows: 0, 1, 2, 3, 1, 2, 3, 1, 2, 3 etc.

The last two selections, 0<->3 and 1<->3, are forwards-backwards. For instance, with the 1<->3 setting, the EG will play as follows: 0, 1, 2, 3, 2, 1, 2, 3 etc.

Loop Repeat [Off, 1...126, Inf]

Off: When this is set to Off, the EG will not loop at all.

1-126: The EG will loop the specified number of times, and then hold at point 3 until the note is released.

Inf: The EG will loop as long as the note is held, and then move to point 4 when the note is released.

1-7c: Vector Envelope

The Vector EG has a total of five points. Since the Vector EG can loop, the points are labeled differently from standard envelopes; instead of names like attack and decay, they are simply numbered 0-4.

Sustain and Release

When the EG is in the middle of a loop, there is no “sustain” point per se. However, if the EG has already completed the specified number of **Loop Repeats**, or if **Loop Repeat** is Off, it will sustain at Point 3 until release.

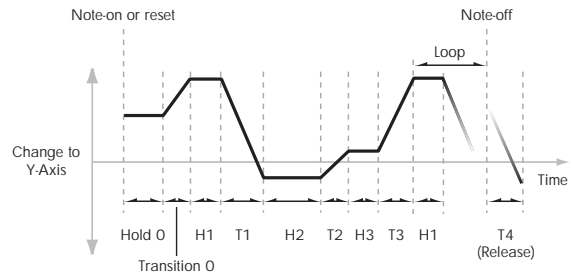
At release, the EG always moves to Point 4.

Hold and Transition times

The Hold Time sets how long the EG lingers at each point, and the Transition time sets how long it takes to go from the selected point to the next.

For instance, the graphic below shows the succession of Hold and Transition times when the Loop Type is set to 1->3. For clarity, only the Y axis positions are shown.

Vector EG times, Loop Type = 1->3

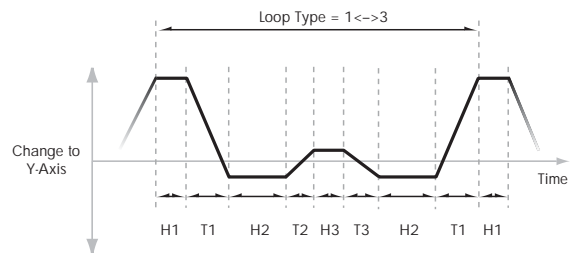


The transition from Point 3 into the loop always uses Point 3’s Transition time, regardless of the **Loop Type**.

Points 0, 1, and 2’s Transition times, however, work in reverse when moving backwards during a forwards-backwards loop. It’s as if you were re-tracing the EG shape in reverse.

For instance, in the backwards section of a loop, moving from Point 2 to Point 1 uses Point 1’s Transition time.

Forwards-Backwards Loop, Loop Type = 1<->3



VJS [Off, 0...4]

This horizontal row of radio buttons lets you edit the selected point’s X-Y position using the Vector Joystick.

Just press the point’s radio button, move the Vector Joystick to the desired location. When you’re finished, press the Off radio button again.

When you are not editing the EG’s X-Y positions, you should leave this set to Off, to avoid inadvertent changes to the EG.

Point 0

Position

In addition to editing the X and Y parameters with the standard data entry controls, you can also simply use the Vector Joystick to set the position, as described under “VJS,” above.

X [-127...+127]

This sets the point’s position on the X axis.

Y [-127...+127]

This sets the point’s position on the Y axis.

Hold Time

This sets the length of time that the EG will stay on Point 0, before moving to Point 1. You can set the Hold Time in either seconds/milliseconds or rhythmic values, depending on the setting of the EG’s **Mode** parameter.

Time [0ms...60sec]

This parameter lets you set the Hold Time in seconds and milliseconds. It applies only when the **Mode** is set to Time.

(Base Note) [Off, ♪ ... ◡]

This menu sets a basic rhythmic value for the **Hold Time**, relative to the system tempo. The values range from a 32nd note to a whole note, including triplets.

This parameter applies only when the **Mode** is set to **Tempo**.

x (Multiply Base Note by...) [01...32]

This multiplies the length of the **Base Note**. For instance, if the **Base Note** is set to a sixteenth note, and the multiplier is set to 3, the **Hold Time** will last for a dotted eighth note.

Transition

This sets the length of time that the EG takes to move from Point 0 to Point 1.

When the **Loop Type** is set to 0<->3, this also sets the time that it takes to move from Point 1 to Point 0 during the backwards section of the loop.

Time [0ms...60sec]

This parameter lets you set the Transition time in seconds and milliseconds. It applies only when the **Mode** is set to Time.

(Base Note) [♪ ... ◡]

This menu sets a basic rhythmic value for the Transition time, relative to the system tempo. It applies only when the **Mode** is set to **Tempo**.

x (Multiply Base Note by...) [01...32]

This multiplies the length of the **Base Note**. For instance, if the Base Note is set to a sixteenth note, and the multiplier is set to 3, the EG will move from Point 0 to Point 1 over a dotted eighth note.

Points 1 and 2

Points 1 and 2 work exactly like Point 0, as described above.

Point 3

Point 3 also works much like Points 0-2, with two main differences:

Point 3 always uses its own **Time** when moving into the loop, regardless of the direction of the loop.

If the **Loop Repeats** is set to Off, or if the **Loop** is set to 1-126 and has already played the specified number of times, then the EG will stay at Point 3 until the EG either goes into release, or is reset by KARMA.

Hold Time

This works just like the **Hold Time** for Point 0, as described under "Hold Time" on page 410.

Loop

This sets the length of time that it takes to move from Point 3 to the first Point in the loop. You can set this in either seconds/milliseconds or rhythmic values, depending on whether the **Mode** is set to Time or Tempo.

The **Time**, **Base Note**, and **Multiplier** parameters work just like those for Point 0, as described under "Transition" on page 411.

Point 4

Point 4 is the Vector EG's release destination. Its time setting is different from those of the other Points. Instead of setting the time it takes to move from Point 4 to the next Point, it sets how long it takes to go from the previous Point to Point 4.

The EG moves to Point 4 as soon as it releases, regardless of where it was before the release. For instance, let's say that the EG is in the middle of Point 2's Hold Time at note-off. The EG will immediately begin to move to Point 4, without waiting for the Hold Time to complete.

Release

This sets the length of time that it takes to move to Point 4 after note-off. You can set this in either seconds/milliseconds or rhythmic values, depending on whether the Mode is set to Time or Tempo.

The **Time**, **Base Note**, and **Multiplier** parameters work just like those for Point 0, as described under "Transition" on page 411.

KARMA and Vector EG interaction

KARMA can start and re-start the Vector EG in various ways, as described below:

CC Control EG

When KARMA is **On**, it always starts and re-starts the CC Control EG, according to the KARMA trigger settings. This lets KARMA control sounds or effects in synchronization with the KARMA GE.

Volume Control EGs

When **Key Sync** is **Off**, and KARMA is **On**, KARMA will start and re-start the Volume Control EGs as well as the CC Control EG. This means that the resulting changes in oscillator volumes will be synchronized with the KARMA GE.

When **Key Sync** is **On**, KARMA does not affect Vector Volume Control. Each note will have its own, independent Volume Control EG, just as if KARMA was turned off.

Entering the EG's release stage

Assuming that KARMA is **On**:

When the **KARMA LATCH** switch is **Off**, the KARMA-controlled Vector EG(s) will start to release when you remove your hand from the keyboard (and when KARMA is no longer receiving any input notes from other sources).

When the **KARMA LATCH** switch is **On**, the KARMA-controlled Vector EG(s) will start to release only when **KARMA Latch** is turned **Off** again.

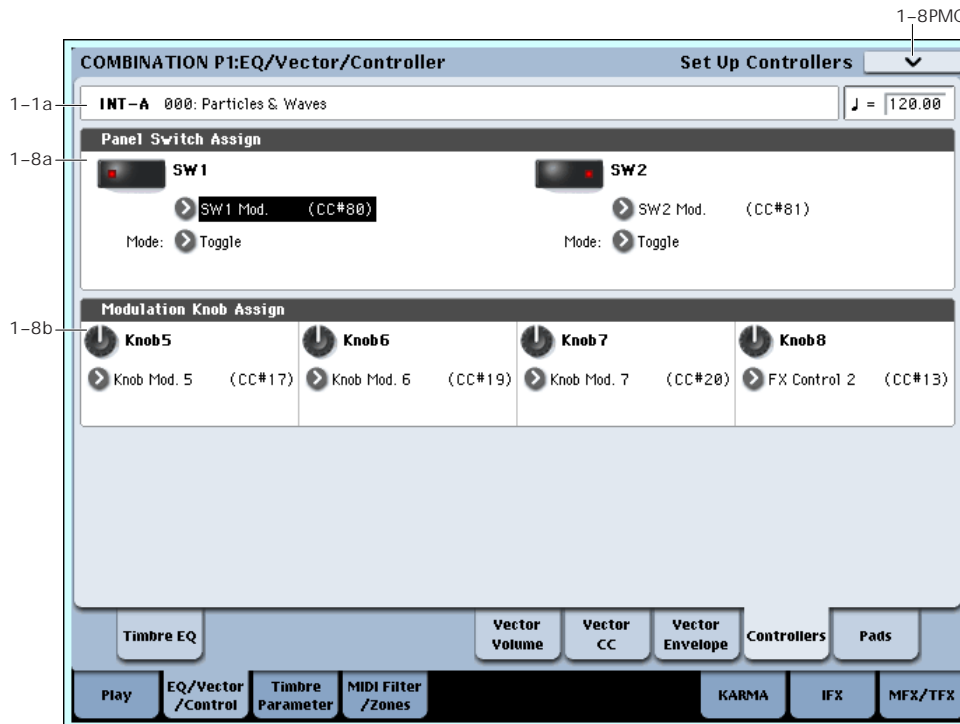
▼ 1-7: Page Menu Commands

The number before each command shows its ENTER + number-key shortcut. For more information on these shortcuts, see “ENTER + 0-9: shortcuts for menu commands” on page 142.

- 0: **Write Combination.** For more information, see “Write Combination” on page 461.

- 1: **Exclusive Solo.** For more information, see “Exclusive Solo” on page 142.
- 2: **Copy From Program.** For more information, see “Copy From Program” on page 461.
- 3: **Copy Vector Envelope.** For more information, see “Copy Vector Envelope” on page 148.

1-8: Set Up Controllers



Here you can set the Combination functions of the SW1 switch, SW2 switch, and the Realtime Modulation Knob 5–8. These settings are made independently for each combination.

1-8a: Panel Switch Assign

Here you can assign the function of the SW1 and SW2 switches. For details on the functions that can be assigned, see “SW1/2 Assignments” on page 1033.

SW1 [Off, ..., After Touch Lock]

Assigns a function to the SW1 switch. The on/off status can also be saved. When you change the assigned function, the status will be reset to off.

Mode [Toggle, Momentary]

Specifies the on/off action that occurs when you press the SW1 switch.

Toggle: The function will alternate between on and off each time you press the SW1 switch.

Momentary: The function will be on only while you continue holding down the SW1 switch.

SW2 [Off, ..., After Touch Lock]

Mode [Toggle, Momentary]

Assigns a function to the SW2 switch. The functions you can assign to the SW2 switch are the same as for the SW1 switch with the exception that SW1 Mod.:CC#80 is replaced by SW2 Mod.:CC#81.

1-8b: Realtime Modulation Knob Assign

Here you can assign the function of the realtime modulation knobs 5 through 8. Most of the functions that can be assigned are control changes. For more information, please see “Realtime Knobs 5–8 Assignments” on page 1034.

The functions you assign here are performed when you operate realtime modulation knobs 5 through 8.

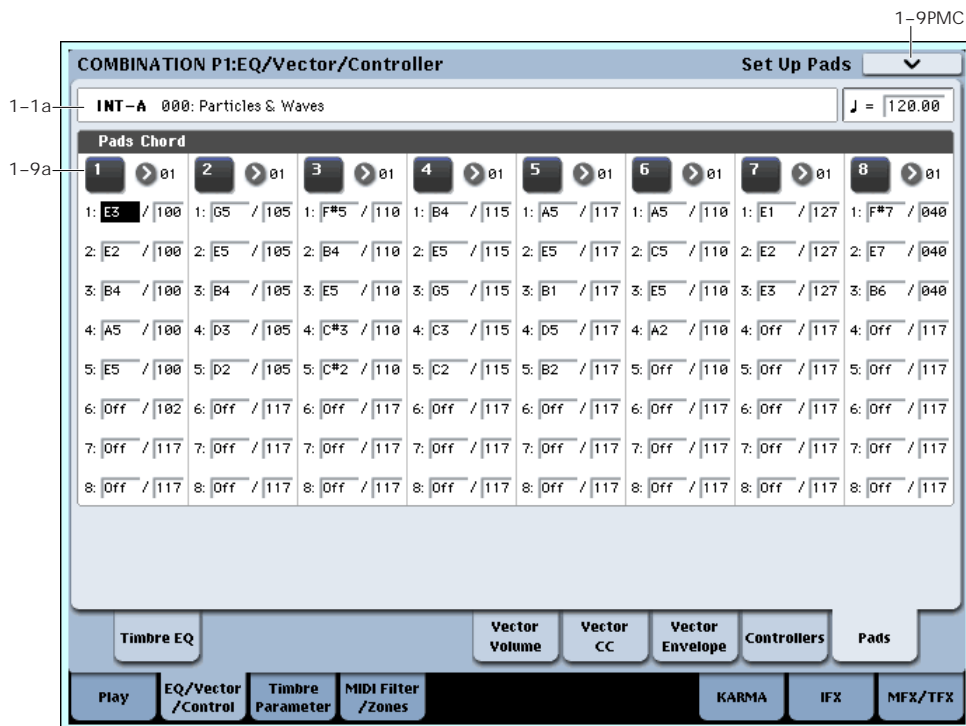
- Knob 5** [Off, ..., MIDI CC#119]
- Knob 6** [Off, ..., MIDI CC#119]
- Knob 7** [Off, ..., MIDI CC#119]
- Knob 8** [Off, ..., MIDI CC#119]

- **0: Write Combination.** For more information, see “Write Combination” on page 461.
- **1: Exclusive Solo.** For more information, see “Exclusive Solo” on page 142.
- **2: Copy From Program.** For more information, see “Copy From Program” on page 461.

▼ 1–8: Page Menu Commands

The number before each command shows its ENTER + number-key shortcut. For more information on these shortcuts, see “ENTER + 0-9: shortcuts for menu commands” on page 142.

1–9: Set Up Pads



There are eight velocity-sensitive trigger pads below the LCD screen. These look like drum machine pads, and playing drum sounds is certainly one use for them.

However, they can also play up to eight-note chords on any sound—not just drums. The pads even remember the velocities of the individual notes within the chord, as well as the notes themselves. Finally, each Pad can be assigned to a different MIDI channel, if desired.

These settings are stored independently for each Combination.

You can assign notes to the pads directly from the keyboard and front-panel controls, without using this page at all. Alternatively, you can enter notes and velocities using the parameters on this page.

Regardless of how the notes were first assigned, you can edit their values here.

For more information, including step-by-step instructions and usage tips, see “Drum & Chord Pads” on page 53 of the Operation Guide.

1–9a: Pad Chords

Pad 1

MIDI Channel [Ch01...Ch16, Gch]

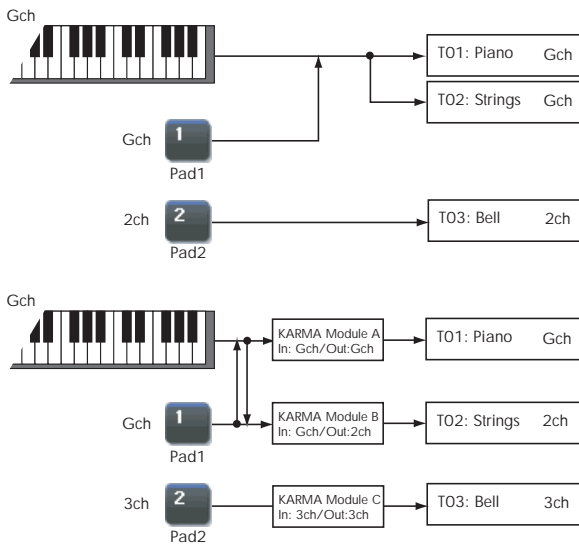
This sets the pad’s MIDI output channel. You can set this to either a specific channel (1-16), or the Global MIDI Channel.

Ch01...Ch16: The pad will transmit on the selected MIDI channel. As shown in the diagram “Pads and MIDI Channel,” below, you can:

- Use this in conjunction with the **Timbre MIDI Channel** setting, to route a pad to a specific Timbre. For more information, see “MIDI Channel” on page 415.
- Use this with the KARMA Module **Input Channel** setting, to generate a phrase or other KARMA function when you play a specific pad. For more information, see “Input Channel” on page 431.

Gch: Use the global **MIDI Channel** setting. This is the default. For more information, see “MIDI Channel (Global MIDI Channel)” on page 708.

Pads and MIDI Channel



Notes 1-8 [Off, C-1...G9 / 001...127]

These parameters let you edit the 8 notes assigned to each pad, along with a separate velocity for each note. To play fewer than 8 notes, just set the unwanted notes to **Off**.

Off: Select this to disable the note.

C-1...G9: This sets the note number.

001...127: This sets the note’s velocity value. For more information on pads and velocity, please see “Pad Mode: Fixed Velocity vs. Velocity Sensitive” on page 414.

Pad Mode: Fixed Velocity vs. Velocity Sensitive

Each pad stores a velocity level for each of its 8 notes. The **PAD MODE** button, to the right of the pads, controls whether or not the pads respond to how hard you play. Its setting is stored with each Program, Combi, and Song.

In **Fixed Velocity** mode, the pads always use their stored velocity settings, regardless of how hard you play.

In **Velocity Sensitive** mode, hitting the pad very strongly produces the preset velocities. When you play more softly, the preset velocities are scaled down accordingly, maintaining the balance between the notes in the chord.

Assigning notes and chords to pads

You can assign single notes and chords to the pads in three different ways.

Play the notes, and then press CHORD ASSIGN

1. Play a single note, or a chord of up to 8 notes.
2. Press the **CHORD ASSIGN** button.
3. Press the pad to which you’d like to assign the notes.

That’s it! The notes are now assigned to the pad.

Press CHORD ASSIGN, and then play notes

This method lets you create a chord out of widely-spaced notes, even if you can’t play all of the notes simultaneously.

1. Press the **CHORD ASSIGN** button.
2. Play a single note, or a chord of up to 8 notes.

You can play a single note, or a simple chord.

If you like, you can also play up to 8 notes as a legato phrase. As long as you take care that the notes overlap each other, the entire phrase will be recorded as a single chord. You can take as long as you like to play the phrase.

3. Press the pad to which you’d like to assign the notes.

After pressing the pad, you’re done!

Edit notes and velocities using the LCD

You can edit the recorded notes and velocities using the on-screen parameters. If you like, you can also enter new notes this way. For more information, please see “Pad 1,” above.

Copying and Merging Pads

Just as you can assign notes to a pad by playing them on the keyboard, you can press a pad to copy its assigned notes to another pad.

The method is similar to steps 1-3 above; press the pad that you want to copy, and then press the **CHORD ASSIGN** switch. Then press the copy-destination pad; the assignments will be copied.

You can also use this to combine the assignments of two or more pads, up to a maximum of eight notes. To do so, just press all of the “copy from” pads simultaneously, and then proceed as above.

For more detailed instructions, please see “Drum & Chord Pads” on page 53 of the Operation Guide.

Pads 2...8

These are the same as for Pad 1, as described above.

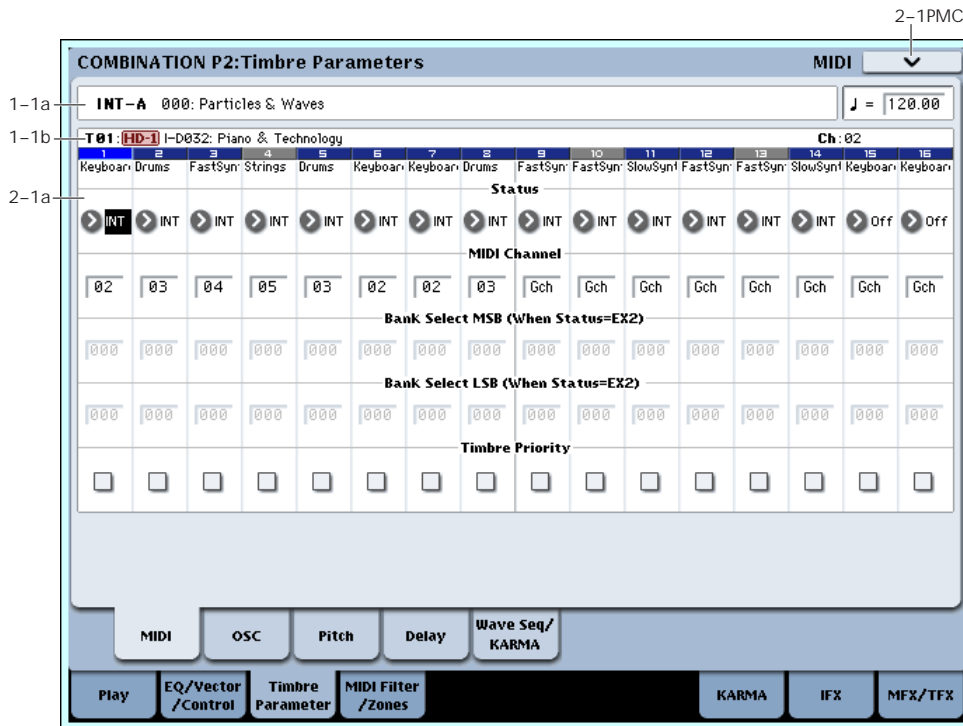
▼ 1-9: Page Menu Commands

The number before each command shows its **ENTER** + number-key shortcut. For more information on these shortcuts, see “**ENTER** + 0-9: shortcuts for menu commands” on page 142.

- **0: Write Combination.** For more information, see “Write Combination” on page 461.
- **1: Exclusive Solo.** For more information, see “Exclusive Solo” on page 142.
- **2: Copy From Program.** For more information, see “Copy From Program” on page 461.
- **3: Copy Pad Setup.** For more information, see “Copy Pad Setup” on page 148.

Combination P2: Timbre Parameters

2-1: MIDI



Here you can make MIDI settings for each timbre.

2-1a: MIDI

Timbre 01

Status [Off, INT, EXT, EX2]

This specifies the MIDI and internal tone generator status.

You can also set **Status** from the P0- Program Select page. For more information, please see "Status" on page 381.

MIDI Channel [01...16, Gch]

Sets the MIDI transmit/receive channel for each timbre.

Gch: The timbre will use the channel that has been selected as the global **MIDI Channel** (Global 1-1a).

When **Status** is INT, MIDI messages will be received on the channel you specify here. If this setting is the same as the global MIDI channel, the internal tone generator will sound according to the internal settings. If this is set to EXT or EX2, playing the OASYS will transmit MIDI messages on the MIDI channel specified here. (Messages will also be transmitted simultaneously on the global MIDI channel.)

Bank Select MSB (When Status = EX2) [000...127]

Bank Select LSB (When Status = EX2) [000...127]

Specifies the bank number that will be transmitted when **Status** is set to EX2. This setting has no effect if **Status** is other than EX2.

Timbre Priority

[Off, On]

This specifies the voice priority for the timbre.

On (checked): Timbres for which this is checked will be given priority. If a new note-on would exceed the available number of voices, a currently-sounding voice will normally be stopped ("stolen"), allowing the newly requested voice to be sounded. At this time, timbres whose "Timbre Priority" is checked are less likely to have a voice "stolen."

For example if you are layering many timbres, you would check this setting for timbres that have a particularly important musical role (such as drums or bass) and would adversely affect the overall song if notes were to be stolen from them. However, this setting will have little meaning if it is turned on for most or all timbres. It's a good idea to leave this unchecked for all timbres, and check it only for important timbres that would cause a conspicuous problem if notes were to drop out during the performance.

Timbres 02...16

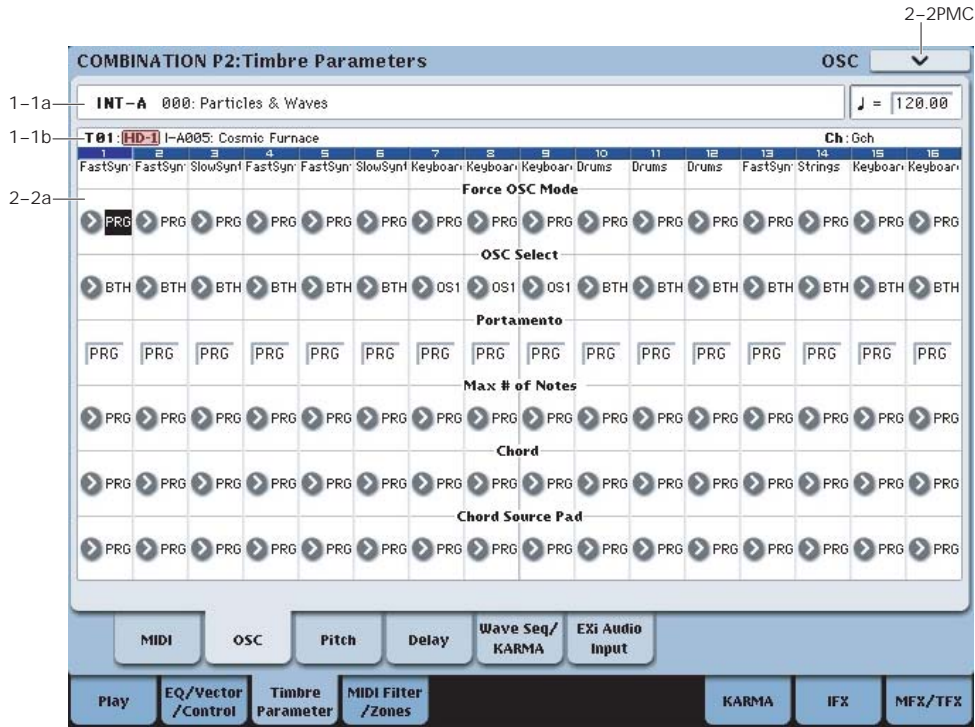
These are the MIDI-related settings for timbres 2 through 16. They are the same as for timbre 1. See "Timbre 01".

▼ 2-1: Page Menu Commands

The number before each command shows its ENTER + number-key shortcut. For more information on these shortcuts, see "ENTER + 0-9: shortcuts for menu commands" on page 142.

- 0: **Write Combination.** For more information, see “Write Combination” on page 461.
- 1: **Exclusive Solo.** For more information, see “Exclusive Solo” on page 142.
- 2: **Copy From Program.** For more information, see “Copy From Program” on page 461.

2-2: OSC



These settings specify how each Timbre will be played.

2-2a: OSC

Timbre 01

Force OSC Mode [PRG, Poly, MN, LGT]

This lets you override the Program’s stored Voice Assign Mode settings, if desired.

PRG: The Program’s stored **Voice Assign Mode** settings will be used. HD-1 programs will use the “1-1c: Voice Assign Mode” settings, and EXi programs will use the “EXi Common 4-1c” settings.

Poly: The timbre will play polyphonically, regardless of the Program’s settings.

MN (Mono): The timbre will play monophonically, regardless of the Program’s settings.

LGT (Legato): The timbre program will sound monophonically, and will play legato according to the Program’s **Mode** setting (Program 1-1b).

With the MN or LGT settings, the Program’s **Priority** setting (Program 1-1c) will determine the priority of the note that sounds when you play two or more notes.

- ▲ EXi programs will ignore this setting if the program does not support the Voice Assign Mode specified by the selected Instrument Type.

AL-1: Poly, MN, and LGT are supported.

CX-3: Poly and MN are supported (LGT will operate as MN)

- ▲ If different Instrument Types are selected for EXi1 and 2, MN (Mono) and LGT (Legato) settings will be valid only if the type is supported by both.

OSC Select [BTH, OS1, OS2]

Specifies whether the timbre’s program will play OSC1 (EXi1), OSC2 (EXi2), or both.

For HD-1 programs whose **Oscillator Mode** (Program 1-1b) is Double, this setting lets you specify that only OSC1 or OSC2 will sound. For EXi programs in which EXi1 and EXi2 are not turned off in the Instrument Type (EXi Common 4-1), this setting lets you specify that only EXi1 or EXi2 will sound.

BTH (Both): OSC1 and 2 (or EXi1, 2) will sound as specified by the settings of the program.

OS1: Only OSC1 (EXi1) will sound.

OS2: Only OSC2 (EXi2) will sound. HD-1 programs will not sound if **Oscillator Mode** is set to Single or Drums. EXi programs will not sound if EXi2 is turned Off in the Instrument Type.


Portamento [PRG, Off, 001...127]

This controls the Timbre’s portamento.

PRG: Portamento will be applied as specified by the Program settings.


Off: Portamento will be off, even if the original Program settings specified for it to be on.

001...127: Portamento will be applied with the portamento time you specify here, even if it is turned off by the program settings.

 Note: not all EXi support portamento, as detailed below; if they do not, then this parameter will be ignored.

AL-1, STR-1, MS-20EX, and MOD-7: portamento is supported

CX-3 and PolysixEX: portamento is *not* supported

 This parameter can be controlled via MIDI CCs #05 and #65 (portamento time and on/off switch, respectively), subject to two conditions:

First, the Timbre's **Status** must be set to **INT**. For more information, see "Status" on page 381.

Second, if **Portamento** is set to **PRG**, only CC#65 (on/off switch) will apply. CC#05 will be ignored.

Max # of Notes [Dynamic, 1...16]

Dynamic is the default. With this setting, you can play as many notes as the system allows.

1-16 lets you limit the maximum number of notes played by the Timbre. Voices will still be allocated dynamically, up to this maximum number. You can use this to:

- Model the voice-leading of vintage synthesizers, such as the Polysix
- Control the resources required by the Timbre, so that more voices can play on other Timbres

Max # of Notes applies only when the Program's **Voice Assign Mode** is set to **Poly**, or when **Force Osc Mode** has been set to **Poly**. With **Mono**, it has no effect.

This setting does not limit the **Unison Number of Voices**. For instance, if **Max # of Notes** is set to **6**, and **Unison Number of Voices** is set to **3**, you can play up to 6 notes, each with 3 Unison voices.

In double Programs, the **Max # of Notes** applies equally to both OSC or EXi. For instance, if **Max # of Notes** is set to **4**, you can play up to 4 notes on each OSC/EXi.

Chord

Chord [PRG, Off, Bsc, Adv]

PRG uses the Program's setting. If the Program is set to **Off**, then the Chord SW has no effect.

Off disables the Chord function.

Bsc (Basic) re-creates the chord mode of the original Polysix. Each time you play a new chord, it will cut off the previous chord. This option ignores the Voice Assign settings.

Adv (Advanced) uses the Program's Voice Assign settings, as if each note in the chord was a transposed set of oscillators layered within the Program.

Poly, **Poly Legato**, **Single Trigger**, **Mono**, **Mono Legato**, **Legato Offset**, **Mono Priority**, and **Mono and Poly Unison** all apply.

You can achieve the same effect as **Bsc**, above, by setting **Chord** to **Advanced**, **Voice Assign** to **Mono**, **Priority** to **Last Note**, and **Legato** to **Off**.

For more information, see "Using Chord mode" on page 54 of the Operation Guide.

Source Pad [PRG, 1...8]

Chord mode uses the chords assigned to the Pads. This selects which of the Pads to use. You can also select chords using the Pads themselves; for more information, see "Using Chord mode" on page 54 of the Operation Guide.

PRG uses the notes of the chord stored in the Timbre's Program, instead of any of the chords in the Combi. This makes it easy to use Chord mode for sound-specific effects, such as octaves, stacked fifths, and so on. When set to **PRG**, the Timbre will not change chords in response to the pads.

Timbres 02...16

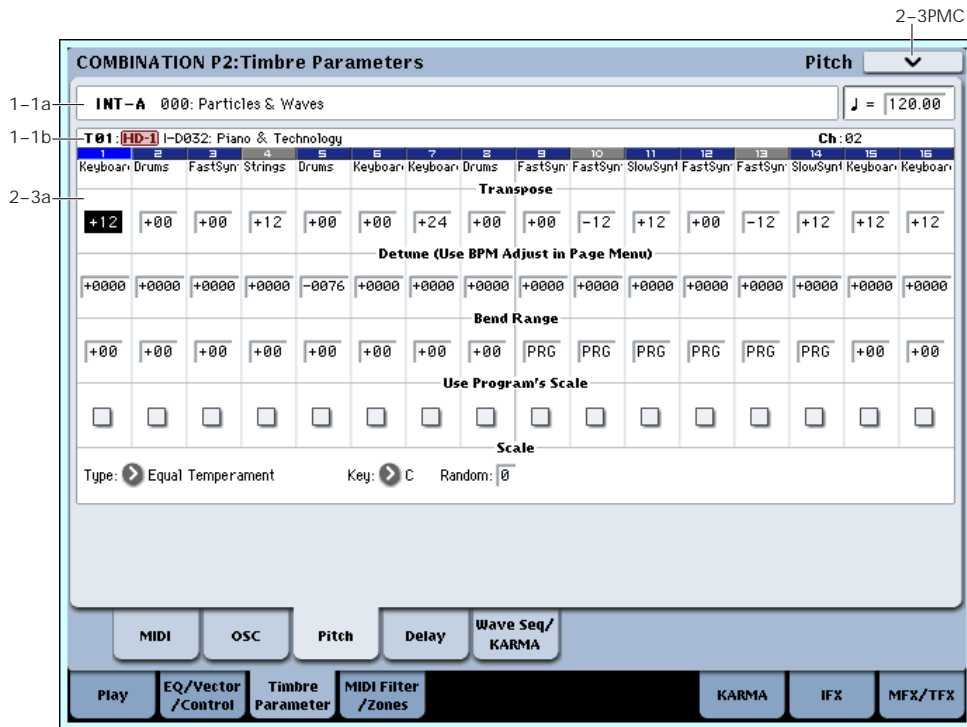
Here you can make voice assignment settings for timbres 2 through 16. The settings are the same as for timbre 1. See "Timbre 01".

▼ 2-2: Page Menu Commands

The number before each command shows its ENTER + number-key shortcut. For more information on these shortcuts, see "ENTER + 0-9: shortcuts for menu commands" on page 142.

- **0: Write Combination.** For more information, see "Write Combination" on page 461.
- **1: Exclusive Solo.** For more information, see "Exclusive Solo" on page 142.
- **2: Copy From Program.** For more information, see "Copy From Program" on page 461.

2-3: Pitch



Here you can make pitch-related settings for each timbre.

2-3a: Pitch

Timbre 01

Transpose [-60...+00...+60]

Adjusts the pitch of each timbre in semitone steps.
12 units equal one octave.

MIDI When **Status** (0-1b, 2-1a) is INT, this parameter will affect the pitches sounded by the OASYS. When **Status** is EXT, this parameter will affect the note numbers of the MIDI note messages that are transmitted.

For example if you make settings of +04 and +07 respectively for two timbres that are set to EXT, playing the C key will transmit a C note number on the global MIDI channel, and at the same time will also transmit E and G note numbers on the MIDI channels of those timbres.

Detune (Use BPM Adj. in Page Menu) [-1200...+0000...+1200]

Adjusts the pitch of each timbre in one-cent units.
+0000: Normal pitch.

Note: You can also use the **Detune BPM Adjust** menu command to alter a loop's tempo via detuning. Since this will alter the pitch of the loop along with the tempo, it's generally suited only to un-pitched percussive loops. For more information, see "Detune BPM Adjust" on page 464.

MIDI **Transpose** and **Detune** can be controlled via MIDI RPN messages. The way that this works depends on whether or not the Timbre uses an HD-1 Drum Program.

If the Timbre does not use an HD-1 Drum Program—for example, if it uses a Single or Double HD-1 Program, or an EXi Program—then MIDI RPN Coarse Tune will control **Transpose**, and RPN Fine Tune will control **Detune**.

If the Timbre uses an HD-1 Drum Program, MIDI RPN Coarse Tune and Fine Tune will be combined to control **Detune**. The overall range is ±1 octave for coarse tune and fine tune together.

Bend Range [PRG, -24...+00...+24]

Specifies the amount of pitch change that will occur when the pitch bender is operated, in semitones.

PRG: The pitch range specified by the program will be used.

-24...+24: This setting will be used regardless of the setting in the program.

MIDI The MIDI RPN Pitch Bend Change message can be received to control this and change the setting. (However it will not be received if this parameter is set to PRG.) This message is received on the MIDI channel for each timbre set by **MIDI Channel** (2-1a). (See KARMA "Transmit MIDI Filter," "Pitch Bend" 7-2a)

Use Program's Scale [Off, On]

Timbre can use the scale that is specified by *Scale* (Program 1-1c).

On (checked): The scale specified by the program will be used.

Off (unchecked): The scale specified by Scale (2-3b) will be used.

Timbres 02... 16

These are the pitch-related settings for timbres 2 through 16. The settings are the same as for timbre 1. For more information, see "Timbre 01".

2-3b: Combination's Scale

This specifies the scale that the combination will use. For more information, please see "1-1g: Scale" on page 37.

Type (Combi's Scale) [Equal Temperament...User Octave Scale15]

Selects the scale.

Key [C...B]

Selects the tonic key of the selected scale.

Random [0...7]

As this value is increased, an increasingly random deviation will be added to the pitch at each note-on.

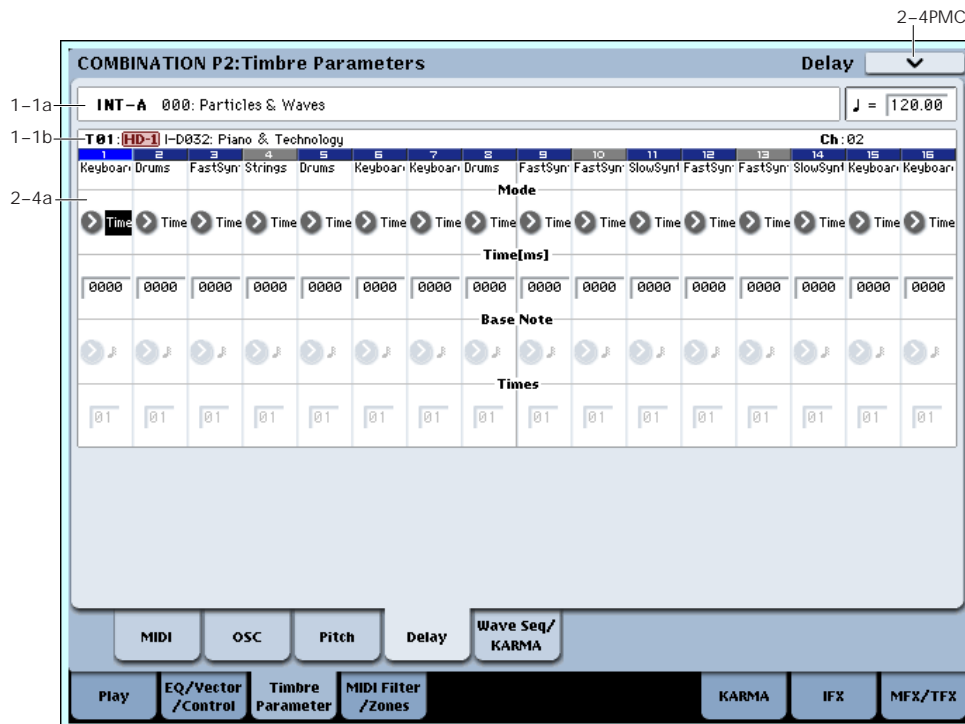
MIDI If **Status** (0-1b, 2-1a) is INT, this setting will affect the pitch produced by the OASYS. If **Status** is EXT, this setting will affect the note number of the note messages transmitted via MIDI.

▼ 2-3: Page Menu Commands

The number before each command shows its ENTER + number-key shortcut. For more information on these shortcuts, see "ENTER + 0-9: shortcuts for menu commands" on page 142.

- 0: **Write Combination.** For more information, see "Write Combination" on page 461.
- 1: **Exclusive Solo.** For more information, see "Exclusive Solo" on page 142.
- 2: **Copy From Program.** For more information, see "Copy From Program" on page 461.
- 3: **Detune BPM Adjust.** For more information, see "Detune BPM Adjust" on page 464.

2-4: Delay



This specifies the time (delay) from when the timbre receives a note-on until the sound begins.

2-4a: Delay

Timbre 01

Mode [Time, Tempo]

Chooses the unit in which you will specify delay time.

Time: Specify the delay time in units of milliseconds (ms = 1/1000th of a second).

Tempo: Specify the delay time in terms of a **Base Note** and **Times** relative to the **Tempo**. For example if **Base Note** = ♩, **Times** = 01, and **Tempo** = 60 BPM, the delay time will be equivalent to 1000 ms.

Time [ms] [0000...6000ms, KeyOff]

Specifies the time (delay time) from note-on until the timbre begins to produce sound, in units of ms (1/1000th of a second). This setting is available if **Mode** is set to Time.

KeyOff: The note will begin sounding at note-off. In this case, the sound will not die away if the sustain level of the program's amp EG is other than 0. This setting is used when creating harpsichord sounds.

Normally you will set this to 0000.

Base Note [♩... ♩]

Times [01...32]

This setting is available when **Mode** is set to **Tempo**. It specifies the delay time from note-on until the timbre begins to produce sound, in terms of a note value relative to the **Tempo** (♩) (0-1a).

Use **Base Note** to specify the desired note value, and use **Times** to extend that note value by the specified multiple.

For example, if you set **Base Note** to a quarter note (♩) and **Times** to 02, the timbre will sound with a delay of a half note (♩)—even if you change **Tempo** (♩). In this case, a **Tempo** of 60.00 BPM will produce a 2000 ms delay, and a **Tempo** of 120.00 BPM will produce a 1000 ms delay.

Timbres 02...16

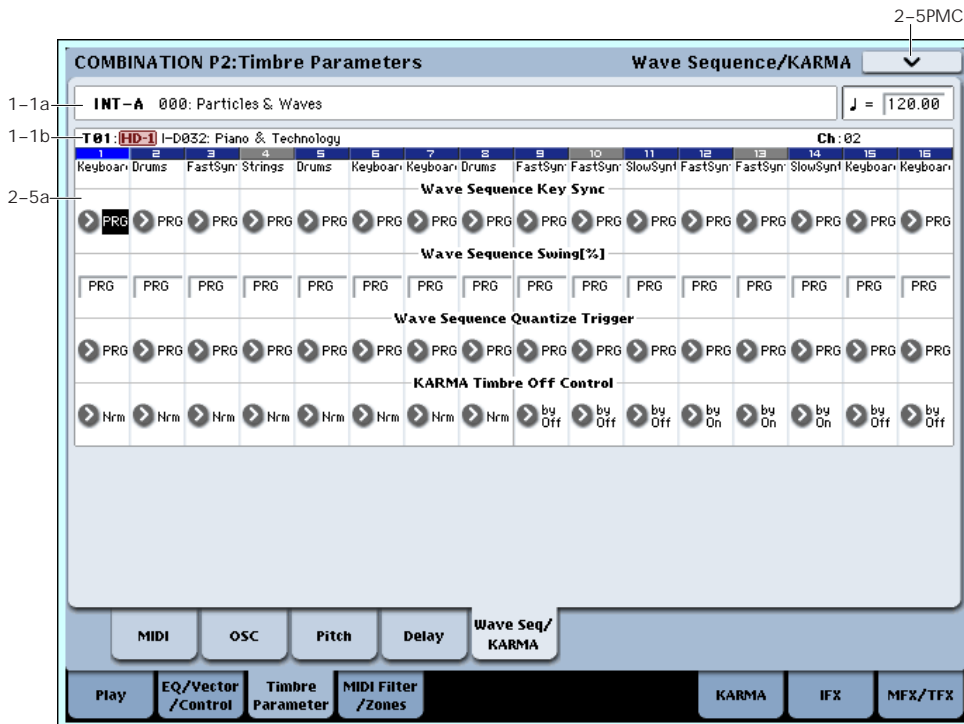
These are the delay time settings for timbres 2 through 16. They are the same as for timbre 1. See "Timbre 01".

▼ 2-4: Page Menu Commands

The number before each command shows its ENTER + number-key shortcut. For more information on these shortcuts, see "ENTER + 0-9: shortcuts for menu commands" on page 142.

- 0: **Write Combination.** For more information, see "Write Combination" on page 461.
- 1: **Exclusive Solo.** For more information, see "Exclusive Solo" on page 142.
- 2: **Copy From Program.** For more information, see "Copy From Program" on page 461.

2-5: Wave Sequence/KARMA



Here you can make settings related to wave sequence and KARMA functionality for each timbre.

2-5a: Wave Sequence/KARMA

Timbre 01

Wave Sequence Key Sync [PRG, Off, On]

Specifies the wave sequence **Key Sync** setting (Program 1-1e) of the program selected for the timbre. This setting is valid if the program uses a wave sequence.

PRG: The setting of the program is used.

Off: Key Sync is forced off. The wave sequence of each note will synchronize to the same step.

On: Key Sync is forced on. The wave sequence will start each time you press a key. If the wave sequences have differing steps or rates, they will proceed independently.

Wave Sequence Swing[%] [PRG, -300...+300]

Specifies the wave sequence “Swing%” setting (Program 1-1e) of the program selected for the timbre. This setting is valid if the program uses a wave sequence.

PRG: The setting of the program is used.

-300...+300: The Swing% specified here is used regardless of the program’s “Swing” setting.

For more information, please see “Swing” on page 36.

Wave Sequence Quantize Trigger [PRG, Off, On]

This allows you to override the Program’s Wave Sequence “Quantize Trigger” setting (Program 1-1d). If you’re using multiple Programs with rhythmic Wave Sequences, you can use this to synchronize all of the Wave Sequences at note-on.

Note that Quantize Trigger applies only when the Wave Sequence’s **Mode** is set to Tempo. For more information, see “Mode” on page 722.

PRG: The setting of the program is used.

Off: “Quantize Trigger” is forced off. The wave sequence will trigger immediately after note-on.

On: “Quantize Trigger” is forced on. The wave sequence pattern will synchronize to eighth-note timing of the currently-sounding wave sequence; i.e., the trigger will be quantized.

For more information, please see “Quantize Trigger” on page 37.

**KARMA Timbre Off Control
[Normal, Timbre Off by KARMA Off, Timbre Off by KARMA On]**

Nrm (Normal): The KARMA ON/OFF switch will not control whether a timbre will sound. Normally you will select Normal.

by Off (Timbre Off by KARMA Off): The timbre will sound as usual when the KARMA ON/OFF switch is on.

The timbre will not sound when the KARMA ON/OFF switch is off.

Use this when you want a specific timbre of multiple timbres set to the same MIDI channel to be silent only when KARMA is off.

by On (Timbre Off by KARMA On): The timbre will not sound when the KARMA ON/OFF switch is on. The timbre will sound as usual when the KARMA ON/OFF switch is off.

Use this when you are using a KARMA Module to control multiple timbres that are set to the same MIDI channel, and want a specific timbre to be silent only when the KARMA function is on.

For example you can use this to play a two-timbre layer from the keyboard when KARMA is off, and use one timbre to sound the phrase when KARMA is on.

If the **Status** (0-1b) of each timbre is INT, you can use the **Timbre Off Control** setting to stop the oscillator of each timbre from sounding.

Timbres 02... 16

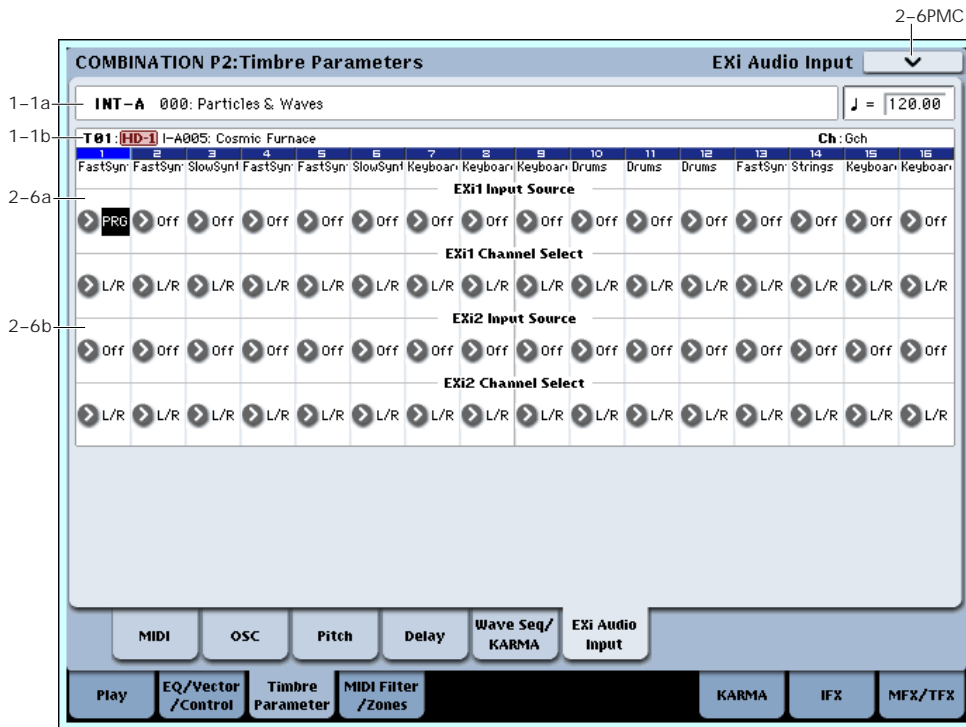
These are the wave sequence and KARMA-related settings for timbres 2 through 16. They are the same as for timbre 1. See “Timbre 01”.

▼ 2-5: Page Menu Commands

The number before each command shows its ENTER + number-key shortcut. For more information on these shortcuts, see “ENTER + 0-9: shortcuts for menu commands” on page 142.

- **0: Write Combination.** For more information, see “Write Combination” on page 461.
- **1: Exclusive Solo.** For more information, see “Exclusive Solo” on page 142.
- **2: Copy From Program.** For more information, see “Copy From Program” on page 461.

2-6: EXi Audio Input



These parameters let you route audio into EXi instruments which support audio input, such as the STR-1. You can use this to create feedback loops, or to process live or recorded audio through the EXi's synthesis engine.

EXi which do not support audio input will ignore these settings. For more information on using audio inputs with the STR-1, see "4-8c: Feedback" on page 261.

2-6a: EXi 1

Input Source [PRG, Off, Audio Input 1/2...3/4, S/P DIF Input L/R, L/R Output, Indiv. Output 1/2...7/8, REC 1/2...3/4, FX Control 1, 2, IFX 1...12, MFX 1, 2, TFX 1, 2]

This selects the input source for EXi1. You can use this to create a feedback loop, if desired.

PRG uses the setting stored in the Program. For more information, see "4-2: EXi Audio Input" on page 168.

Off disables the input.

Audio Input 1/2...3/4 and **S/P DIF Input L/R** use the live audio from the selected input.

L/R Output and **Indiv. Output 1/2...7/8** use the audio as it is heard from the selected output (like connecting a cable from the output back to the input).

REC 1/2...3/4 and **FX Control 1, 2** use the audio from the selected bus.

IFX 1...12, MFX 1, 2, and **TFX 1, 2** use the output of the selected effect.

Channel Select [Stereo/L+R, Left, Right]

Stereo/L+R: This selection routes a stereo signal to EXi with stereo inputs, and an L+R summation to EXi with mono inputs.

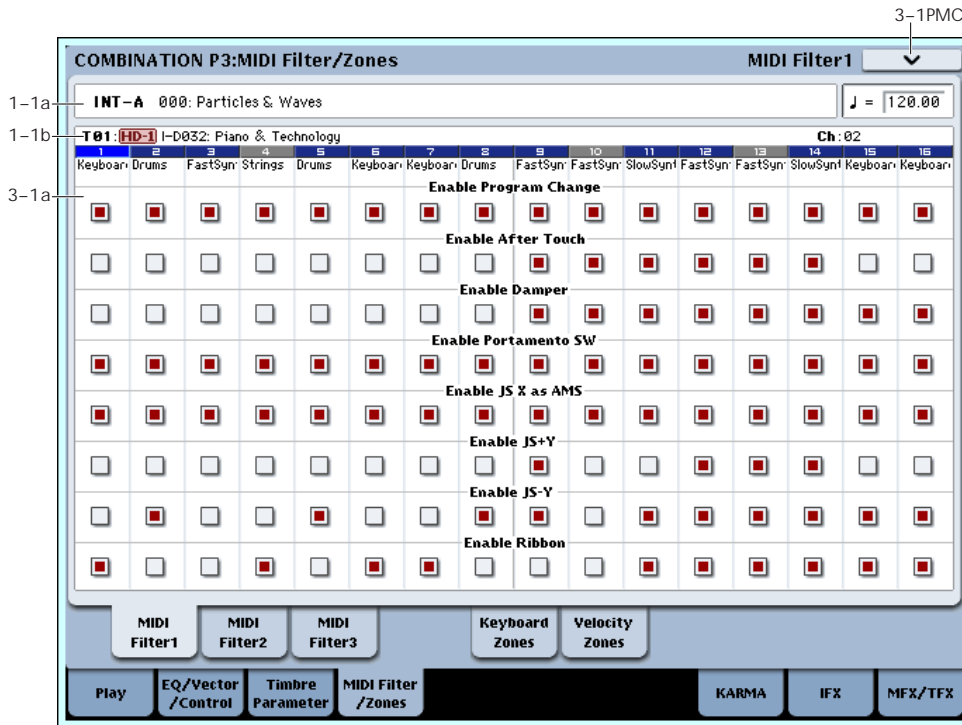
Left, Right: This uses only a mono signal from the selected channel.

2-6b: EXi 2

EXi2 has the same controls as EXi1, above.

Combination P3: MIDI Filter/Zones

3-1: MIDI Filter 1



These settings allow you to apply filters to the MIDI data that will be transmitted and received by each timbre 1–16. For example even if two timbres are being played by the same MIDI channel, you can make settings so that the damper pedal will apply to one but not the other.

On (checked): Transmission and reception of MIDI data is enabled.

When **Status** (0–1b, 2–1a) is INT, operation of the built-in controllers or incoming MIDI data will apply the effect of the checked item to the program of the corresponding timbre. (The effect dynamic modulation function is not affected by this setting.)

In the case of EXT or EX2, operating a controller on the OASYS will transmit MIDI data on the channel of that timbre. MIDI transmission/reception settings for the entire OASYS can be made in “MIDI Filter” (Global 1–1b).

The MIDI Filter pages 2 and 3 contain MIDI filters for assignable controllers (whose function can be set by the user), and if these are assigned to MIDI control changes, the filter settings will affect those control changes. In this case, if the same control change as Knob 1, 2, 3, or 4 has been assigned in MIDI Filter pages 1 and 2, the settings in MIDI Filter pages 1 and 2 will take priority. Also, if the same control change is assigned to two or more controllers in the MIDI Filter pages 2 and 3, checking any one of them will enable that control change.

Off (unchecked): Transmission and reception of MIDI data is disabled.

Note: MIDI CC# = MIDI control change message numbers.

3-1a: MIDI Filter 1

Timbre 01

Enable Program Change [Off, On]

Specifies whether or not MIDI program change messages will be transmitted and received.

Enable After Touch [Off, On]

Specifies whether or not MIDI after touch messages will be transmitted and received.

Enable Damper [Off, On]

Specifies whether or not MIDI CC#64 hold (damper pedal) messages will be transmitted and received.

Enable Portamento SW [Off, On]

Specifies whether or not MIDI CC#65 portamento on/off messages will be transmitted and received.

Enable JS X as AMS [Off, On]

Specifies whether or not MIDI pitch bend messages (the X axis of the OASYS’s joystick) will be received to control the AMS effect assigned to JS X. (This is not a filter for MIDI pitch bend message reception.) For more information, please see “Alternate Modulation Sources (AMS)” on page 1019.

Enable JS+Y [Off, On]

Specifies whether MIDI CC#1 (the +Y axis of the OASYS's joystick, or a realtime modulation knob assign setting) will be transmitted and received.

Enable JS-Y [Off, On]

Specifies whether MIDI CC#2 (the -Y axis of the OASYS's joystick, or a realtime modulation knob assign setting) will be transmitted and received.

Enable Ribbon [Off, On]

Specifies whether or not MIDI CC#16 (the OASYS's ribbon controller, or specified as the assignment of a realtime modulation knob) will be transmitted or received.

Timbres 02... 16

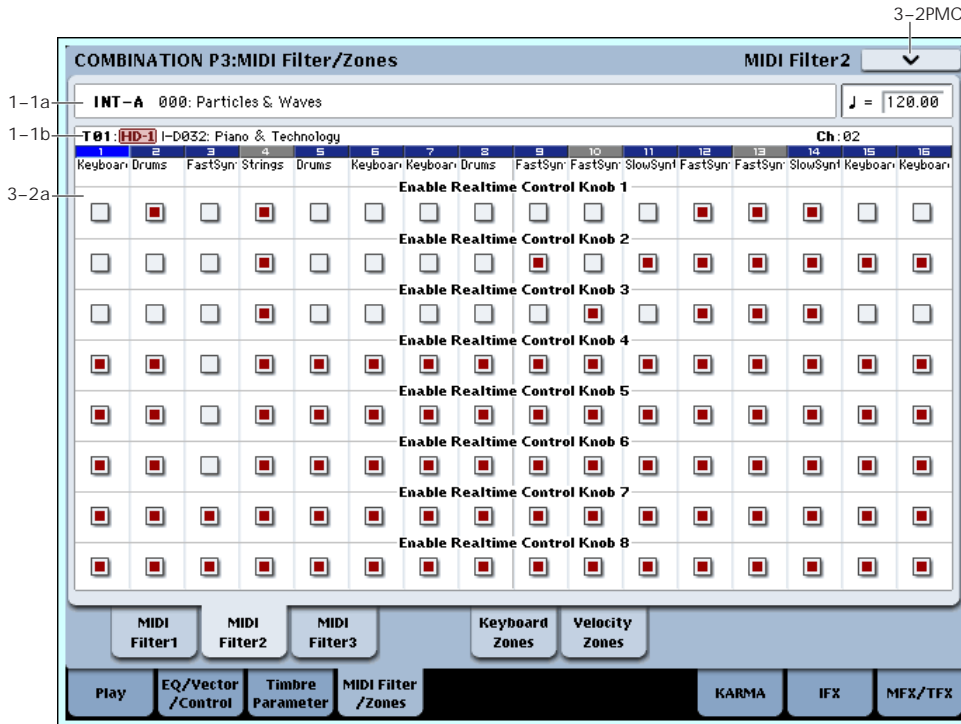
These are the MIDI Filter1 settings for timbres 2 through 16. They are the same as for timbre 1. See "Timbre 01".

▼ 3-1: Page Menu Commands

The number before each command shows its ENTER + number-key shortcut. For more information on these shortcuts, see "ENTER + 0-9: shortcuts for menu commands" on page 142.

- 0: **Write Combination.** For more information, see "Write Combination" on page 461.
- 1: **Exclusive Solo.** For more information, see "Exclusive Solo" on page 142.
- 2: **Copy From Program.** For more information, see "Copy From Program" on page 461.

3-2: MIDI Filter2



3-2a: MIDI Filter2

Timbre 01

Enable Realtime Control Knob 1 [Off, On]

Specifies whether Realtime Control knob 1 MIDI CC#74 (the OASYS's filter cutoff frequency) will be received.

Enable Realtime Control Knob 2 [Off, On]

Specifies whether Realtime Control knob 2 MIDI CC#71 (the OASYS's filter resonance) will be received.

Enable Realtime Control Knob 3 [Off, On]

Specifies whether Realtime Control knob 3 MIDI CC#79 (the OASYS's filter EG intensity) will be received.

Enable Realtime Control Knob 4 [Off, On]

Specifies whether Realtime Control knob 4 MIDI CC#72 (the OASYS's filter/amp EQ release time) will be received.

- Enable Realtime Control Knob 5 [Off, On]
- Enable Realtime Control Knob 6 [Off, On]
- Enable Realtime Control Knob 7 [Off, On]
- Enable Realtime Control Knob 8 [Off, On]

These specify whether MIDI message will be received for Realtime Control knobs 5 through 8.

Timbres 02... 16

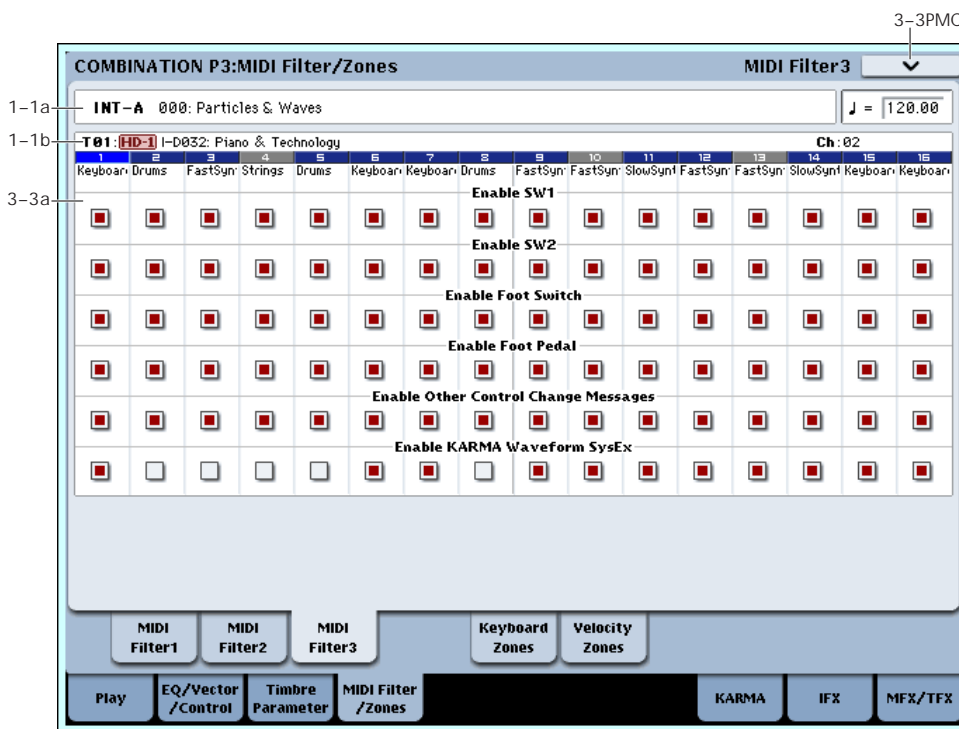
These are the MIDI Filter2 settings for timbres 2 through 16. They are the same as for timbre 1. See "Timbre 01".

3-2: Page Menu Commands

The number before each command shows its ENTER + number-key shortcut. For more information on these shortcuts, see "ENTER + 0-9: shortcuts for menu commands" on page 142.

- 0: **Write Combination.** For more information, see "Write Combination" on page 461.
- 1: **Exclusive Solo.** For more information, see "Exclusive Solo" on page 142.
- 2: **Copy From Program.** For more information, see "Copy From Program" on page 461.

3-3: MIDI Filter3



3-3a: MIDI Filter3

Timbre 01

- Enable SW1 [Off, On]
- Enable SW2 [Off, On]

Specifies whether or not the effect of the SW1 and SW2 switches will be received.

The function of these switches is specified in the P1-Set Up Controllers page.

These settings are valid if these keys are assigned to SW1 Mod. (CC#80), SW2 Mod. (CC#81), or Portamento SW (CC#65).

- Enable Foot Switch [Off, On]

Specifies whether or not the effect of the ASSIGNABLE SWITCH will be received. The function is assigned in Global P2- Controller page.

This filter setting is valid when a MIDI control change is assigned.

- Enable Foot Pedal [Off, On]

Specifies whether or not the effect of the ASSIGNABLE PEDAL will be received. The function is assigned in Global P2- Controller page.

This filter setting is valid when a MIDI control change is assigned.

- Enable Other Control Change Messages [Off, On]

Specifies whether or not MIDI control messages not covered in the preceding items MIDI Filter will be received.

- Enable KARMA Waveform SysEx [Off, On]

This allows you to enable or disable the System Exclusive messages used by KARMA Wave Sequencing.

Timbres 02...16

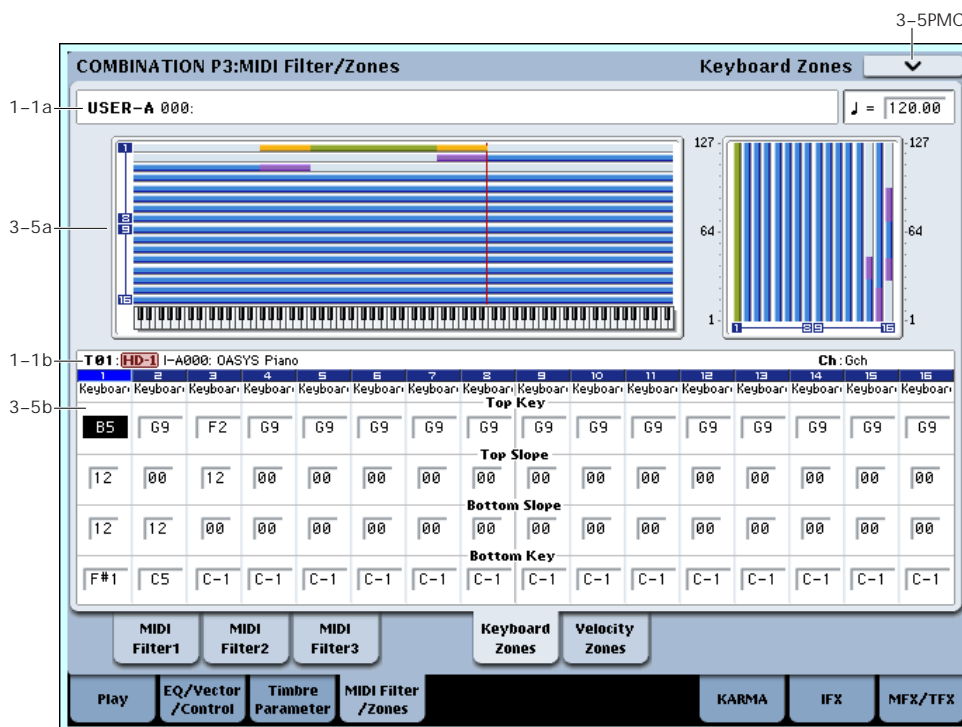
These are the MIDI Filter3 settings for timbres 2 through 16. They are the same as for timbre 1. See "Timbre 01".

▼ 3-3: Page Menu Commands

The number before each command shows its ENTER + number-key shortcut. For more information on these shortcuts, see "ENTER + 0-9: shortcuts for menu commands" on page 142.

- 0: **Write Combination.** For more information, see "Write Combination" on page 461.
- 1: **Exclusive Solo.** For more information, see "Exclusive Solo" on page 142.
- 2: **Copy From Program.** For more information, see "Copy From Program" on page 461.

3-5: Keyboard Zones



These settings specify the keyboard range in which each timbre will sound.

The top/bottom key parameters specify the range of notes in which timbres 1-16 will sound, and the top/bottom slope parameters specify the range over which the original volume will be reached.

Key Split: By setting timbres of different sounds to ranges that do not overlap, you can play different sounds in different ranges of the keyboard.

Layer: By setting the ranges to overlap, you can play two or more sounds with a single note.

Positional Cross-fade: If you set the slopes (the grayed portion) to overlap, the sounds will overlap, and the proportion of the overlap will change according to the keyboard location.

3-5a: Zone Map

This area indicates the note and velocity ranges in which each timbre will sound.

The LCD screen will display a line to indicate the range of notes and velocities that will sound, and will show the slope portion.

3-5b: Keyboard Zones

Timbre 01

Top Key [C-1...G9]

Specifies the top key (upper limit) of the notes that will sound each timbre.

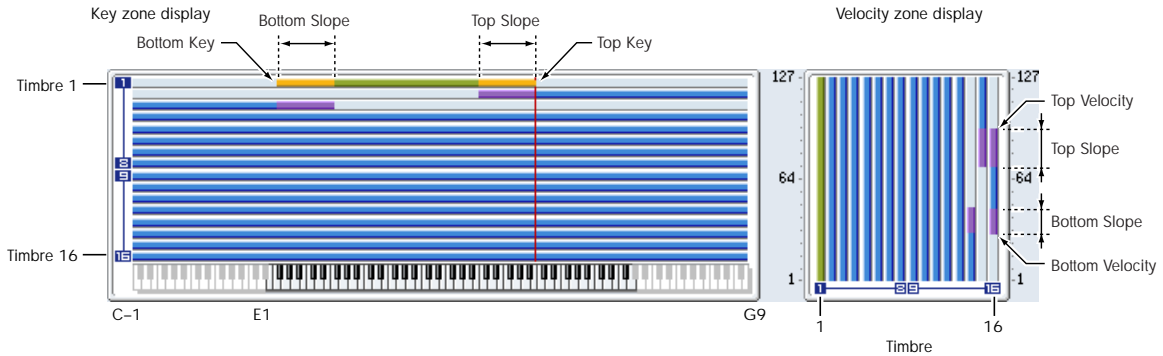
Top Slope [00, 01, 02, 03, 04, 06, 08, 10, 12, 18, 24, 30, 36, 48, 60, 72]

Specifies the range of keys (12 is one octave) over which the volume will be reached starting from the top key.

0: The volume will be at the original level from the top key.

12: The volume will increase gradually as you play downward, and will reach the original volume one octave below the top key.

Zone Map



72: The volume will increase gradually as you play downward, and will reach the original volume six octaves below the top key.

Bottom Slope [00, 01, 02, 03, 04, 06, 08, 10, 12, 18, 24, 30, 36, 48, 60, 72]

Specifies the range of keys (12 is one octave) over which the volume will be reached starting from the bottom key.

0: The volume will be at the original level from the bottom key.

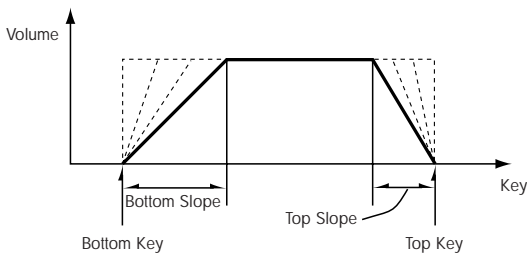
12: The volume will increase gradually as you play upward, and will reach the original volume one octave above the bottom key.

72: The volume will increase gradually as you play upward, and will reach the original volume six octaves above the bottom key.

Bottom Key [C-1...G9]

Specifies the bottom key (lower limit) of the notes that will sound each timbre.

How volume will change according to keyboard location



Top Key and **Bottom Key** settings can also be input by holding down the ENTER switch and playing a note on the keyboard.

It is not possible to set the bottom key above the top key of the same timbre. Nor is it possible for the top and bottom slopes to overlap.

Timbres 02... 16

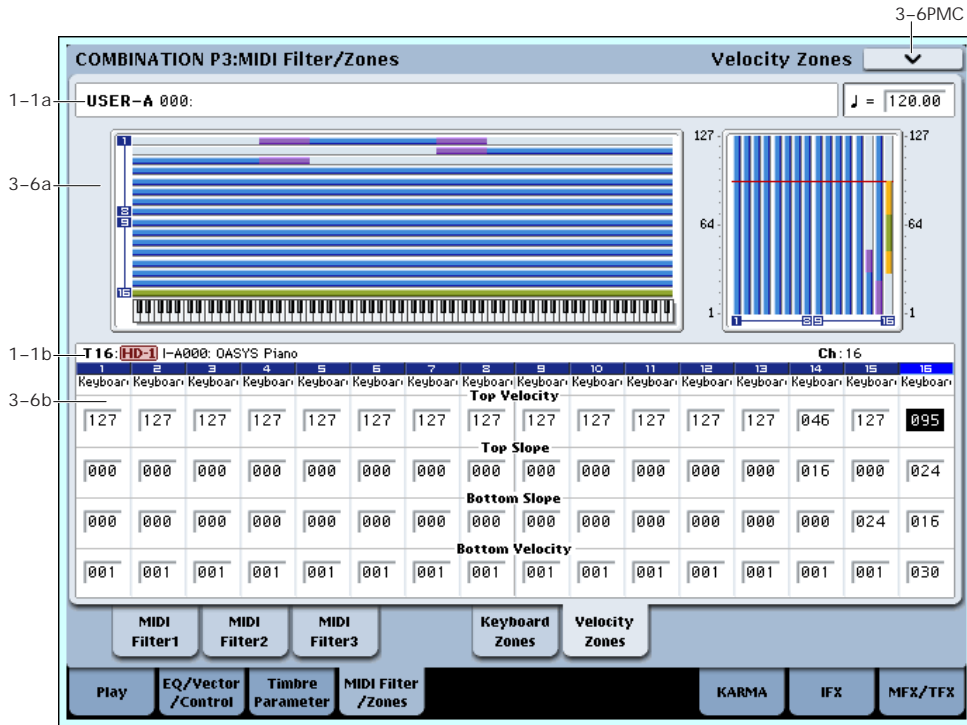
These are the key zone settings for timbres 2 through 16. They are the same as for timbre 1. See "Timbre 01".

▼ **3-5: Page Menu Commands**

The number before each command shows its ENTER + number-key shortcut. For more information on these shortcuts, see "ENTER + 0-9: shortcuts for menu commands" on page 142.

- **0: Write Combination.** For more information, see "Write Combination" on page 461.
- **1: Exclusive Solo.** For more information, see "Exclusive Solo" on page 142.
- **2: Copy From Program.** For more information, see "Copy From Program" on page 461.

3-6: Velocity Zones



Sets the Top/Bottom Velocity parameters to specify the range of velocities that will sound for each timbre 1-16, and set the Top/Bottom Slope parameters to specify the range over which the volume will change.

Velocity Switch: By setting two or more timbres to velocity zones that do not overlap, you can use variations in playing dynamics to play different sounds.

Layer: If you set two or more timbres to velocity zones that overlap, the sounds will be heard together.

Velocity Cross-fade: If the slope ranges (gray line) overlap, different sounds will be sounded together, and your playing dynamics will determine the proportion of each sound.

⚠ It is not possible to set the bottom velocity greater than the top velocity for the same timbre. Nor can the top slope and the bottom slope overlap.

3-6a: Zone Map

This area indicates the note and velocity ranges in which each timbre will sound.

For more information, please see "3-5a: Zone Map" on page 426.

3-6b: Velocity Zones

Timbre 01

Top Velocity [1...127]

Specifies the maximum velocity value that will sound each timbre.

Top Slope [0...120]

Specifies the number of velocity steps over which the original volume will be reached, starting from the Top Velocity.

0: The volume will be at the original value from the top velocity.

120: The volume will decrease as the velocity approaches the top velocity.

Bottom Slope [0...120]

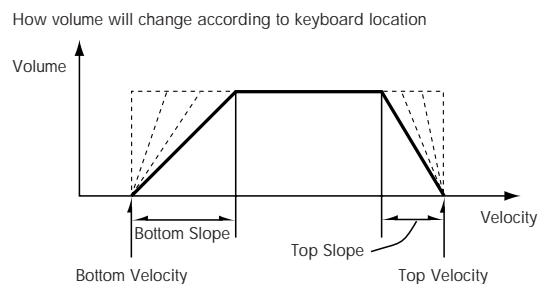
Specifies the number of velocity steps over which the original volume will be reached, starting from the Bottom Velocity.

0: The volume will be at the original value from the bottom velocity.

120: The volume will decrease as the velocity approaches the bottom velocity.

Bottom Velocity [1...127]

Specifies the minimum velocity value that will sound each timbre.



“Top Velocity” and “Bottom Velocity” settings can also be input by holding down the ENTER switch and playing a note on the keyboard.

Timbres 02... 16

These are the velocity zone settings for timbres 2 through 16. They are the same as for timbre 1. See “Timbre 01”.

▼ 3–6: Page Menu Commands

The number before each command shows its ENTER + number-key shortcut. For more information on these shortcuts, see “ENTER + 0-9: shortcuts for menu commands” on page 142.

- **0: Write Combination.** For more information, see “Write Combination” on page 461.
- **1: Exclusive Solo.** For more information, see “Exclusive Solo” on page 142.
- **2: Copy From Program.** For more information, see “Copy From Program” on page 461.

Combination P7: KARMA

Here you can make KARMA function settings for the combination. In Combination mode, you can use all four KARMA Modules (A, B, C, and D). This allows you to create a wide variety of setups, including assigning different phrases or patterns to different Programs.

Turning KARMA on and off

KARMA can be enabled or disabled for the current Combination by using the front-panel KARMA ON/OFF switch. You can also temporarily disable KARMA for all Programs, Combinations, and Songs by using the Global All KARMA Off parameter. For more information, see “All KARMA Off” on page 701.

Linking KARMA settings to Program changes

KARMA settings can be saved individually for each Combination. This includes all of the KARMA-related front-panel buttons, sliders, and knobs, as well as the on-screen parameters.

Normally, when you select a new Combination, its KARMA settings will be loaded as well. In some cases, however, you may wish to try out different Combinations while keeping the KARMA settings the same.

The Global Basic page **Load KARMA Settings when changing** parameters let you select between these two behaviors. There are separate settings for Programs, Combis, and Songs. To set this up:

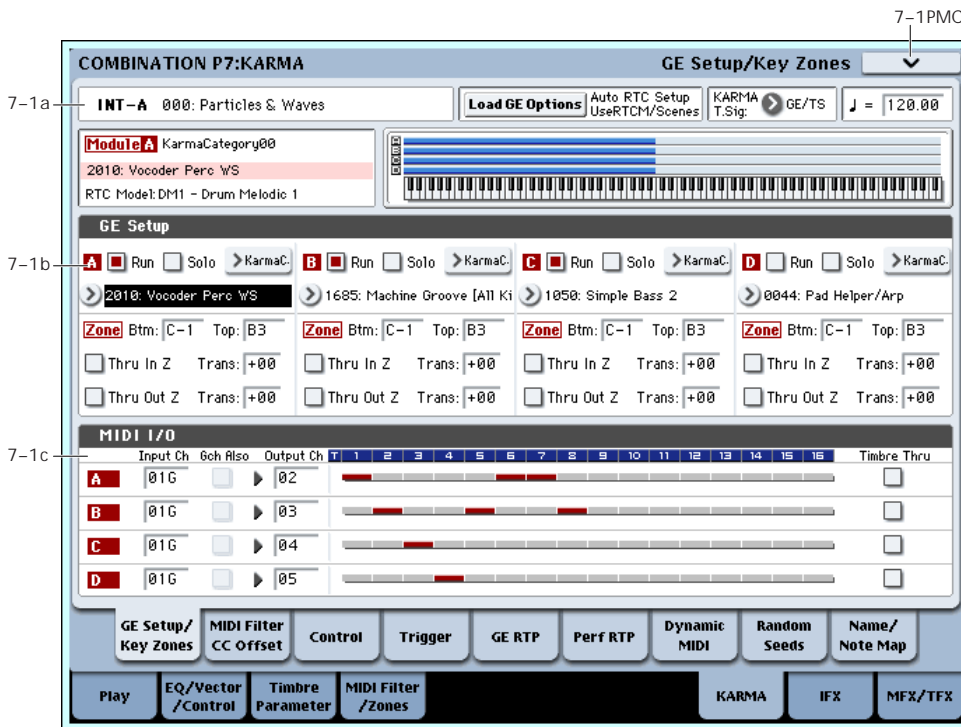
1. Go to the Global Basic page.
2. Under “Load KARMA setting when changing”, set the “Combinations” check-box as desired.

Check the box to load the individual Combinations’ KARMA settings.

Un-check the box to keep KARMA settings the same, even when changing Combinations.

For more information, see the Global parameter “Load KARMA settings when changing” on page 701.

7-1: GE Setup/Key Zones



Here you can select the GE that will be used by each KARMA Module, and specify the Key Zone and MIDI Setup for the four KARMA Modules used by the combination.

7-1a: Combination Name, Load GE Options, KARMA T.Sig, Tempo

Bank [INT-A...G, USER-A...G]

Combination [0...127]

♪ (Tempo) [040.00...240.00, EXT]

These are the current bank, Combination, and Tempo. For more information, please see “1-1a: Combination Name” on page 401.

Load GE Options [Dialogue]

These options let you specify whether the values and assignments for controllers such as the KARMA SLIDERS 1-8 and KARMA SWITCHES 1-8 will be set automatically, be initialized, or be preserved when you select a GE.

For more information, see "Load GE Options" on page 7.

KARMA T.Sig (Time Signature)
[GE/TS, 1/4...16/4, 1/8...16/8, 1/16...16/16]

This specifies the time signature of the phrases or patterns generated by the KARMA Modules. For more information, see "KARMA T.Sig (Time Signature)" on page 8.

Selected KARMA Module Info

GE Category [Arpeggio...Real-Time]

GE No., GE Name [Preset 0000...2047, USER-A...L 000...127]

RTC Model [List of RTC Models]

This shows the GE's RTC Model, as specified internally for each preset GE. For more information, see "Load GE Options" on page 7.

Module Zone Display

The key zone settings of each of the four KARMA Modules are displayed as a solid blue line.

For more information, please see "Module Zone Display" on page 102.

7-1b: GE Setup/Key Zones

GE

Run [Off, On]

Please see "Run" on page 384.

Solo [Off, On]

Please see "Solo" on page 384.

GE Select [Preset 0000...2047, USER-A U-A000...U-A127, ..., USER-L U-L000...U-L127]

This selects the GE for the KARMA module. There are a total of 3,584 to choose from: 2,048 preset GEs, and 1,536 rewritable User GEs (12 banks of 128 each).

For more information, see "GE Select" on page 384.

GE Bank Select [Preset...USER-L]

This selects the GE bank. The Preset bank is part of the system software; User banks can be loaded from disk. For more information, see "GE Select" on page 384.

GE Category Select [Arpeggio...Real-Time]

This lets you select a GE by category, from Arpeggio through Real-Time.

Key Zones

Bottom (Key Zone Bottom) [C-1...G9]

Top (Key Zone Top) [C-1...G9]

For more information, see "Key Zone" on page 101.

Note: In Combination mode, each KARMA Module also has its own MIDI Input Channel and Output Channel, as described under "7-1c: MIDI I/O," below.

Transpose

Thru In Zone [Off, On]

Transpose In Zone [-36...+36]

Thru Out Zone [Off, On]

Transpose Out Zone [-36...+36]

Please see "Key Zone" on page 101.

7-1c: MIDI I/O

Specifies the MIDI input/output channels for the four KARMA Modules used by the combination.

Input Channel [01...16, Gch]

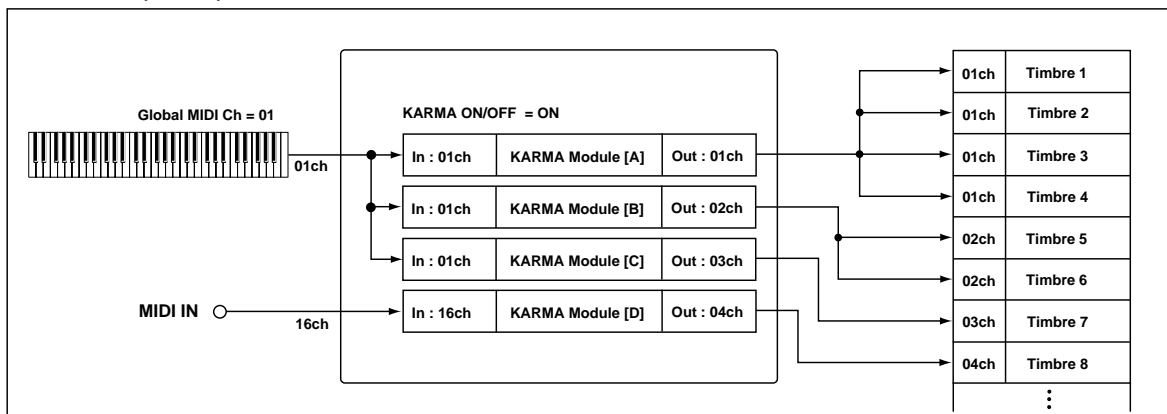
Specifies the MIDI input channel for each KARMA Module.

MIDI data from the keyboard or from MIDI IN that matches the specified MIDI channel will be input to the KARMA Module. (See "KARMA - MIDI Input/Output Channel" in the diagram below.)

Gch: The MIDI channel will always match the global MIDI channel (Global P1-1a).

When using KARMA with keyboard playing in Combination mode, you will normally select Gch.

KARMA - MIDI Input / Output Channel



Gch Also [Off, On]

Determines whether input on the Global Channel will also be used for the selected Module, in addition to the channel that is selected in the "Input Channel."

Off (unchecked): The selected Module will receive data from the specified "Input Channel," and will not receive data from the Global Input Channel.

On (checked): The selected Module will receive data from the specified **Input Channel** and the Global Input Channel.

This is useful when using a pad on a specific MIDI Channel to send data into a Module. Turning "Gch Also" On (checked) allows a keyboard (sending on the Global Channel) to also control the same Module.

⚠ Not available unless the Module's **Input Channel** is set to something other than Gch or global MIDI channel.

Output Channel [01...16, Gch]

Specifies the MIDI output channel for each KARMA Module.

The MIDI data from the KARMA Module will be transmitted on the specified MIDI channel, and will sound timbres whose channel matches. (See the diagram below, "KARMA-MIDI Input/Output Channel.")

Gch: The MIDI channel will always match the global **MIDI channel** (Global P1-1a).

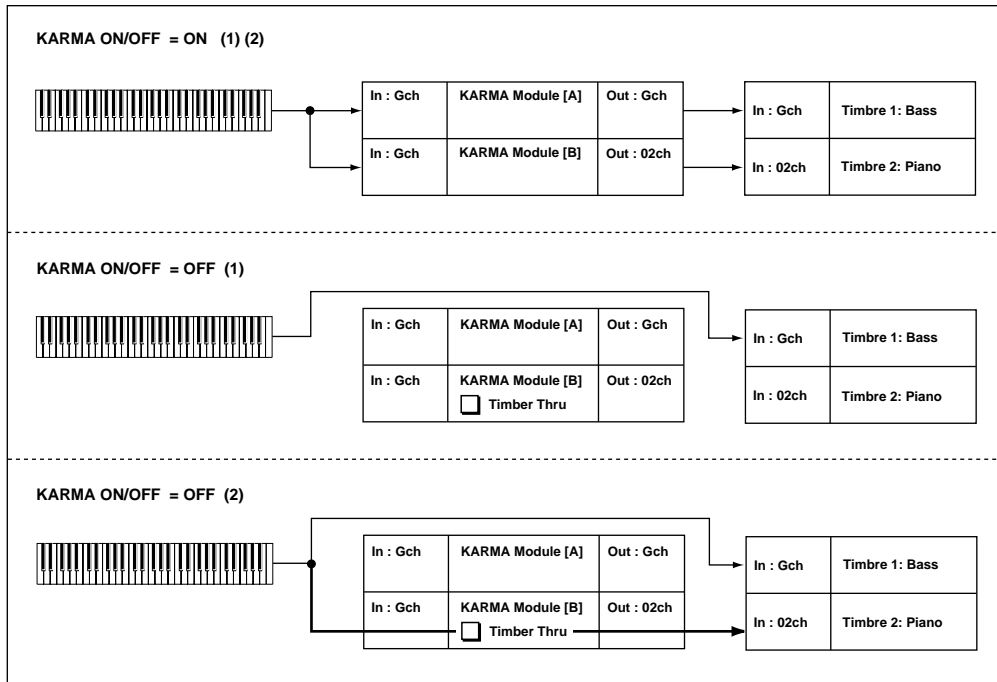
Timbre Thru (when KARMA Off) [Off, On]

Input Channel and **Output Channel** settings are normally valid only when the KARMA ON/OFF switch is on.

As an exception, **Timbre Thru** specifies whether MIDI data that has passed through the KARMA Module will be sent (Thru) to timbres when KARMA is off.

On (checked): When the KARMA function is off, MIDI data that has passed through the KARMA Module will be sent via the **Output Channel** to timbres.

Off (unchecked): When the KARMA function is off, MIDI data that has passed through the KARMA Module will not be sent to timbres.



If you wish to apply separate phrases or patterns by using KARMA Module A for timbre 1 and KARMA Module B for timbre 2, set the MIDI channels as follows:

Example setting 1

1. Set the global MIDI channel (Global 1-1a: MIDI Channel) to 01.
2. Set timbre 1 as follows.
Program Select: Bass program
MIDI Channel (2-1): Gch
3. Set timbre 2 as follows.
Program Select: Piano program
MIDI Channel (2-1): 02
4. Set KARMA Module A as follows.
GE Select: Any riff from the Bass GE category

Input Channel: Gch
Output Channel: Gch
Timbre Thru: Off

5. Set KARMA Module B as follows.

GE Select: Any riff from the Keyboard GE category
Input Channel: Gch
Output Channel: 02
Timbre Thru: Off

6. Turn the KARMA ON/OFF switch on.

When you play the keyboard, KARMA Module A will play the bass of timbre 1, and KARMA Module B will play the piano of timbre 2. (See "KARMA ON/OFF=ON (1)(2)" in the diagram above.)

7. Turn the KARMA ON/OFF switch off.

When you play the keyboard, you will hear the bass of timbre 1, whose MIDI channel is set to Gch. Since timbre 2 is set to MIDI channel 2, it will not sound in response to the keyboard. (See “KARMA ON/OFF=OFF (1)” in the diagram above.)

Example setting 2

1. Follow steps 1–3 from Example setting 1, above.

2. Set KARMA Module A as follows.

GE Select: Any riff from the Bass GE category

Input Channel: Gch

Output Channel: Gch

Timbre Thru: Off

3. Set KARMA Module B as follows.

GE Select: Any riff from the Keyboard GE category

Input Channel: Gch

Output Channel: 02

Timbre Thru: On

4. Turn the KARMA ON/OFF switch on.

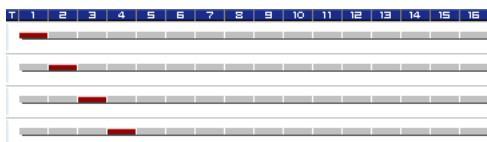
When you play the keyboard, the result will be the same as for step 6 in Example setting 1. (See “KARMA ON/OFF=ON (1)(2)” in the diagram above.)

5. Turn the KARMA ON/OFF switch off.

When you play the keyboard, you will hear the bass timbre, whose MIDI channel is Gch. The piano of timbre 2 will also be played by the keyboard because of the **Timbre Thru On** setting of KARMA Module B. (See “KARMA ON/OFF=OFF (2)” in the diagram above.)

Module – Timbre MIDI Display

This shows the timbres that will be sounded by each KARMA Module, according to the MIDI output channel settings of each KARMA Module and the MIDI channel of each timbre (2-1a).



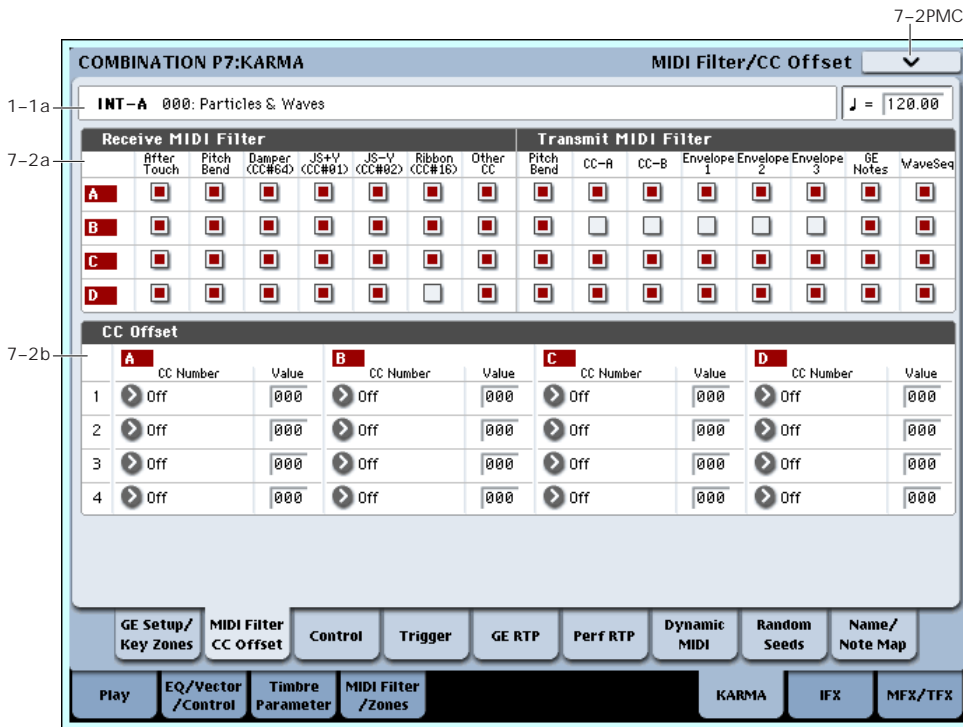
▼ 7-1: Page Menu Commands

The number before each command shows its ENTER + number-key shortcut. For more information on these shortcuts, see “ENTER + 0-9: shortcuts for menu commands” on page 142.

- 0: **Write Combination**. For more information, see “Write Combination” on page 461.
- 1: **Exclusive Solo**. For more information, see “Exclusive Solo” on page 142.
- 2: **Copy KARMA Module**. For more information, see “Copy KARMA Module” on page 464.
- 3: **Initialize KARMA Module**. For more information, see “Initialize KARMA Module” on page 465.
- 4: **Copy Scene**. For more information, see “Copy Scene” on page 151.

- 5: **Swap Scene**. For more information, see “Swap Scene” on page 151.
- 6: **Capture Random Seed**. For more information, see “Capture Random Seed” on page 151.
- 7: **Copy From Program**. For more information, see “Copy From Program” on page 461.

7-2: MIDI Filter/CC Offset



7-2a: MIDI Filter

Receive MIDI Filter

For each KARMA Module, specify whether to filter the MIDI control data received by the Module.

After Touch	[Off, On]
Pitch Bend	[Off, On]
Damper (CC#64)	[Off, On]
JS+Y (CC#01)	[Off, On]
JS-Y (CC#02)	[Off, On]
Ribbon (CC#16)	[Off, On]
Other CC	[Off, On]

Please see “Receive MIDI Filter” on page 103.

Transmit MIDI Filter

For each KARMA Module, specify whether to filter the MIDI control data generated by the GE selected for the Module.

Pitch Bend	[Off, On]
-------------------	-----------

Please see “Transmit MIDI Filter” on page 104.

- ⚠ If the KARMA function is on and a KARMA Module is generating pitch bend data, the Bend Range (“2-3a: Pitch” on page 418) of the timbre will be controlled as follows.

The pitch bend range specified within the KARMA GE will be transmitted from the KARMA Module so that the corresponding timbre will be forcibly set to

this bend range. This ensures that the pitch bend data generated by the KARMA Module’s GE will function as intended. At this time, pitch bender data produced by operating the joystick will automatically be adjusted to produce the same bend effect as when KARMA is off (in most cases). If multiple timbres are being controlled by one KARMA Module, the settings of the lowest-numbered timbre will be used.

CC-A, CC-B	[Off, On]
Envelope 1, Envelope 2, Envelope 3	[Off, On]
GE Notes	[Off, On]
WaveSeq	[Off, On]

For more information, see “Transmit MIDI Filter” on page 104.

7-2b: CC Offset

When the KARMA function is turned on, MIDI control change messages are transmitted to the tone generator. This lets you use MIDI control change messages to control program sounds or effects when the KARMA function is on.

These messages will be transmitted on the “Output Channel” (7-1c) of the KARMA Module.

For more information, see, “7-2c: CC Offset” on page 105.

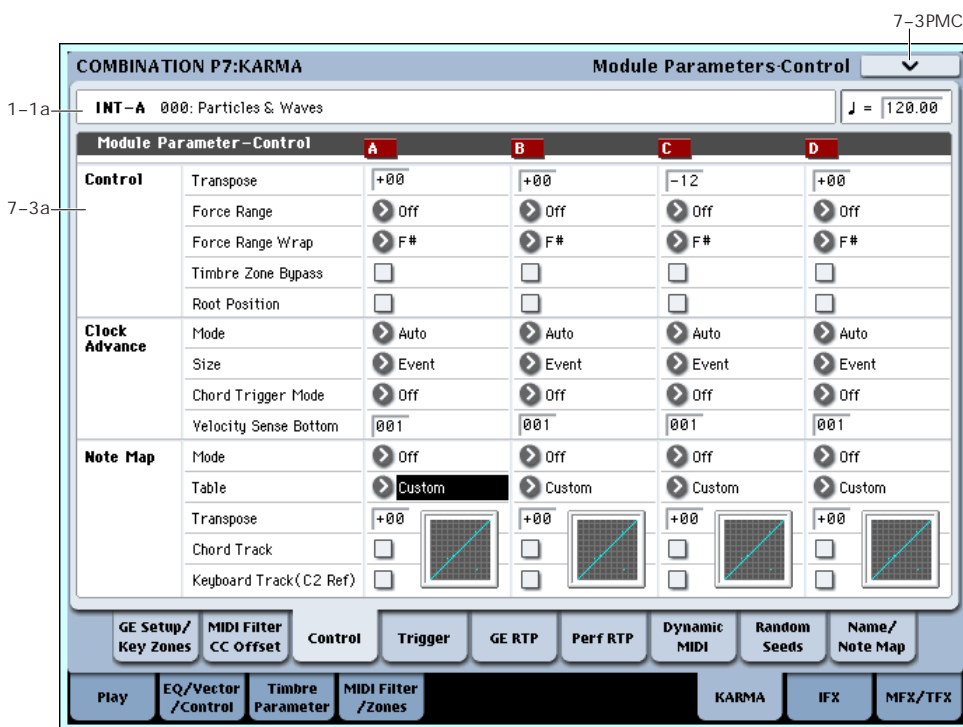
CC Number [Off, MIDI CC#00...CC#95]
Value [000...127]

▼ 7-2: Page Menu Commands

The number before each command shows its ENTER + number-key shortcut. For more information on these shortcuts, see “ENTER + 0-9: shortcuts for menu commands” on page 142.

- 0: **Write Combination.** For more information, see “Write Combination” on page 461.
- 1: **Exclusive Solo.** For more information, see “Exclusive Solo” on page 142.
- 2: **Copy KARMA Module.** For more information, see “Copy KARMA Module” on page 464.
- 3: **Initialize KARMA Module.** For more information, see “Initialize KARMA Module” on page 465.
- 4: **Copy Scene.** For more information, see “Copy Scene” on page 151.
- 5: **Swap Scene.** For more information, see “Swap Scene” on page 151.
- 6: **Capture Random Seed.** For more information, see “Capture Random Seed” on page 151.
- 7: **Copy From Program.** For more information, see “Copy From Program” on page 461.

7-3: Module Parameters-Control



Here you can set KARMA Module Control parameters. In Combination mode, four KARMA Modules (A, B, C, and D) can be used.

7-3a: Module Parameter-Control

Control

Transpose [-36...+36]
Force Range [Off, Lowest, Highest, C3-B3[1], C3-B3[2]]
Force Range Wrap [C#...C]
Root Position [Off, On]

Please see “Control” on page 106.

Timbre Zone Bypass [Off, On]

Specifies whether the key zone settings (3-5) and velocity zone settings (3-6) of the timbre will be applied to the phrase or pattern generated by the KARMA Module.

On (checked): The key zone settings and velocity zone settings of the timbre will be bypassed for the phrase or pattern generated by the KARMA Module. The settings of the timbre will be ignored, and the notes generated by the KARMA Module will be sounded.

Off (unchecked): The key zone settings and velocity zone settings of the timbre will be applied to the phrase or pattern generated by the KARMA Module. Notes generated by the KARMA Module will not be sounded if they are outside the key zone or velocity zone of the timbre.

Clock Advance

Mode [Auto, Dyn, Auto+Dyn, Auto+Dyn2]

Size [Musical notation icons] Event]

Chord Trigger Mode [Off, 1st, Chord1, Chord2, Chord3]

Velocity Sense Bottom [001...127]

Please see "Clock Advance" on page 108.

Note Map

Mode (Note Map Mode) [Off, On-Main, On-Rpt, On-All]

Table (Note Map Table) [Custom, Gtable 1...Maj 7 -> oct]

Transpose (Note Map Transpose) [-12...+12]

Chord Track (Note Map Chord Track) [Off, On]

Keyboard Track (C2 Ref) (Note Map Keyboard Track) [Off, On]

Note Map Table Display

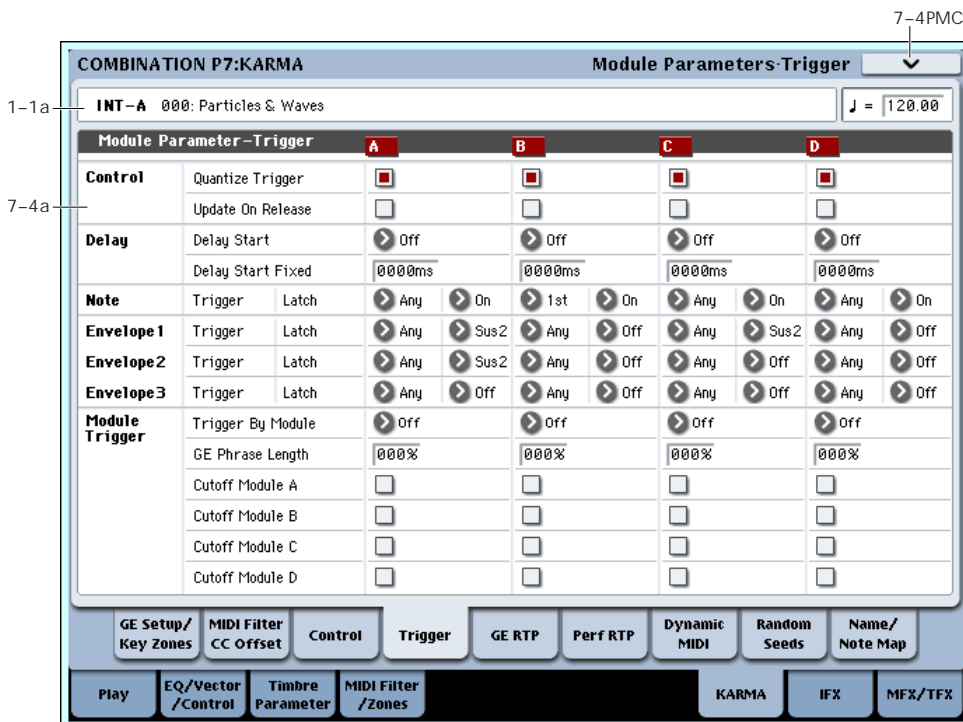
Please see "Note Map" on page 108.

7-3: Page Menu Commands

The number before each command shows its ENTER + number-key shortcut. For more information on these shortcuts, see "ENTER + 0-9: shortcuts for menu commands" on page 142.

- 0: **Write Combination**. For more information, see "Write Combination" on page 461.
- 1: **Exclusive Solo**. For more information, see "Exclusive Solo" on page 142.
- 2: **Copy KARMA Module**. For more information, see "Copy KARMA Module" on page 464.
- 3: **Initialize KARMA Module**. For more information, see "Initialize KARMA Module" on page 465.
- 4: **Copy Scene**. For more information, see "Copy Scene" on page 151.
- 5: **Swap Scene**. For more information, see "Swap Scene" on page 151.
- 6: **Capture Random Seed**. For more information, see "Capture Random Seed" on page 151.
- 7: **Copy From Program**. For more information, see "Copy From Program" on page 461.

7-4: Module Parameters-Trigger



Specifies the trigger conditions and latch on/off for the GE that is selected for each KARMA Module, A-D.

7-4a: Module Parameter-Trigger

Control

Quantize Trigger [Off, On]

Quantize Window [♪♩...♪]

Update On Release [Off, On]

Please see "Control" on page 110.

Delay

Delay Start [Off, Fixed, 64T ...4x1]

Delay Start Fixed [0000ms...5000ms]

Please see "Delay" on page 111.

Note

Note Trigger [Any, AKR, 1st, Dyn]

Please see "Note Trigger" on page 111.

Note Latch [Off, On]

Please see "Note Latch" on page 111.

Note: In Combination mode, this can be turned on/off for each KARMA Module. A KARMA Module for which this is On (checked) will be in a Latch On condition when the LATCH switch is on (LED lit).

Envelope1, Envelope2, Envelope3

Trigger [Any, AKR, 1st, Dyn]

Latch [Off, Sus1, Rel1, Sus2, Rel2]

Please see "Envelope1, Envelope2, Envelope3" on page 111.

Module Trigger

Note and envelope triggering of a KARMA Module can be controlled by the operation of another KARMA Module.

Trigger By Module [Off, A, B, C, D]

When the KARMA Module you specify here advances by the length specified in "GE Phrase Length," the KARMA Module itself will be triggered automatically, starting the phrase or pattern.

For example you could make settings so that harp glissando phrases specified for each KARMA Module are triggered consecutively. Alternatively, you could make settings so that the four KARMA Modules are connected in series, and play repeatedly.

GE Phrase Length [000...100%]

Specifies a percentage of a Module's overall GE Phrase Length after which triggering of this Module will occur. When the KARMA Module chosen above advances by the percentage of length specified here, this Module will be automatically triggered.

🔊 This is valid except when **Trigger By Module** is Off.

🔊 Setting a Module to be triggered by a percentage of its own phrase will have no additional effect.

Note: The actual overall GE Phrase Length is determined by the number of Phase Pattern Steps, the Phase Length Mode, and various other internal GE settings.

Cutoff Module A, B, C, D [Off, On]

When this Module's effect is triggered, it can cutoff any effects that are playing on the specified Modules.

This is mainly for use when you do not want effects from the Modules overlapping each other, but want them to appear continuous (i.e. 4 sax riffs, 4 different strumming effects, etc.). For example, you could trigger different Modules in separate areas of the keyboard, and only have one playing at any particular time.

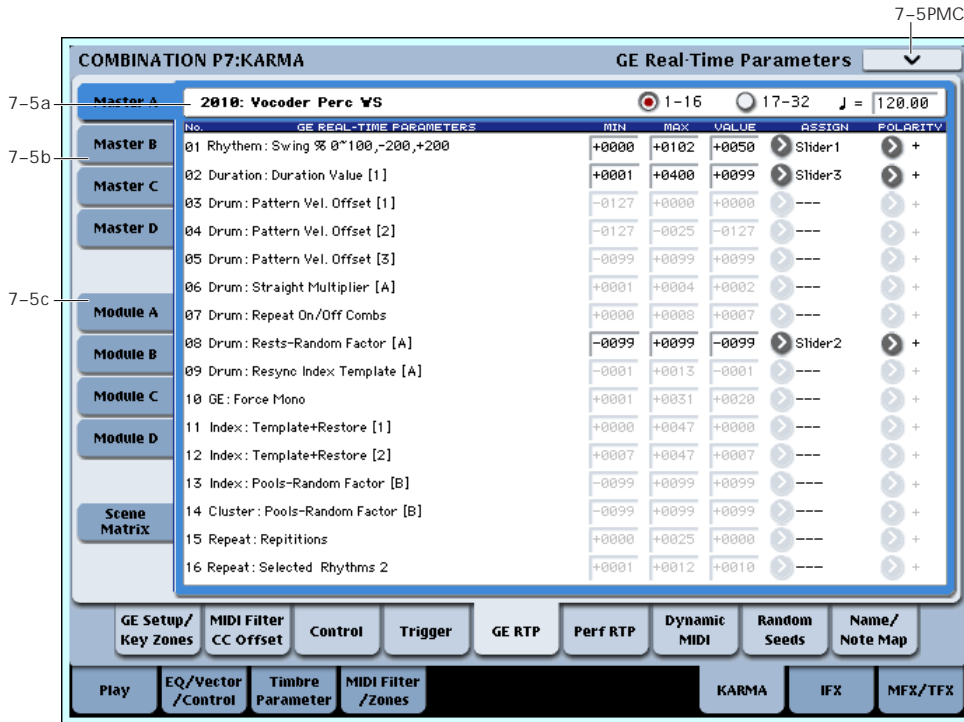
This can also be used to cycle back and forth between Modules, with each Module shutting off the previous Module when it is triggered in.

▼ 7-4: Page Menu Commands

The number before each command shows its ENTER + number-key shortcut. For more information on these shortcuts, see "ENTER + 0-9: shortcuts for menu commands" on page 142.

- 0: **Write Combination.** For more information, see "Write Combination" on page 461.
- 1: **Exclusive Solo.** For more information, see "Exclusive Solo" on page 142.
- 2: **Copy KARMA Module.** For more information, see "Copy KARMA Module" on page 464.
- 3: **Initialize KARMA Module.** For more information, see "Initialize KARMA Module" on page 465.
- 4: **Copy Scene.** For more information, see "Copy Scene" on page 151.
- 5: **Swap Scene.** For more information, see "Swap Scene" on page 151.
- 6: **Capture Random Seed.** For more information, see "Capture Random Seed" on page 151.
- 7: **Copy From Program.** For more information, see "Copy From Program" on page 461.

7-5: GE Real-Time Parameters



Here you can edit the Real-Time Parameters of the GE for each KARMA Module, A–D. In addition, you can assign GE Real-Time Parameters to the KARMA Real-Time Controls so that you can control the phrase or pattern in real-time while you play.

7-5a: GE Number & Name, RTC Select, and Tempo

GE Number & Name

[0000: Arp Model 01 Up/Dn...
2047: Tempo Env Repeats]

This shows the GE selected for the Module. For more information, please see “0-6b: GE Select” on page 8.

GE RTC Select [1-16, 17-32]

This switches the GE realtime parameter display.

1-16: GE parameters 1-16 will be displayed.

17-32: GE parameters 17-32 will be displayed.

♩ (Tempo) [040.00...240.00, EXT]

For more information, please see “Tempo” on page 5.

7-5b: GE Real-Time Parameters for Module Control = Master

Module Control = Master lets you use a single controller (e.g., Slider 1) to control multiple KARMA Modules simultaneously, or control individual parameters from different Modules conveniently at the same time.

GE Real-Time Parameters 01...32

Here you can edit GE parameters and assign GE parameters to KARMA Real-Time Controls etc. for use with Module Control = Master.

GE PARAMETER (GE Real-Time Parameter)

MIN (Minimum Value) [-5000...+5000]

MAX (Maximum Value) [-5000...+5000]

VALUE [-5000...+5000]

ASSIGN [---, Slider1...8, Slider (SW)1...8, SW1...8, DynaMIDI1...8]

POLARITY [+ , -]

Please see “7-5b: GE Real-Time Parameters” on page 113.

Note: Normally, the **MIN**, **MAX**, **VALUE**, and **POLARITY** parameters of each module are specified in module A, B, C, and D. These parameter settings are possible if you specify **ASSIGN** in Master A, B, C, and D.

For example if you want to use Slider1 to control the GE REALTIME PARAMETER No.1 of modules A, B, C, and D when Module Control is set to Master, you would set the Master, A, B, C, and D’s GE REALTIME PARAMETER No.01 **ASSIGN** to Slider1. If these are set to **ASSIGN**, you are able to edit the **MIN**, **MAX**, **VALUE**, and **POLARITY** parameters for Master, A, B, C, and D.

In this way, you can make GE realtime parameter settings independently of modules A, B, C, and D.

7-5c: GE Real-Time Parameters for Module Control = A, B, C, D

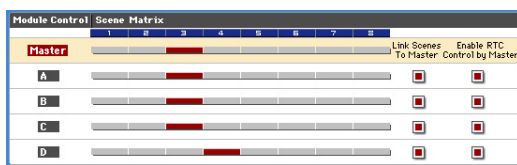
Module Control = A, B, C and D let you control GE Real-Time Parameters independently for the corresponding KARMA Module.

GE Real-Time Parameters 01...32

Here you can edit the GE Real-Time Parameters of each KARMA Module and assign them to KARMA Real-Time Controls for use with Module Control = Master, A, B, C and D.

Please see "GE Parameter 01...32" on page 113.

7-5d: Module Control Scene Matrix



Here you can conveniently view and edit the selected Scenes for each of the five Module Control layers at the same time. You can also set a Scene Change Quantize Window that controls a time interval for when the scene changes will occur, and view information about upcoming scene changes.

Scene Change Quantize Window

Scene Change Quantize Window

[♪...♪, 1 Bar...4 Bars]

This specifies the metric division by which scene changes will be quantized, in any of the Module Layers. Depending on the setting, this may delay the scene change from occurring until the next beat, next bar, or several bars later.

♪...♪: These smaller values set the window as a note value relative to the tempo. For triplet-based patterns, you may need to select one of the triplet-based settings if you intend to perform scene changes "off the beat."

1 Bar...4 Bars: These larger values set the window in terms of measures, relative to both the tempo and the time signature of the Performance or the individual Module's GE.

Note: if the KARMA T.Sig (Time Signature) is set to something other than "0 GE/TS", then the specified Time Signature is what will be used to calculate the bar lengths. If the KARMA T.Sig is set to "0 GE/TS" (meaning that each Module's GE uses its own stored internal time signature), then the bar length is calculated using an internal averaging formula based on the Time Signatures of all GEs that are in use. For more information, see "KARMA T.Sig (Time Signature)" on page 8

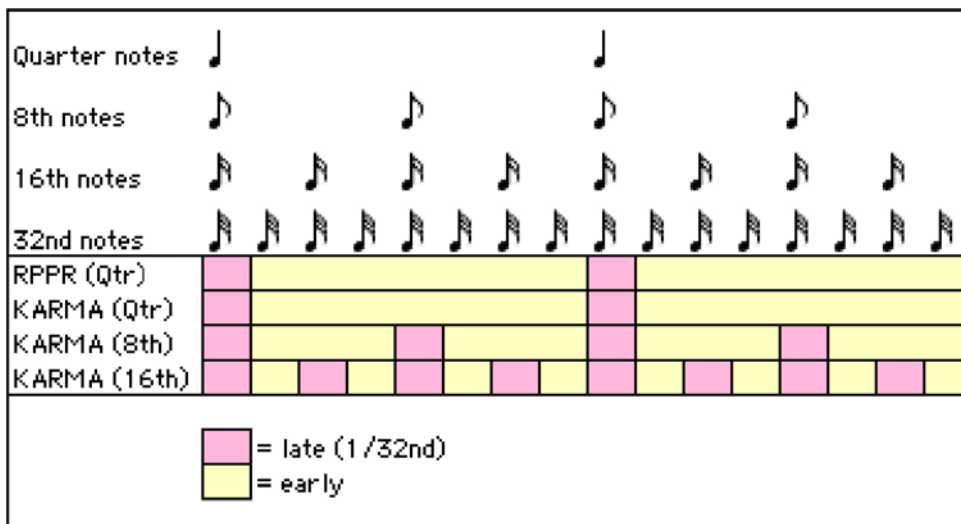
Note: Scene changes selected at a timing that is within a 32nd note of the Scene Change Quantize Window setting will be considered "late" (shown by the pink color in the diagram above), and will cause the scene change to occur immediately. If the scene change is later than this, it will be considered "early" (shown by the yellow color in the diagram above), and will occur at the next metric division wcorresponding to the Scene Change Quantize Window. (Due to space, not all settings are shown in the diagram.)

Scene Selection

This area includes a row of buttons for each Module, with the top row corresponding to the Master setting. Each row has eight buttons corresponding to the eight front panel Scene Switches. This lets you select any scene in any layer directly, without changing the Module Control setting. The grid shows an overview of which Scene is selected in any of the layers at any given time.

Master	[1...8]
A	[1...8]
B	[1...8]
C	[1...8]
D	[1...8]

You can touch any row and change scenes in any Module, or change Scenes in the Master Layer and consequently change the other layers if they are linked to it (if "Link Scenes To Master" is on (checked)).



If you touch the label on the left side, you will change the “Module Control” setting to the selected layer, and the light orange row will indicate the current Module Control setting.

Link Scenes To Master

A	[Off, On]
B	[Off, On]
C	[Off, On]
D	[Off, On]

On (checked): Changing a Scene in the Master Layer selects a new Scene for the linked Module Layer. All four Modules independently store their current Scene in the top level Master Scene. It can be the same Scene for each linked Module, or completely different Scenes. This allows complete flexibility as to which Modules have which Scenes in which combinations.

This is the mode you would use mainly in Combination mode, for real-time play, and for setting up “Song Templates” (Combinations made to be song inspiration templates, i.e. Scenes similar to verses, choruses, fills, etc.) For example if master buffer 1 is selected, Module A (e.g., drum pattern) could be switched to scene 5, and Module B (e.g., bass riff) could be switched to scene 8.

Off (unchecked): Changing a Scene in the Master Layer only changes Module parameters assigned to KARMA SLIDERS and SWITCHES in the Master Layer. The Module Layers do not change Scenes, but stay where they are.

Each layer is independent - this is the mode you would use mainly in the sequencer when you want to copy in four unrelated KARMA GEs one a time and use them in a song. In this case, you do not usually want them to be connected to each other.

Enable RTC By Master

A	[Off, On]
B	[Off, On]
C	[Off, On]
D	[Off, On]

Off (unchecked): If there are controls in the Master Layer that are assigned to the specified Module, moving them or changing scenes in the Master Layer will have no effect on the Module’s parameters.

This allows you to “disconnect” a Module Layer from the Master and “freeze” its current sound (in conjunction with turning **Link Scenes To Master** off).

On (checked): If there are controls in the Master Layer that are assigned to the specified Module, moving them or changing scenes in the Master Layer will affect the parameters and sound of the Module.

Note: In order to completely disconnect a Module from alteration by the Master Layer (“freeze” its settings), you need to uncheck both **Link Scenes To Master** and **Enable RTC By Master**. If you only disable **Link Scenes To Master**, the settings of the Master Scenes may still influence any parameters that are hooked up

to controls in both the Master and Module Layers, depending on whether they were last moved in the Master.

Of course, any Module’s Real-Time Parameters that are only assigned to controls in the Master Layer for that Module will also be affected by the Master Scenes, unless **Enable RTC By Master** is Off (unchecked).

⚡ When **Enable RTC By Master** is turned Off (unchecked), any parameters that are assigned to controls in both the Master and Module Layers may change, because the values for the Module Layer will be sent out for whatever scene is selected in the Module Layer.

In other words, if Duration % (Gate) is assigned in both layers to a Slider, and it was last moved in the Master Layer, the GE will be playing with the Master Layer duration setting. If you disconnect the Master Layer, the duration value indicated by the Module Layer will be sent out. You can adjust the Module Layer’s Duration % (Gate) control to sound the same at that point, if desired.

Turning “Enable RTC By Master” back on will resend the Master Layer’s duration setting, if it was the last moved control connected to the duration in that Master Scene.

Scene Status

This area displays information related to upcoming scene changes. When using the Scene Change Quantize Window with longer settings such as 1, 2 or 4 bars, you can select a scene change in any of the layers several beats or more in advance of when you want it to occur. The Control Surface and Scene Matrix will change to the new scene immediately, but internally the scene change will not occur until the specified time interval has elapsed. The Scene Status area displays a message indicating a pending scene change for a particular layer, from the current scene to the new scene. You can use this to “cancel” a pending scene change if desired. For example, if you are on Scene 2 in Module A and you select Scene 8 for Module A, the message “2 -> 8” will be displayed next to the Module A label. The Scene Matrix and Control Surface immediately change to Scene 8, but internally the scene change has not yet occurred. You can reselect Scene 2 and thereby cancel the upcoming scene change.

Note that you can do this in any or all of the layers independently, and each layer will display a message indicating the upcoming scene change.

Note: if you have selected a scene change in advance, and it has not yet occurred, the Control Surface and various editing pages such as the KARMA GE Page 0-6 and the Control Surface RT/KARMA Page 0-9d will show the new scene’s parameters. Editing them while the scene change is pending will actually be editing the upcoming scene, and you will not hear any changes until the scene change has actually occurred.

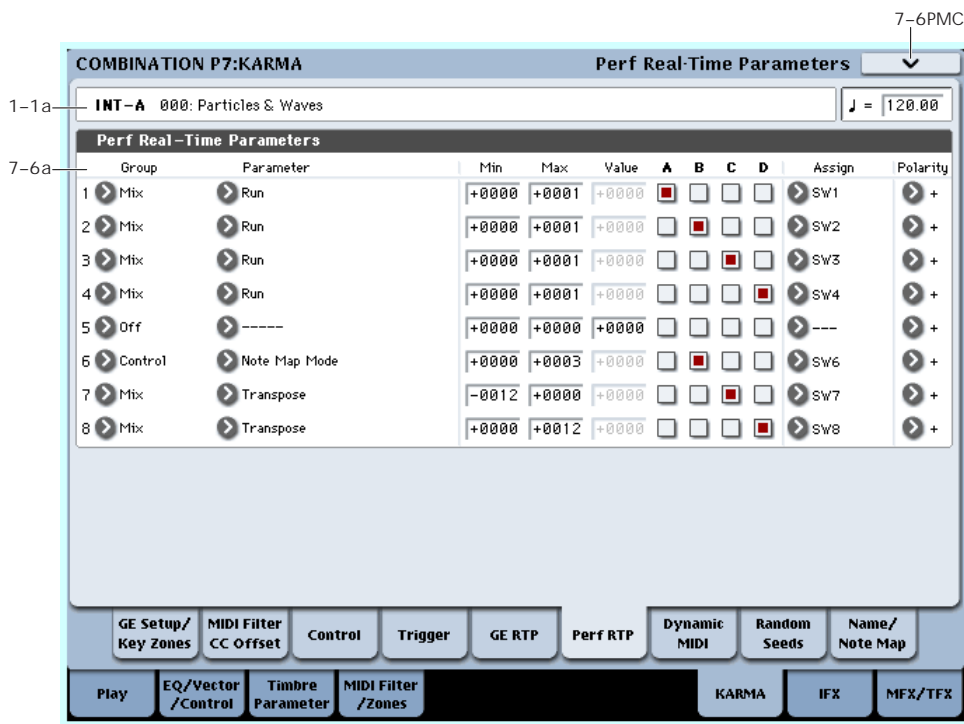
▼ 7-5: Page Menu Commands

The number before each command shows its ENTER + number-key shortcut. For more information on these shortcuts, see “ENTER + 0-9: shortcuts for menu commands” on page 142.

- 0: **Write Combination.** For more information, see “Write Combination” on page 461.
- 1: **Exclusive Solo.** For more information, see “Exclusive Solo” on page 142.
- 2: **Copy KARMA Module.** For more information, see “Copy KARMA Module” on page 464.

- 3: **Initialize KARMA Module.** For more information, see “Initialize KARMA Module” on page 465.
- 4: **Copy Scene.** For more information, see “Copy Scene” on page 151.
- 5: **Swap Scene.** For more information, see “Swap Scene” on page 151.
- 6: **Capture Random Seed.** For more information, see “Capture Random Seed” on page 151.
- 7: **Copy From Program.** For more information, see “Copy From Program” on page 461.

7-6: Perf Real-Time Parameters



Here you can assign controllers to KARMA Performance Real-Time Parameters (Perf. RTP) outside of the GE Real-Time Parameters that control the internal settings of the GE. Examples include the KARMA Key Zone parameters (Combination 7-1b) and KARMA Control and Trigger parameters (Combination 7-3, 7-4).

For more information, please see “7-6: Perf Real-Time Parameters” on page 441.

7-6a: Perf Real-Time Parameters (1...8)

Group [Off, PE, Mix, Control, Trigger, Key Zones, Random Seeds]

Parameter [---, Time Signature... Retrigger Each Time]

Min (Minimum Value) [-8192...+8191]

Max (Maximum Value) [-8192...+8191]

Value [-8192...+8191]

For more information on these parameters, see “7-6b: Perf Real-Time Parameters” on page 116.

A/B/C/D [Off, On]

Specifies whether the Perf Real-Time Parameter settings will be valid for each Module.

On (checked): The Perf Real-Time Parameter settings will be valid.

Off (unchecked): The Perf Real-Time Parameter settings will be ignored.

Assign [---, Slider1...8, Slider1...8(SW), SW1...8, DynaMIDI1...8]

For more information, see "Assign" on page 117.

Polarity [+ , -]

For more information, see "Polarity" on page 117.

Group: PE (Performance)

For more information, see "Group: PE (Performance)" on page 117.

Group: Mix

For more information, see "Group: Mix" on page 117.

Run [0000, 0001]

Assign the function of "Run" (0–6b).

+0000: Off

+0001: Run

Please see "Run" on page 384.

Group: Control

Please see "Group: Control" on page 117.

Group: Trigger

Please see "Group: Trigger" on page 118.

Trigger By Module [+0000...+0004]

Assign the function of "Trigger By Module" (7–4a).

+0000: Off

+0001: A

+0002: B

+0003: C

+0004: D

Please see "Trigger By Module" on page 437.

GE Phrase Length [+0000...+0100]

Assign the function of "GE Phrase Length" (7–4a).

Please see "GE Phrase Length" on page 437.

Group: Key Zones

For more information, see "Group: Zone" on page 118.

Group: Random Seeds

For more information, see "Group: Random" on page 119.

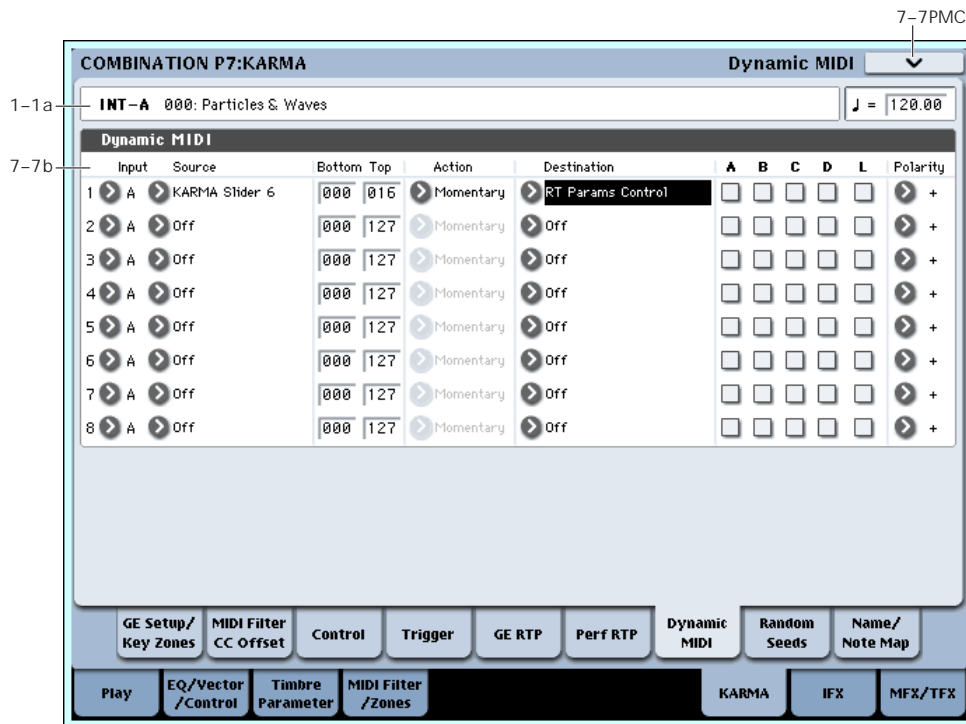
- 3: **Initialize KARMA Module.** For more information, see "Initialize KARMA Module" on page 465.
- 4: **Copy Scene.** For more information, see "Copy Scene" on page 151.
- 5: **Swap Scene.** For more information, see "Swap Scene" on page 151.
- 6: **Capture Random Seed.** For more information, see "Capture Random Seed" on page 151.
- 7: **Copy From Program.** For more information, see "Copy From Program" on page 461.

▼ 7–6: Page Menu Commands

The number before each command shows its ENTER + number-key shortcut. For more information on these shortcuts, see "ENTER + 0-9: shortcuts for menu commands" on page 142.

- 0: **Write Combination.** For more information, see "Write Combination" on page 461.
- 1: **Exclusive Solo.** For more information, see "Exclusive Solo" on page 142.
- 2: **Copy KARMA Module.** For more information, see "Copy KARMA Module" on page 464.

7-7: Dynamic MIDI



Dynamic MIDI is a function that lets you use this instrument's controllers and MIDI control messages to control specific KARMA functions.

For more information, please see "7-7: Dynamic MIDI" on page 120.

7-7a: Dynamic MIDI (1...8)

Input (Input Module) [A...D]

Indicates either A, B, C, or D as the KARMA Module that will be the Dynamic MIDI Source input.

MIDI control data that matches the "Input Channel" (7-1d) of the KARMA Module that you select here will be used as the Source. If the Source is "Note In Zone" or "Note Out Zone," the zone will be the key zone (7-1c) of the KARMA Module that you select here.

Source [Off, JS+Y #01...Vel Out Z]

For more information, see "Source" on page 120, and "Dynamic MIDI Sources & Destinations" on page 1038.

Bottom (Range Bottom) [000...127]

Please see "Bottom (Range Bottom)" on page 120.

Top (Range Top) [000...127]

For more information, see "Top (Range Top)" on page 121.

Action (Range Action) [M, T, C]

For more information, see "Action (Source Action)" on page 121.

Destination [Off, RT Params Control... Buffer Latch]

For more information, see "Destination" on page 121, and "Dynamic MIDI Sources & Destinations" on page 1038.

A/B/C/D [Off, On]

Specifies the Modules for which the Dynamic MIDI settings will be valid.

On (checked): The Dynamic MIDI settings will be valid.

Off (unchecked): The Dynamic MIDI settings will be ignored.

L (Last Triggered) [Off, On]

The Dynamic MIDI settings will be valid only for the last-triggered KARMA Module (A, B, C, or D). For example, this allows you to assign different Modules to be triggered from different parts of the keyboard, and depending on which one was last triggered, route a Dynamic MIDI effect to it, such as Direct Indexing.

Polarity [+ , - , +/- , -/+]

For more information, see "Polarity" on page 121.

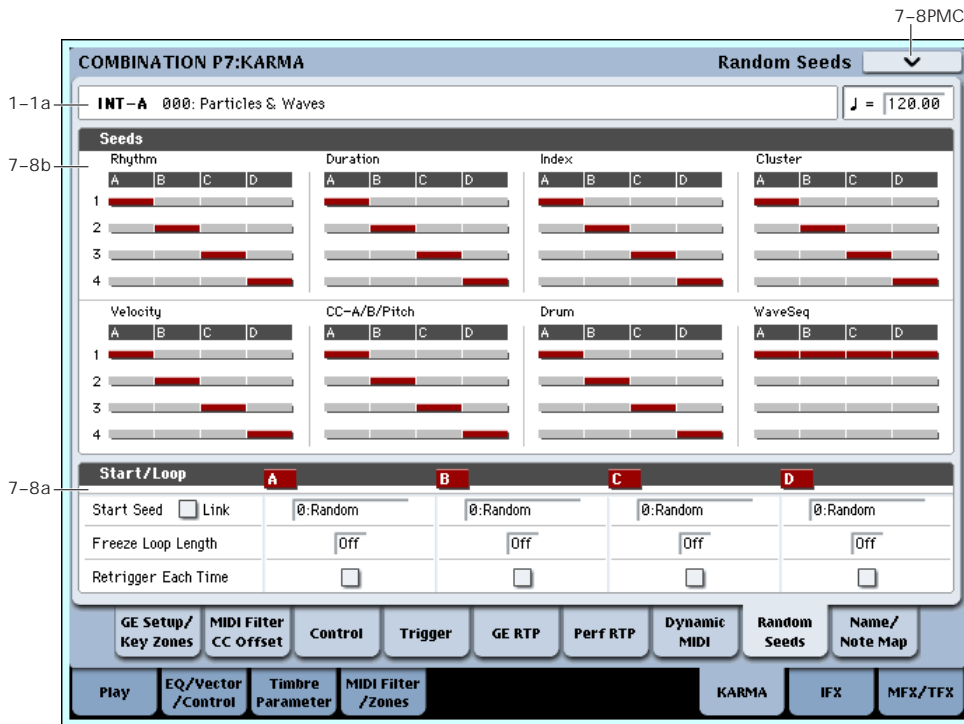
▼ 7-7: Page Menu Commands

The number before each command shows its ENTER + number-key shortcut. For more information on these shortcuts, see "ENTER + 0-9: shortcuts for menu commands" on page 142.

- 0: **Write Combination.** For more information, see "Write Combination" on page 461.
- 1: **Exclusive Solo.** For more information, see "Exclusive Solo" on page 142.

- 2: **Copy KARMA Module.** For more information, see “Copy KARMA Module” on page 464.
- 3: **Initialize KARMA Module.** For more information, see “Initialize KARMA Module” on page 465.
- 4: **Copy Scene.** For more information, see “Copy Scene” on page 151.
- 5: **Swap Scene.** For more information, see “Swap Scene” on page 151.
- 6: **Capture Random Seed.** For more information, see “Capture Random Seed” on page 151.
- 7: **Copy From Program.** For more information, see “Copy From Program” on page 461.

7–8: Random Seeds



The Random Seeds page allows you to control some of the randomizable characteristics of a Module’s GE. Different Modules using the same GE can have various randomizable characteristics “linked” so that they share the same start seeds, generating phrases with the same characteristics.

For more information, please see “7–8: Random Seeds” on page 122.

7–8a: Seed

Rhythm (Rhythm Seed)

- A** [1, 2, 3, 4]
- B** [1, 2, 3, 4]
- C** [1, 2, 3, 4]
- D** [1, 2, 3, 4]


Allows you to share the same random rhythm characteristics between modules using the same GE. For the GE selected for each KARMA Module, you can often control the degree of randomness for various parameter groups such as rhythm, duration, velocity etc. The random calculations are performed based on initial starting values, known as “seeds.”

For example, if you select Rhythm Seed 1 for all four KARMA Modules, running the same GE under the same conditions will cause the randomness of the rhythms to be identical. If many types of randomness are being used, such as duration, velocity etc., setting all the seeds to the same value within each group will cause the resulting phrases to be identical.

Conversely, if you select Rhythm Seed 1, 2, 3, and 4 respectively for the four KARMA Modules and run the same GE under the same conditions, the randomness of the rhythms will be different. If many types of randomness are being used, such as duration, velocity etc., setting all the seeds to the different values within each group will cause the resulting phrases to be completely different.

Normally, you will select different values, such as A: 1, B: 2, C: 3, D: 4.

Select identical values if you want two or more KARMA Modules to play the same randomizable GE in unison or harmony with the same randomizations.

 Changing these settings will not have any effect for GEs that were not designed to utilize various random capabilities.

Duration (Duration Seed)

Controls the randomizable characteristics for the Duration Group, similar to those explained under “Rhythm (Rhythm Seed)” above. For more information, see “Duration Group” on page 970.

Index (Index Seed)

Controls the randomizable characteristics for the Index Group, similar to those explained under “Rhythm (Rhythm Seed)” above. For more information, see “Index Group” on page 973.

Cluster (Cluster Seed)

Controls the randomizable characteristics for the Cluster Group, similar to those explained under “Rhythm (Rhythm Seed)” above. For more information, see “Cluster Group” on page 977.

Velocity (Velocity Seed)

Controls the randomizable characteristics for the Velocity Group, similar to those explained under “Rhythm (Rhythm Seed)” above. For more information, see “Velocity Group” on page 979.

CC–A/B (CC–A/B Seed)

Controls the randomizable characteristics for the CCs/Pitch Group, similar to those explained under “Rhythm (Rhythm Seed)” above. For more information, see “CCs/Pitch Group” on page 982.

Drum (Drum Seed)

Controls the randomizable characteristics for the Drum Group, similar to those explained under “Rhythm (Rhythm Seed)” above. For more information, see “Drum Group” on page 1003.

WaveSeq (WaveSeq Seed)

Controls the randomizable characteristics for the WaveSeq Group, similar to those explained under “Rhythm (Rhythm Seed)” above. For more information, see “WaveSeq Group” on page 986.

▼ 7–8: Page Menu Commands

The number before each command shows its ENTER + number-key shortcut. For more information on these shortcuts, see “ENTER + 0-9: shortcuts for menu commands” on page 142.


- 0: **Write Combination.** For more information, see “Write Combination” on page 461.
- 1: **Exclusive Solo.** For more information, see “Exclusive Solo” on page 142.
- 2: **Copy KARMA Module.** For more information, see “Copy KARMA Module” on page 464.
- 3: **Initialize KARMA Module.** For more information, see “Initialize KARMA Module” on page 465.
- 4: **Copy Scene.** For more information, see “Copy Scene” on page 151.
- 5: **Swap Scene.** For more information, see “Swap Scene” on page 151.
- 6: **Capture Random Seed.** For more information, see “Capture Random Seed” on page 151.
- 7: **Copy From Program.** For more information, see “Copy From Program” on page 461.

7–8b: Start/Loop

Link to Start Seed [Off, On]

If turned On, when you specify a “Start Seed” value for one of the active KARMA Modules, the “Start Seed” of all other active Modules in the Performance will be set to the same value.

This is useful for quickly trying out new settings on all Modules at the same time.

 This setting is ignored while “Random Capture” is being executed.

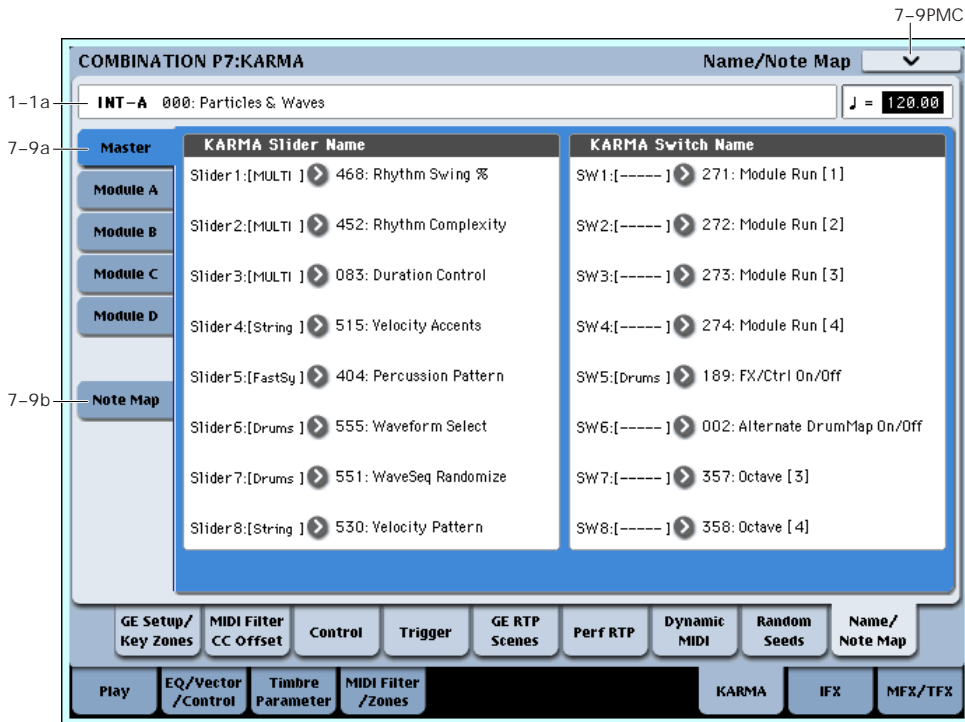
Start Seed [-2147483648...0:
Random...+2147483647]

Freeze Loop Length [Off, 01...32]

Retrigger Each Time [Off, On]

Please see “7–8b: Start” on page 122.

7-9: Name/Note Map



Here you can assign the names for KARMA SLIDERS 1-8 and KARMA SWITCHES 1-8, view Global Note Map Tables, and edit the Custom Note Map Table stored with the Combi.

7-9a: Name

Each Module Control layer has its own set of names for the 8 KARMA SLIDERS and 8 KARMA SWITCHES. For more information, see "7-9b: Module A" on page 125.

Master, Module A...D

Slider1...8 [000 (no name)...
571 Waveform Select [16]]

Switch1...8 [000 (no name)...
571 Waveform Select [16]]

7-9b: Note Map

Table [Custom, Global 1...64]

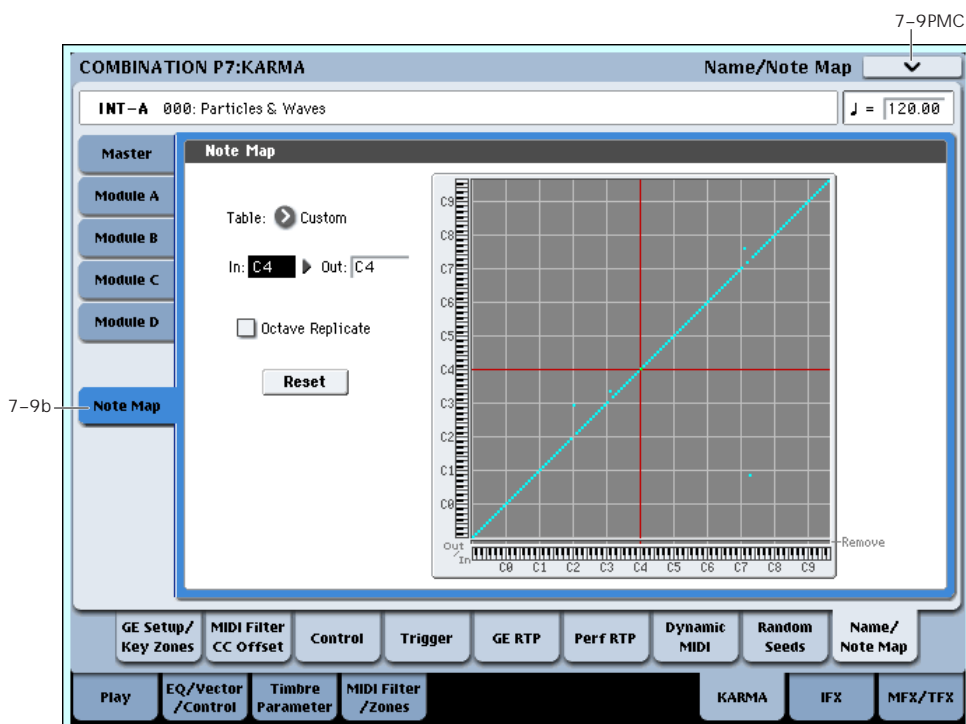
Note In [C-1...G9]

Note Out [Remove, C-1...G9]

Octave Replicate [Off, On]

Reset button

For more information, see "7-9b: Note Map" on page 446.



7-9b: Note Map (Custom)

Table [Custom, Global 1...64]

In (Note In) [C-1...G9]

Out (Note Out) [Remove, C-1...G9]

Table Grid

Octave Replicate [Off, On]

Reset

For more information, see “7-9c: Note Map” on page 125.

Display Module [A, B, C, D]

Here you can select the KARMA module that you want to edit, and view the Note Map Table.

- 5: **Swap Scene**. For more information, see “Swap Scene” on page 151.
- 6: **Capture Random Seed**. For more information, see “Capture Random Seed” on page 151.
- 7: **Auto Assign KARMA RTC Name**. For more information, see “Auto Assign KARMA RTC Name” on page 465.
- 8: **Copy From Program**. For more information, see “Copy From Program” on page 461.
- 9: **Copy Note Map**. For more information, see “Copy Note Map” on page 143.

▼ 7-9: Page Menu Commands

The number before each command shows its ENTER + number-key shortcut. For more information on these shortcuts, see “ENTER + 0-9: shortcuts for menu commands” on page 142.

- 0: **Write Combination**. For more information, see “Write Combination” on page 461.
- 1: **Exclusive Solo**. For more information, see “Exclusive Solo” on page 142.
- 2: **Copy KARMA Module**. For more information, see “Copy KARMA Module” on page 464.
- 3: **Initialize KARMA Module**. For more information, see “Initialize KARMA Module” on page 465.
- 4: **Copy Scene**. For more information, see “Copy Scene” on page 151.

Combination P8: Insert Effect

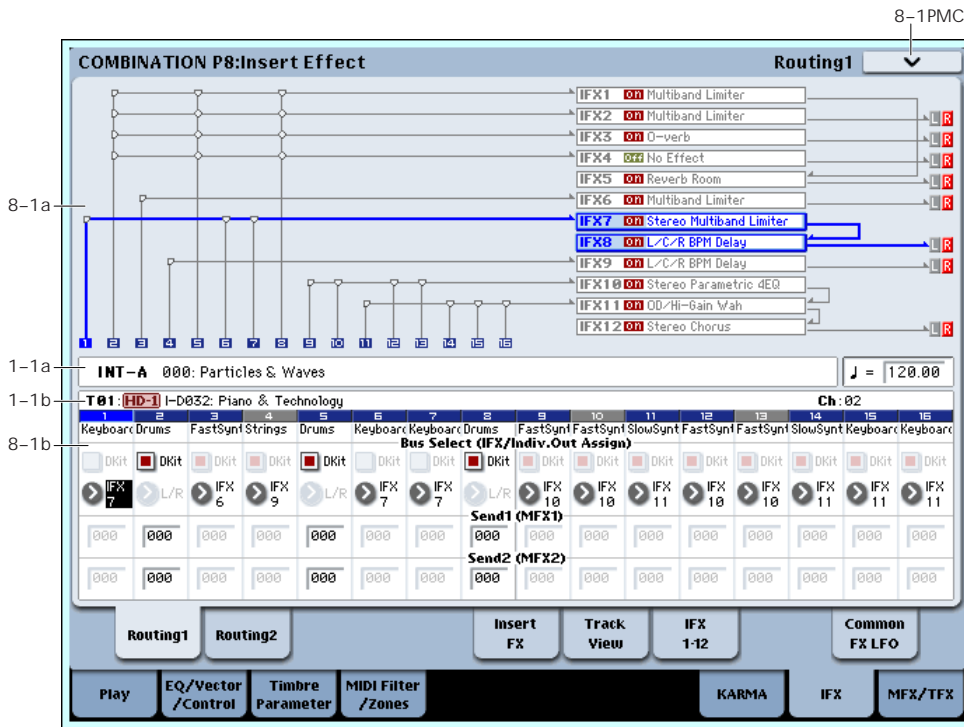
You can also specify the bus routing for the program used by each timbre 1–16. For instance, you can:

- Send the output of a timbre to an insert effect
- Route a sound to an insert effect

- Make detailed settings for insert effects
- Make common LFO settings for effects

For more details on the Insert Effects, see the “Effect Guide” on page 787.

8–1: Routing 1



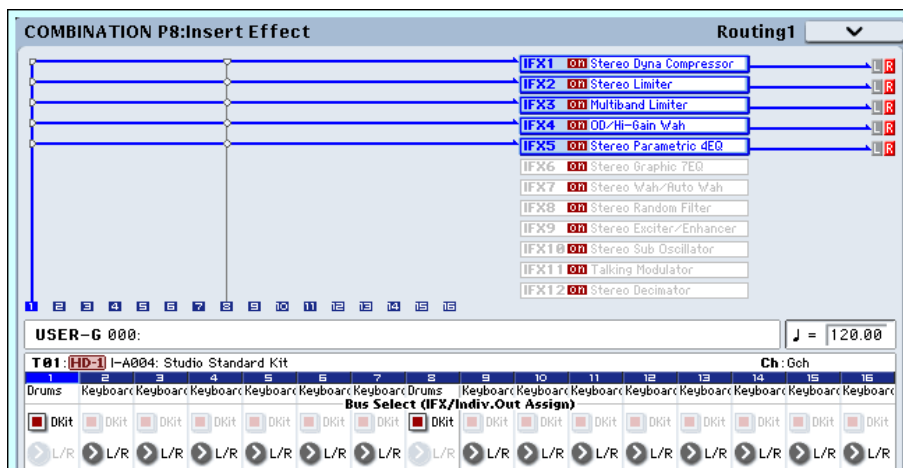
Specifies the bus to which the program oscillator(s) used by each timbre 1–16 will be sent. You can also set the send levels to the master effects from this page.

effect. The type of insert effect, the on/off status, and the chain settings can be edited in the P8– Insert FX page.

8–1a: Routing Map

This shows the status of the insert effects.

This area shows the insert effect routing (Bus Select), the name of the assigned effect, the on/off status, chaining, and the output bus that follows the insert



8-1b: Routing 1

Timbre 01 (Timbre Number)

Bus Select (IFX/Indiv. Out Assign) Dkit [Off, On]

You can select this only if the Timbre's Program is a drum program (Oscillator Mode Drums). This parameter can also be edited from the P8- Routing 2 page.

On (checked): The **Bus Select**, **FX Control Bus**, **Send1**, and **Send2** settings for each key of the selected drum kit will be used. Check this setting if you want to apply an individual insert effect to each drum instrument, or to send individual drum instruments to AUDIO OUTPUT (INDIVIDUAL).

Tip: In most preloaded drumkits, the drum instruments have the same **Bus Select** settings according to their type, as follows.

Snares → IFX1

Kicks → IFX2

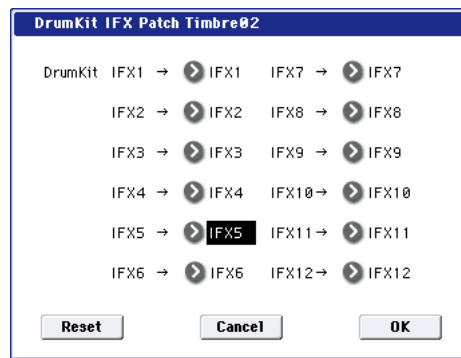
Toms → IFX3

Cymbals → IFX4

Percussion, etc. → IFX5

If you want to edit these routings, use the "Drum Kit IFX Patch" page menu command.

Off (unchecked): The **Bus Select**, **FX Control Bus**, and **Send 1/2** settings will be used. All drum instruments will be sent to the specified bus.



Bus Select (IFX/Indiv.Out Assign)

[L/R, IFX1...12, 1...8, 1/2...7/8, Off]

This specifies the output bus for the timbre's program oscillator. This parameter can also be edited from the P8- Routing 2 page.

L/R: Output to the L/R bus.

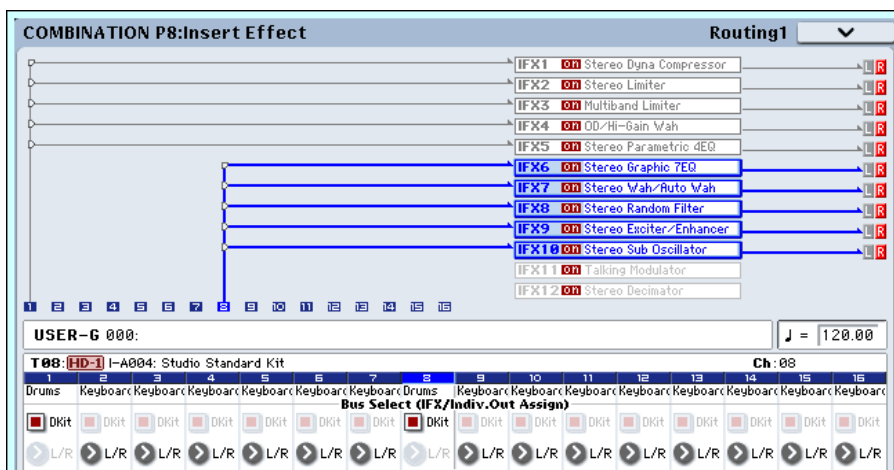
IFX1...12: Output to the IFX1-12 buses.

1...8: The timbre will be output in mono from the corresponding AUDIO OUTPUT (INDIVIDUAL) 1, 2, 3, 4, 5, 6, 7, or 8.

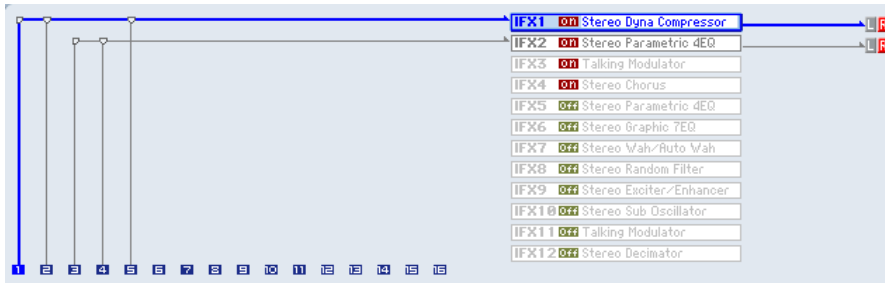
1/2...7/8: The timbre will be output in stereo according to its pan setting from the corresponding AUDIO OUTPUT (INDIVIDUAL) pairs 1/2, 3/4, 5/6, or 7/8.

Off: The timbre will not be output from the L/R bus, IFX1-12 buses, or Individual 1-8 buses. Choose the Off setting if you want the program oscillator output of the timbre to be connected in series to a master effect. Use **Send1 (to MFX1)** and **Send2 (to MFX2)** to specify the send levels.

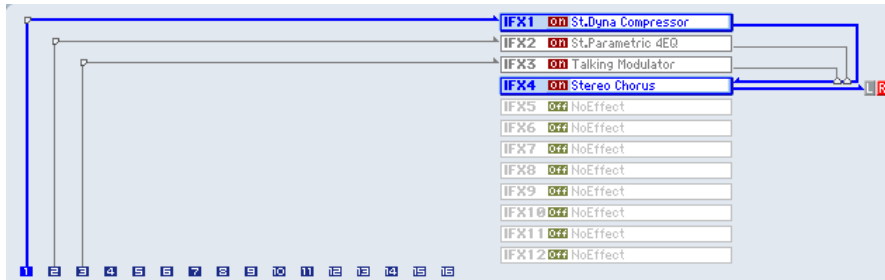
Tip: You can create a wide variety of routings by using each timbre's **Bus Select** and the **Chain to** and **Chain** settings (5-5a) that follow the insert effect.



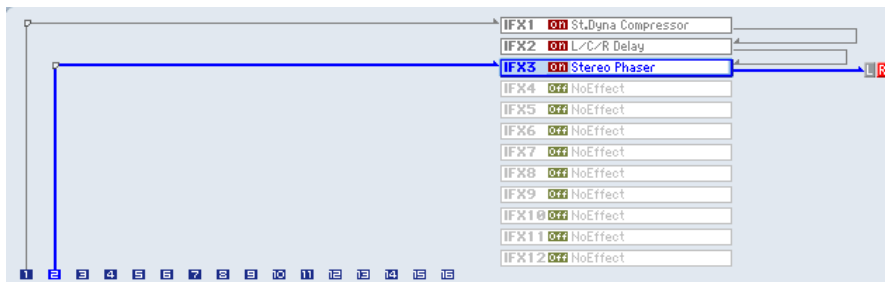
Example: Inserting a single IFX into multiple timbre



Example: Inserting a separate IFX into each timbre, and then inserting an IFX at the final stage



Example: Sharing a portion of a timbre's IFX chain with another timbre



Send1 (MFX1) [000...127]

Send2 (MFX2) [000...127]

For each timbre, these parameters set the send level to master effects 1 and 2. These settings are valid when **Bus Select** is set to L/R or Off. When IFX 1–12 are selected, the send levels to master effects 1 and 2 are set by the **Send1** and **Send2** parameters of the Insert FX page, after the sound has passed through IFX1–12.

If **Bus Select** is set to 1...8 or 1/2...7/8, these settings are ignored.

MIDI Control change CC#93 can be used to control the Send 1 level, and CC#91 to control the Send 2, and modify their respective settings. These messages will be received on the MIDI channel specified for each timbre in the P2: MIDI channel page.

The actual send levels are determined by multiplying this value with the send level **Send1** and **Send2** (Program 8–1f, 8–5b) for each oscillator of the program selected for the timbre.

Timbre 02...16 (Timbre Number)

These settings specify the program oscillator output bus and master effect send levels for timbres 2 through 16. They are the same as for timbre 1. See “Timbre 01”.

Note: You can use the control surface to control Send1 and Send2. These can also be controlled from the mixer section of the front panel, or from the P0– Control Surface page of the LCD screen. Here’s the procedure for editing these settings from the front panel.

1. Press the **CONTROL ASSIGN MIXER TIMBRE/TRACK** switch to select either timbres 1–8 or 9–16.
2. Press the **MIXER KNOBS** switch to select **CHANNEL STRIP**.
3. Use the **MIXER SELECT 1/9–8/16** switches to select the timbre whose send levels you want to adjust.
4. Use **MIX CHANNEL STRIP “FX SEND 1”** (knob 7) and **“FX SEND 2”** (knob 8) to control the send levels.

If **Bus Select (IFX/Indiv. Out Assign)** is set to L/R or OFF, this will control **OSC1 Send1 (to MFX1)–OSC2 Send2 (to MFX2)**. If **Bus Select (IFX/Indiv. Out Assign)** is set to IFX1–12, this will control **Send1 and Send2 (P8– Insert FX page)**.

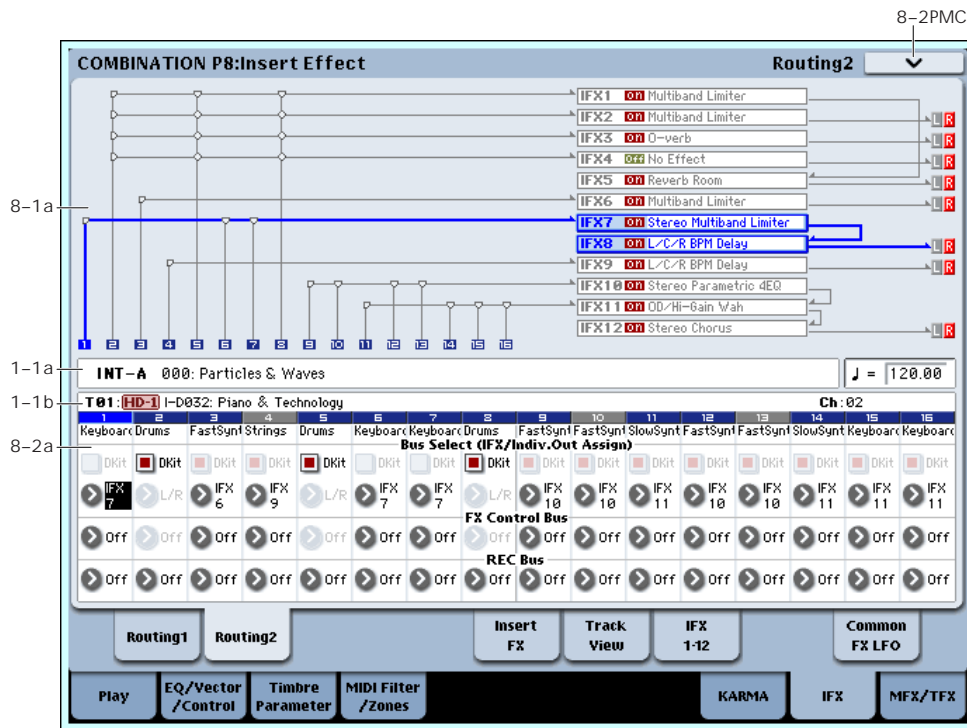
▼ 8–1: Page Menu Commands

The number before each command shows its **ENTER + number-key** shortcut. For more information on these shortcuts, see “**ENTER + 0-9: shortcuts for menu commands**” on page 142.

- **0: Write Combination.** For more information, see “**Write Combination**” on page 461.

- 1: **Exclusive Solo.** For more information, see “Exclusive Solo” on page 142.
- 2: **Copy Insert Effect.** For more information, see “Copy Insert Effect” on page 153.
- 3: **Swap Insert Effect.** For more information, see “Swap Insert Effect” on page 154.
- 4: **Drum Kit IFX Patch.** For more information, see “Drum Kit IFX Patch” on page 466.

8-2: Routing2



Here you can specify the program oscillator output bus, effect control bus, and REC bus for each timbre 1 through 16.

8-2a: Routing2

Timbre 01 (Timbre Number)

Bus Select (IFX/Indiv. Out Assign) Dkit [Off, On]

You can select this only if the specified program is a drum program (Oscillator Mode Drums). These settings can also be made in the Insert Effect-Routing1. For more information, please see “Bus Select (IFX/Indiv. Out Assign) Dkit” on page 449.

Bus Select (IFX/Indiv.Out Assign) [L/R, IFX1...12, 1...8, 1/2...7/8, Off]

For each timbre, these parameters specify the bus to which the program oscillator(s) will be sent. The current settings can also be viewed in the Routing Map. This parameter can also be edited from the P8-Routing1 page. For more information, please see “Bus Select (IFX/Indiv.Out Assign)” on page 449.

FX Control Bus [Off, 1, 2]

Sends the output of the timbre to an FX Control bus (two-channel stereo FX Ctrl 1 or 2).

Use the FX Control buses when you want a separate sound to control the audio input of an effect. You can use two FX Control buses (each is a two-channel stereo bus) to control effects in various ways.

For more information, please see “FX Control Buses” on page 790.

REC Bus (All OSCs to) [Off, 1...4, 1/2, 3/4]

These settings send the output of the timbre to the REC buses (four mono channels: 1, 2, 3, 4).

The REC buses are dedicated internal buses for recording, used for sampling in the various modes or for recording audio tracks in Sequencer mode.

In Combination mode, you can resample your keyboard or KARMA performance, or sample an external audio signal from the Audio Inputs.

Normally you will set **Source Bus** (0-8c) to L/R, so that you can sample the signal of the L/R bus line, such as your keyboard or KARMA performance. However, you can use a REC bus if you want to sample only an audio input while performing on the keyboard or KARMA function which are being output via L and R. If desired, multiple audio inputs can be mixed to a REC bus, or the direct signal from an audio input can be mixed to a REC bus along with the sound from an insert effect and sampled. Alternatively, you can resample the keyboard performance of only specific timbres. For more information, see the diagram “Source Bus = REC Bus 1/2” on page 16.

Off: The signal will not be sent to a REC bus. Normally you will leave this off.

1...4: The output of the timbre will be sent to the corresponding REC bus. The **Pan** setting (0–1b) of each timbre will be ignored, and the signal will be sent in monaural.

1/2, 3/4: The output of the timbre will be sent in stereo to the corresponding pair of REC buses. The signal is sent in stereo to REC buses 1/2 or 3/4 according to the **Pan** setting (0–1b) of each timbre.

Timbre 02... 16 (Timbre Number)

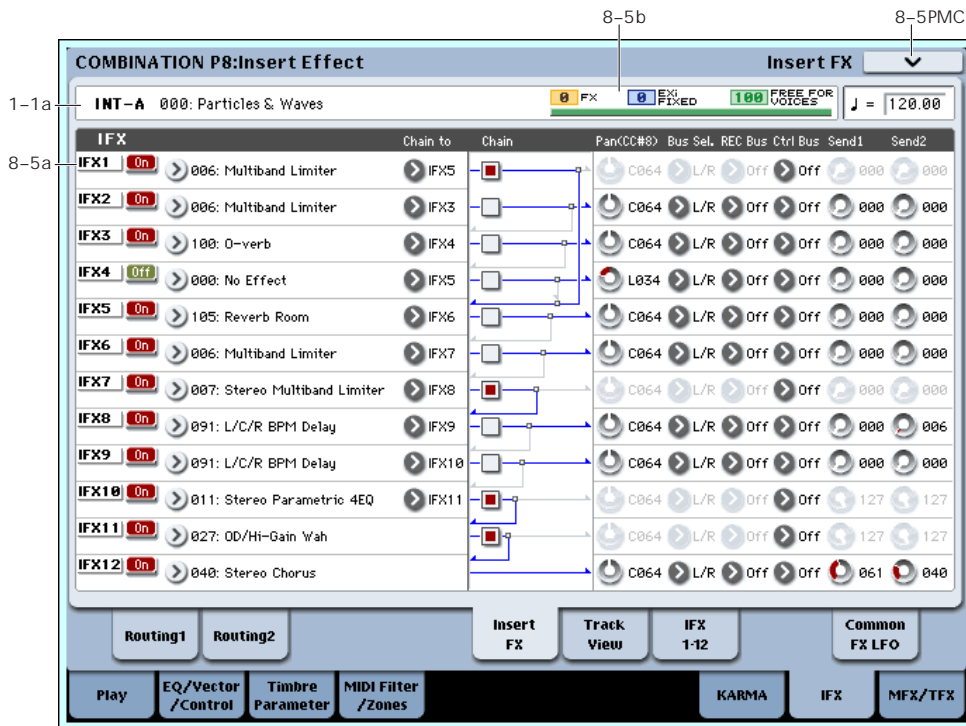
These settings specify the program oscillator output bus, effect control bus, and REC bus used by timbres 2 through 16. These are the same as for timbre 1. See “Timbre 01”.

▼ 8–2: Page Menu Commands

The number before each command shows its ENTER + number-key shortcut. For more information on these shortcuts, see “ENTER + 0-9: shortcuts for menu commands” on page 142.

- **0: Write Combination.** For more information, see “Write Combination” on page 461.
- **1: Exclusive Solo.** For more information, see “Exclusive Solo” on page 142.
- **2: Copy Insert Effect.** For more information, see “Copy Insert Effect” on page 153.
- **3: Swap Insert Effect.** For more information, see “Swap Insert Effect” on page 154.
- **4: Drum Kit IFX Patch.** For more information, see “Drum Kit IFX Patch” on page 466.

8–5: Insert FX



8–5a: IFX

Here you can choose the type of each insert effect 1 through 12, its on/off status, chaining, and adjust the post-IFX mixer settings. For insert effects, the direct sound (Dry) is always stereo-in and out. The input/output configuration of the effect sound (Wet) depends on the effect type.

For detailed explanations of the individual effects, please see the “Effect Guide” on page 787.

The following parameters are the same as in Program mode. For more information, please see “8–5b: IFX” on page 131.

However, unlike in Program mode, you can use a different MIDI channel to modulate each effect, if desired. This includes the post-IFX **Pan (CC#8)**, **Send1**, and **Send2** settings, as well as the effect’s dynamic modulation (Dmod). To set the MIDI channel, use the **Ch** parameter on the IFX 1-12 page (8–7a).

IFX1

For detailed information on these parameters, see “8–5b: IFX” on page 131.

IFX1	[000...185]
IFX1 On/Off	[Off, On]
Chain to	[IFX2...IFX12]
Chain	[Off, On]
Pan(CC#8) (Post IFX Pan)	[L000...C064...R127]
Bus Sel. (Bus Select)	[L/R, 1...8, 1/2...7/8, Off]
Ctrl Bus (FX Control Bus)	[Off, 1, 2]
REC Bus	[Off, 1...4, 1/2, 3/4]
Send1	[000...127]
Send2	[000...127]

Note: You can use the control surface to control Send 1 and 2. See “Send1 (MFX1)” on page 450.

IFX2... 12

These parameters specify the type of each insert effect, its on/off status, chaining, and post-IFX mixer settings. With the exception of **Chain to** and **Chain**, the parameters are the same as for IFX1. For more information, please see “IFX1” on page 131.

IFX2: Chain to	[IFX3...IFX12]
IFX3: Chain to	[IFX4...IFX12]
IFX4: Chain to	[IFX5...IFX12]
IFX5: Chain to	[IFX6...IFX12]
IFX6: Chain to	[IFX7...IFX12]
IFX7: Chain to	[IFX8...IFX12]
IFX8: Chain to	[IFX9...IFX12]
IFX9: Chain to	[IFX10...IFX12]
IFX10: Chain to	[IFX11...IFX12]
IFX11: Chain to	[IFX12]

8-5b: Effect/EXi Fixed Resource Meter

FX

EXi FIXED

FREE FOR VOICES

The number of voices you can play is affected by how effects and EXi are being used. This meter shows the resource allocation as an approximate percentage (%) of the total processing power.

For more information, see “CX-3 & STR-1: Limitations on EXi fixed resources” on page 382, and “About effects resources” on page 787.

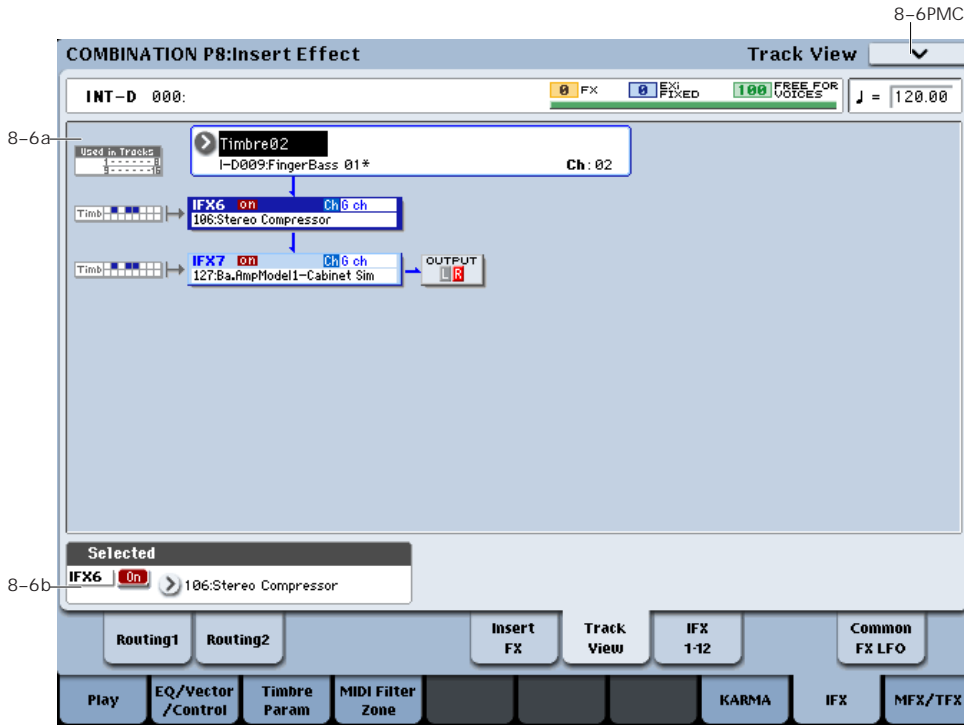


▼ 8-5: Page Menu Commands

The number before each command shows its ENTER + number-key shortcut. For more information on these shortcuts, see “ENTER + 0-9: shortcuts for menu commands” on page 142.

- 0: **Write Combination.** For more information, see “Write Combination” on page 461.
- 1: **Exclusive Solo.** For more information, see “Exclusive Solo” on page 142.
- 2: **Copy Insert Effect.** For more information, see “Copy Insert Effect” on page 153.
- 3: **Swap Insert Effect.** For more information, see “Swap Insert Effect” on page 154.
- 4: **Insert IFX Slot.** For more information, see “Insert IFX Slot” on page 154.
- 5: **Cut IFX Slot.** For more information, see “Cut IFX Slot” on page 155.
- 6: **Clean Up IFX Routings.** For more information, see “Clean Up IFX Routings” on page 156.

8-6: Track View



8-6a: Track View

Here you can view the timbre output and insert effect routing.

Used in Tracks

The upper and lower rows of boxes with eight boxes in each row indicate the timbre that is being sent to the corresponding insert effect. (The eight upper boxes correspond to timbres 1-8, and the eight lower boxes correspond to timbres 9-16.)

In this example you can see that IFX7 and 8 are being used by timbres 6 and 7, as well as by timbre 1. So, any changes to these effects will affect all three timbres.

Timbre Select [Timbre 01...Timbre 16]

Here you can select the timbre that will be shown in the Track View screen.

The lower line shows the program name and MIDI channel of the timbre.

The screen shows the insert effect(s) used by the selected timbre.

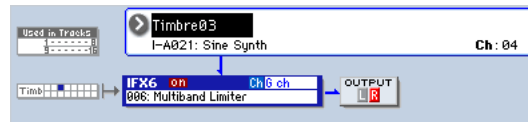
Slot [IFX1...IFX12]

This indicates the slot number, effect type, effect on/off status, and control channel for the chained insert effects.

The selected slot is shown in dark blue. In the "Selected" area below, you can specify the "Effect Type" and "On/Off" status of the selected effect slot. This is also the effect slot that will be affected by the page menu commands "Insert IFX Slot" and "Cut IFX Slot."

When you move from this page to the P8- IFX1-12 page, the IFX you selected here will be selected.

For example if you select Timbre 03, only the insert effects used by timbre 3 will be shown.



"OUTPUT" indicates the Bus Select settings that follow the insert effect. This tells you the output destination to which the audio signal will be sent.

8-6b: Selected

Here you can specify the "Effect Type" and "On/Off" status of the insert effect slot selected by Track Select. ("8-6a: Track View," above)

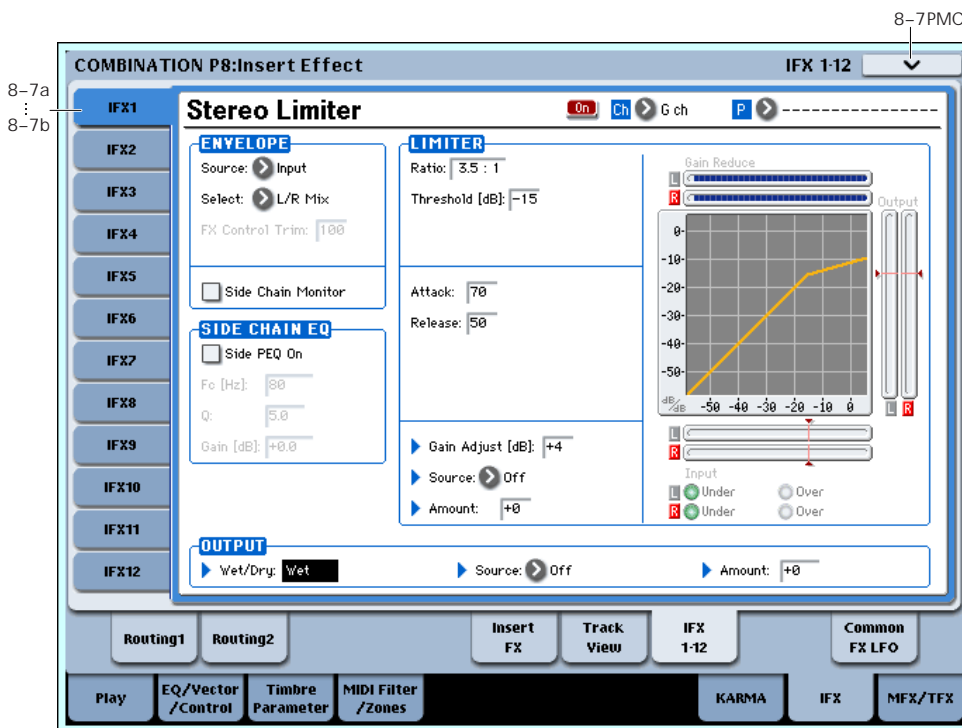
▼ 8-6: Page Menu Commands

The number before each command shows its ENTER + number-key shortcut. For more information on these shortcuts, see "ENTER + 0-9: shortcuts for menu commands" on page 142.

- 0: **Write Combination.** For more information, see "Write Combination" on page 461.
- 1: **Exclusive Solo.** For more information, see "Exclusive Solo" on page 142.
- 2: **Copy Insert Effect.** For more information, see "Copy Insert Effect" on page 153.
- 3: **Swap Insert Effect.** For more information, see "Swap Insert Effect" on page 154.

- 4: **Insert IFX Slot.** For more information, see “Insert IFX Slot” on page 154.
- 5: **Cut IFX Slot.** For more information, see “Cut IFX Slot” on page 155.
- 6: **Clean Up IFX Routings.** For more information, see “Clean Up IFX Routings” on page 156.

8-7: IFX 1-12



This page lets you edit the detailed parameters of the twelve insert effect s. Use the tabs at left to select IFX1 through IFX12.

To select different effects types, use the Insert FX or Track View pages. For more information, see “8-5: Insert FX” on page 452 and “8-6: Track View” on page 454.

Effects Modulation: Dmod

Most effects have one or more parameters which can be modulated in realtime. In the OASYS, this is called Dynamic Modulation, or Dmod for short.

For a complete list of Dmod sources, see “Dynamic Modulation Source List” on page 1030.

MIDI You can use different MIDI channels to control Dmod for each effect, if desired, as selected by the **Ch (Control Channel)** parameter.

8-7a: IFX1

IFX1 On/Off

[Off, On]



Turns the insert effect on/off. This is linked with the on/off setting in the P8- Insert FX page.

Ch (Control Channel) [Ch01...16, G ch, All Routed]



This parameter specifies the MIDI channel that will be used to control effect dynamic modulation (Dmod), pan following the insert effect (CC#8), Send 1, and Send 2.

The channel number of the timbre routed through this IFX will be followed by a “*” displayed at the right of Ch01-16. If two or timbres with different MIDI channel settings are routed through the same IFX, this parameter specifies which of these channels will be used to control the effect.

G ch: The global **MIDI Channel** (Global 1-1a) will be used to control the effect. Normally you will set this to G ch.

All Routed: The channel of any timbre routed through this effect can be used to control the effect. (Channels of each routed timbre will be indicated by “*”).

Drum Kits and the MIDI Control Channel

If a Timbre is using a Drum Kit, and the Timbre’s **Bus Select (IFX/Indiv. Out Assign) DKit** (8-1b) is enabled, this effects the MIDI Control Channel as well. In this case, the Timbre’s MIDI channel will be used to control any effect whose Ch is set to All Routed, regardless of the **Bus Select** (Global 5-3b) settings or the settings of the **DrumKit IFX Patch** page menu command.

P (Effect Preset) [P00, P01...15, U00...15, -----]



Effect Presets let you easily store and recall all of the settings for an individual effect. You can store up to 16 user presets for each effect type, in addition to 15 re-writable factory presets.

The same presets appear in all of the modes (Program, Combi, Sequence, and Sampling), and sets of presets can be saved to and loaded from disk.

Note that edits to effects parameters are automatically stored with the Combi—you don't need to store them as an Effect Preset. Presets just make it easier to re-use your favorite settings.

For instance, you can save an Effect Preset while working on a particular Combi, and then later use the same Effect Preset in a different Program, Combi, or Song.

P00: Initial Set: These are the default settings that are recalled when you select an effect type in the Insert FX page. You can't save your own settings here.

P01...P15: These contain preset data that Korg plans to provide in the future. We recommend that you store your settings in U00–U15.

U00...U15: These are areas in which you can store your own settings.

-----: This shows that no Effect Preset has been selected. You'll see this if you've just selected an effect, written a program, or selected a new Combi. Selecting this setting from the menu will not have any effect.

Note: Combis save the effects parameter settings, but they don't save the number of the selected Effect Preset. If you select an Effect Preset, and then save the Combi, the Effect Preset setting will revert to "-----".

For more details, see "Using Effect Presets" on page 135.

IFX1 Parameters

Here you can set the effect parameters of the insert effect you chose in the P8– Insert FX page.

For more details, please see "Insert Effects (IFX1...IFX12)" on page 794.

8-7b: IFX2...12

Here you can set the effect parameters of the insert effects selected in the Insert FX page.

The parameters for IFX2 through IFX12 are the same as for IFX1. For more information, please see "8-7a: IFX1" on page 455.

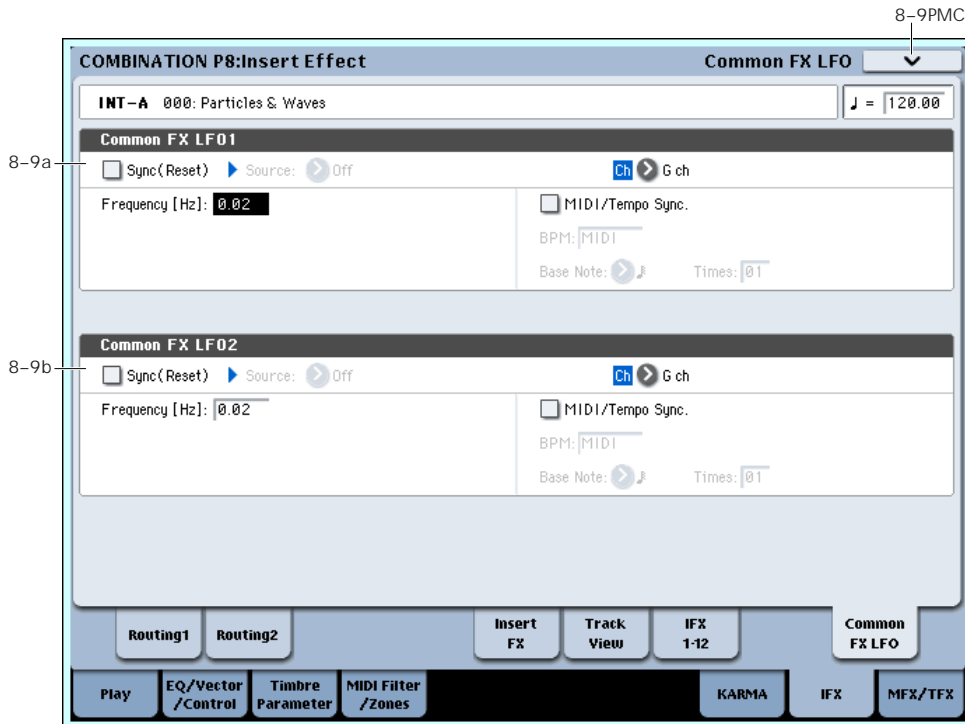
▼ 8-7: Page Menu commands

The number before each command shows its ENTER + number-key shortcut. For more information on these shortcuts, see "ENTER + 0-9: shortcuts for menu commands" on page 142.

- 0: **Write Combination.** For more information, see "Write Combination" on page 461.

- 1: **Exclusive Solo.** For more information, see "Exclusive Solo" on page 142.
- 2: **Copy Insert Effect.** For more information, see "Copy Insert Effect" on page 153.
- 3: **Swap Insert Effect.** For more information, see "Swap Insert Effect" on page 154.
- 4: **Write FX Preset.** For more information, see "Write FX Preset" on page 158.

8-9: Common FX LFO



The two Common FX LFOs allow you to synchronize LFO-based modulation for multiple effects, such as phasers, flangers, filters, and so on.

The Common LFOs control only the frequency, MIDI synchronization, and reset options; each individual effect still has its own settings for the LFO waveform and phase.

Within the individual effects, you can choose whether to use one of the Common LFOs, or to use the individual effect's frequency, sync, and/or reset settings instead. This is done via the effect's **LFO Type** parameter; select **Individual** to use the effect's settings, or **Common 1** or **2** to use the Common LFOs.

8-9a: Common FX LFO1

Ch (Control Channel) [Ch01...Ch16, G ch]

Specifies the MIDI channel that will control dynamic modulation (Dmod) for Common LFO 1 and 2.

G ch: The global MIDI channel will be used for control. This is the default.

Sync (Reset)	[Off, On]
Source (Dmod Source)	[List of Dmod Sources]
Frequency	[0.02...20.00 Hz]
MIDI/Tempo Sync	[Off, On]
BPM	[MIDI, 040.00...240.00]
Base Note	[♩... ♩]
Times	[01...32]

These parameters are the same as in Program mode. For details, see "8-9a: Common FX LFO1" on page 136.

8-9b: Common FX LFO2

These parameters are the same as for Common FX LFO1. For more information, please see "8-9a: Common FX LFO1" on page 136.

▼ 8-9: Page Menu Commands

The number before each command shows its ENTER + number-key shortcut. For more information on these shortcuts, see "ENTER + 0-9: shortcuts for menu commands" on page 142.

- 0: **Write Combination.** For more information, see "Write Combination" on page 461.
- 1: **Exclusive Solo.** For more information, see "Exclusive Solo" on page 142.
- 2: **Copy Insert Effect.** For more information, see "Copy Insert Effect" on page 153.
- 3: **Swap Insert Effect.** For more information, see "Swap Insert Effect" on page 154.

Combination P9: Master/Total Effect

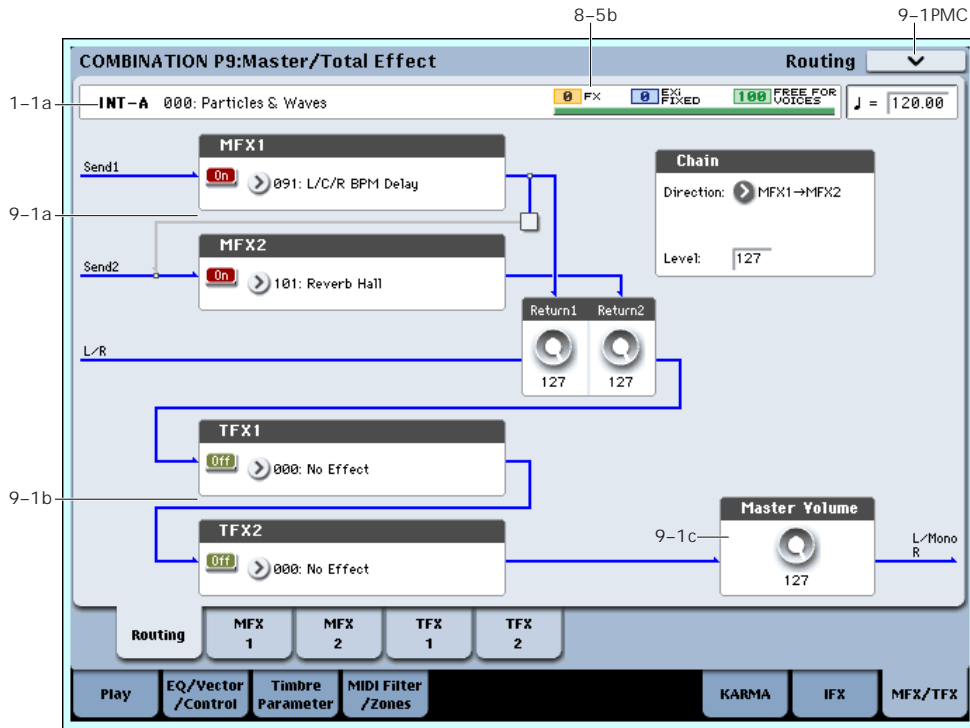
Here you can make settings for the master effects and total effects. For instance, you can:

- Route a sound to an master effects and total effects

- Make detailed settings for master effects and total effects

For more information, please see “Effect Guide” on page 787.

9-1: Routing



Here you can specify the type of master effects and total effects, and turn them on/off.

The master effects are sent to the L/R bus. The total effects are inserted into the L/R bus.

9-1a: MFX1, 2

MFX1

MFX1	[000...185]
MFX1 On/Off	[Off, On]
Return 1	[000...127]

MFX2

MFX2	[000...185]
MFX2 On/Off	[Off, On]
Return 2	[000...127]

Chain

Chain On/Off	[Off, On]
Chain Direction	[MFX1->MFX2, MFX2->MFX1]
Chain Level	[000...127]

These parameters are the same as in Program mode. For more information, please see “9-1a: MFX1, 2” on page 138.

9-1b: TFX1, 2

TFX1

TFX1 [000...185]

TFX1 On/Off [Off, On]

TFX2

TFX2 [000...185]

TFX2 On/Off [Off, On]

These parameters are the same as in Program mode. For more information, please see “9-1b: TFX1, 2” on page 139.

9-1c: Master Volume

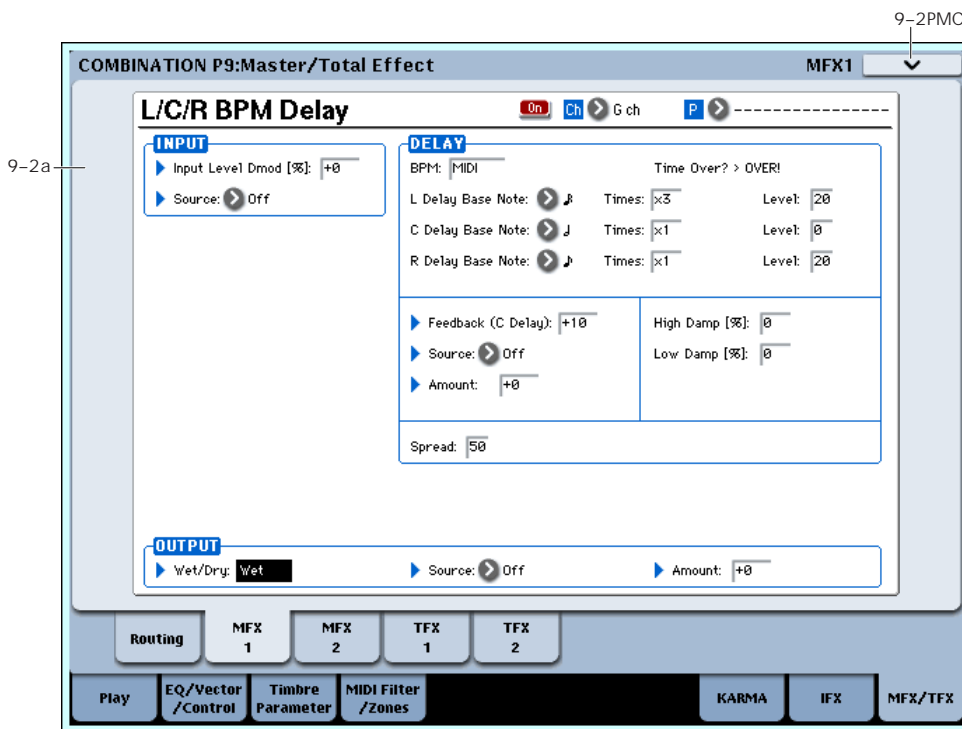
Master Volume [000...127]

▼ 9-1: Page Menu Commands

The number before each command shows its ENTER + number-key shortcut. For more information on these shortcuts, see “ENTER + 0-9: shortcuts for menu commands” on page 142.

- 0: **Write Combination.** For more information, see “Write Combination” on page 461.
- 1: **Exclusive Solo.** For more information, see “Exclusive Solo” on page 142.
- 2: **Copy MFX/TFX.** For more information, see “Copy MFX/TFX” on page 157.
- 3: **Swap MFX/TFX.** For more information, see “Swap MFX/TFX” on page 158.

9-2: MFX1



Here you can edit the parameters of the effect you selected for MFX1 in the P9- Routing page.

Effects Modulation: Dmod

Most effects have one or more parameters which can be modulated in realtime. In the OASYS, this is called Dynamic Modulation, or Dmod for short.

For a complete list of Dmod sources, see “Dynamic Modulation Source List” on page 1030.

MIDI You can use different MIDI channels to control Dmod for each effect, if desired, as selected by the **Ch (Control Channel)** parameter.

9-2a: MFX1

MFX1 On/Off [Off, On]

This turns master effect 1 on/off. This is linked with the on/off setting in the P9-Routing page.

Ch (Control Channel) [Ch01...16, G ch]

Ch G ch

Specifies the MIDI channel that will control dynamic modulation (Dmod) for the master effect.

Ch01...Ch16: The specified MIDI channel will be used for control.

G ch: The global **MIDI Channel** (Global 1–1a) will be used for control. Normally you will use the G ch setting.

P (Effect Preset) [P00, P01...15, U00...15, -----]

Effect Presets let you easily store and recall all of the settings for an individual effect. You can store up to 16 user presets for each effect type, in addition to 15 re-writable factory presets.

The same presets appear in all of the modes (Program, Combination, Sequence, and Sampling), and sets of presets can be saved to and loaded from disk.

Note that edits to effects parameters are automatically stored with the Combination—you don't need to store them as an Effect Preset. Presets just make it easier to re-use your favorite settings.

For instance, you can save an Effect Preset while working on a particular Combination, and then later use the same Effect Preset in a different Program, Combination, or Song.

P00: Initial Set: These are the default settings that are recalled when you select an effect type in the Insert FX page. You can't save your own settings here.

P01...P15: These contain preset data that Korg plans to provide in the future. We recommend that you store your settings in U00–U15.

U00...U15: These are areas in which you can store your own settings.

-----: This shows that no Effect Preset has been selected. You'll see this if you've just selected an effect, written a Combination, or selected a new Combination. Selecting this setting from the menu will not have any effect.

Note: Combinations save the effects parameter settings, but they don't save the number of the selected Effect Preset. If you select an Effect Preset, and then save the Combination, the Effect Preset setting will revert to "-----."

For more details, see "Using Effect Presets" on page 135.

MXF1 Parameters

Here you can set the effect parameters of the insert effect you chose in the P9–Routing page.

For details on the master effects, please see the "Effect Guide" on page 787.

▼ 9–2: Page Menu Commands

The number before each command shows its ENTER + number-key shortcut. For more information on these shortcuts, see "ENTER + 0-9: shortcuts for menu commands" on page 142.

- **0: Write Combination.** For more information, see "Write Combination" on page 461.
- **1: Exclusive Solo.** For more information, see "Exclusive Solo" on page 142.
- **2: Copy MFX/TFX.** For more information, see "Copy MFX/TFX" on page 157.
- **3: Swap MFX/TFX.** For more information, see "Swap MFX/TFX" on page 158.
- **4: Write FX Preset.** For more information, see "Write FX Preset" on page 158.

9–3: MFX2

9–4: TFX1

9–5: TFX2

These pages let you edit the parameters of Master Effect 2 and Total Effects 1 and 2. To select different effects types, use the P9–Routing page.

The parameters of MFX2, TFX1, and TFX2 are the same as for MFX1. For more information, please see "9–2: MFX1" on page 459.

Combination: Page Menu Commands

ENTER + 0–9: shortcuts for menu commands

Each page has a set of menu commands, which provide access to different utilities, commands, and options, depending on the page you're currently on. You can use the menu commands entirely from the touch-screen, by pressing the menu button in the upper right-hand corner of the screen and then selecting an option from the menu that appears.

Even though each page may have its own unique menu commands, the menus are standardized as much as possible. For instance, WRITE is almost always the first menu item in Program, Combination, and Sequence modes.

You can take advantage of this standardization by using a shortcut to access any of the first ten menu items:

1. Hold down the ENTER key.
2. Press a number (0–9) on the numeric keypad to select the desired menu command, starting with 0.

For instance, press 0 for the first menu command, 1 for the second, and so on.

If the menu command just toggles an option on and off (such as Exclusive Solo), then you're done. If the command calls up a dialog box, the dialog will appear on the LCD, and you can proceed just as if you'd selected the command from the touch-screen.

Write Combination

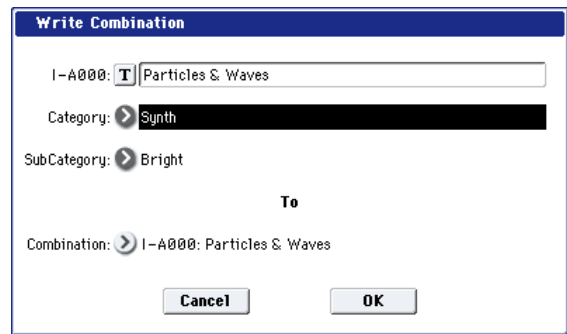
This command writes an edited Combination into the OASYS internal memory. It is available on every page in Combination mode.

This lets you:

- Save your edits
- Rename the Combination
- Assign the Combination to a Category
- Mark the Combination as a Favorite
- Copy the Combination to a different Bank and number

Be sure to **Write** any Combination that you wish to save. An edited Combination cannot be recovered if you do not write it before turning off the power or selecting another Combination.

For more information, please see "Write Program" on page 142.



If you use "Category" or "Sub Category" to specify a category for the combination you are writing, you will be able to select that combination by its category or sub category in Combination P0: Play.

The names of the combination categories can be edited in "Combi Category" (Global 3–2).

Note: You can also use the SEQUENCER REC/WRITE switch to write a combination in the same way as "Write Combination." Press the SEQUENCER REC/WRITE switch to open the dialog box, and write the combination. In this case, the data will be written to the currently selected combination.

Exclusive Solo

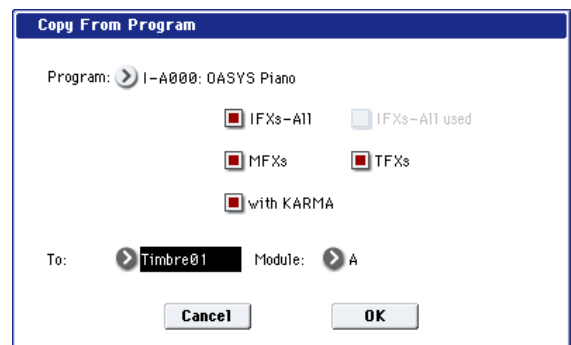
This command is available on every page in Combination mode. When **Exclusive Solo** is **On**, only one Timbre is soloed at a time; when it is **Off**, multiple Timbres can be soloed together.

For more information, please see "Exclusive Solo" on page 142.

Copy From Program

This command is available on every page in Combination mode. It copies Effects and/or KARMA settings from a selected Program to the current Combination. This lets the Program sound the same as it did in Program mode.

1. Select "Copy From Program" to open the dialog box.



2. Use "Program" to select the copy-source program.
3. Select the IFX-All, IFX-All used, MFXs, and TFXs options to specify which, if any, of the Program's effects settings to copy.

IFX-All: The settings of all insert effect settings (the contents of the Insert FX page and the IFX1–12 effect parameters) of the copy-source program will be copied.

IFX-All used: Only the insert effects used by the copy-source program will be copied. The copied settings will be packed into vacant slots (i.e., slots with 000: No Effect, unless such slots are located inside the chain).

Note: Copy-source insert effects set to 000: No Effect will not be copied. However, if 000: No Effect is located inside the chain, it will be copied.

MFxs: All master effect settings of the copy-source program will be copied.

TFxs: All total effect settings of the copy-source program will be copied.

About the Bus Select (8–1b, 8–2a, 8–5a) setting

- Regardless of the **IFX-All**, **IFX-All used**, **MFxs**, and **TFxs** settings, will be set to DKit if the copy-source program’s “Use DKit Setting” is checked. In conjunction with this, the “Drum Kit IFX Patch” setting will be reset to the default setting.
- If **IFX-All** is checked, the **Bus Select** setting of the copy-source program will be copied. If the copy-destination timbre **Bus Select** was set to IFX1–IFX12, it will automatically be set to L/R. If you check **IFX-All used**, the routing will be automatically set to match the copy-source program.
- If **IFX-All** and **IFX-All used** is unchecked, then the copy-source **Bus Select** setting will be ignored. or if the **Bus Select** of the copy-source program and copy-destination timbre is set to IFX1–IFX12, it will automatically be set to L/R.

4. If you check “with KARMA,” the Program’s KARMA settings will also be copied.

If this is On (checked), the KARMA Module settings of the copy-source program will be copied to the KARMA Module you specify in step 6. The Set Up Pads settings will be also be copied.

In Combination mode, the KARMA Module’s “Input Channel” will be set to Gch, its “Output Channel” will be set to the MIDI channel of the timbre you specify in step 5, and “Track Thru” will be turned On (checked).

5. Use the “To” field to specify the copy-destination timbre.

The parameters for each timbre will be initialized. The copy-source program will be assigned to “Program” (“0–1b: Timbre Program Select” on page 380).

- The **MIDI Channel** (2–1a) setting will not change if “with KARMA” is checked. If “with KARMA” is unchecked, **MIDI Channel** will be automatically set to G ch.
- The “Bank Select (When Status=EX2)” (2–1a) setting will not change.
- The **Status** (2–1a) setting will automatically be set to INT.
- The P1–Set Up Controller settings of the copy-source program will be copied.

6. Use the “Module” field to select the copy-destination KARMA Module; either A, B, C, or D.
7. Press the OK button to execute the copy. If you decide not to execute, press the Cancel button.

Optimize RAM

Optimize RAM is available on the Audio In/Sampling tab of the Play page. This command reorganizes unused space in RAM, allowing the full amount of remaining memory to be used.

For more information, please see “Optimize RAM” on page 143.

Select Sample No.

Select Sample No. is available on the Audio In/Sampling tab of the Play page.

This specifies the sample number into which the sampled data will be written. You can also specify whether the sample will automatically be converted to a program after sampling. **Select Sample No.** can be selected if you have selected RAM as the “Save to” destination.

For more information, please see “Select Sample No.” on page 143.

Select Directory

Select Directory is available on the Audio In/Sampling tab of the Play page, when the sampling **Save To** parameter is set to DISK.

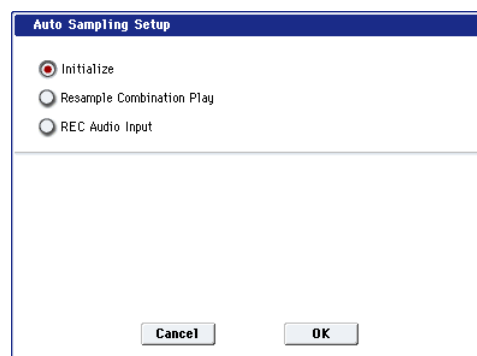
When sampling to disk, this lets you set the disk, directory, and file name for the resulting WAVE file.

For more information, please see “Select Directory” on page 144.

Auto Sampling Setup

Auto Sampling Setup is available on the Audio In/Sampling tab of the Play page.

This command automatically sets sampling-related parameters in Combination mode. This is a helpful convenience when you’re resampling your performance on a combination, or when you’re using a combination as a guide while sampling an external source. You can also use this command to initialize the settings.



- **Initialize:** Sets sampling-related parameters to their default state.

Resample Combination Play: Makes settings so you can play a combination and resample your performance.

REC Audio Input: Makes settings so you can sample an external audio source while listening to yourself play a combination.

For more information, please see “Auto Sampling Setup” on page 144.

Copy Tone Adjust

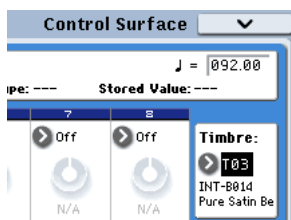
Copy Tone Adjust is available on the Control Surface page when **CONTROL ASSIGN** is set to **TONE ADJUST**.

This command replaces the Tone Adjust settings of the selected Timbre (Combination mode) or Track (Sequencer mode) with those of any other Program, Timbre, or Track.

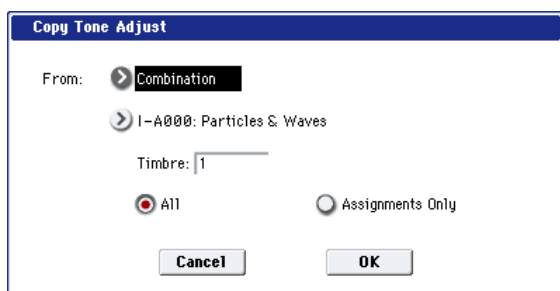
1. **Select the Timbre (Combination mode) or Track (Sequencer mode) whose Tone Adjust settings you want to replace.**

You can either use the parameter on the right side of the display (as shown below), or use this Control Surface shortcut:

- Press and hold the **TONE ADJUST** button.
- While holding **TONE ADJUST**, press one of the **PLAY/MUTE** buttons to select Timbres/Tracks 1-8, or one of the **SELECT** buttons to select Timbres/Tracks 9-16.



2. **Select “Copy Tone Adjust” to open the dialog box.**



3. **Use From to select the Program, Combination, or Song from which to copy.**

You can also use the front-panel **BANK** keys to select the desired bank.

4. **If you’ve selected a Combination or Song, select a specific Timbre or Track as well.**
5. **Choose either All or Assignments Only to select the Tone Adjust parameters that you want to copy.**

All: This copies both the Tone Adjust parameter assignments and values.

Assignments Only: This copies only the Tone Adjust parameter assignments, without the values.

6. **To execute the Copy Tone Adjust command, press the OK button. To exit without copying the controls, press the Cancel button.**

Reset Tone Adjust

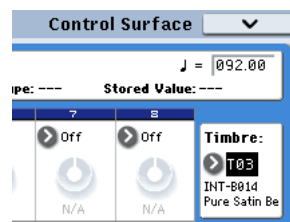
Reset Tone Adjust is available on the Control Surface page when **CONTROL ASSIGN** is set to **TONE ADJUST**.

This command affects only the selected Timbre or Track, as opposed to the entire Combination or Song. It resets the Tone Adjust settings for all of the Track/Timbre’s Knobs, Switches, and Sliders to their default values.

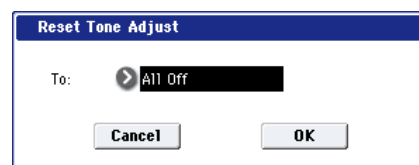
1. **Select the Timbre (Combination mode) or Track (Sequencer mode) to reset.**

You can either use the parameter on the right side of the display (as shown below), or use this Control Surface shortcut:

- Press and hold the **TONE ADJUST** button
- While holding **TONE ADJUST**, press one of the **PLAY/MUTE** buttons to select Timbres/Tracks 1-8, or one of the **SELECT** buttons to select Timbres/Tracks 9-16.



2. **Select “Reset Tone Adjust” to open the dialog box.**



3. **Use the “To” field to specify how the Tone Adjust parameters will be reset.**

All Off: All parameters will be reset to Off.

Default Setting: The parameters will be reset to the default settings for the corresponding program type (HD-1, AL-1, CX-3).

4. **To execute the Reset Tone Adjust command, press the OK button. To exit without resetting the controls, press the Cancel button.**

Show EQ Graphic

Show EQ Graphic is available on the Timbre EQ tab of the EQ/Vector/Controller page.

This command calls up a floating window, showing a graphic representation of the selected Timbre’s EQ settings. You can leave the window open as you work; as you change EQ settings, or select different Timbres, the graphic will update accordingly.

The window will cover the parameters for some of the Timbres on either the right or left sides of the display. If you select one of these Timbres, the window will automatically move to the other side of the display.

Copy Vector Envelope

Copy Vector Envelope is available on the Vector Envelope tab of the EQ/Vector/Controller page.

This command copies the vector envelope from a specified program, combination/timbre, or song. For more information, see “Copy Vector Envelope” on page 148.

Copy Pad Setup

Copy Pad Setup is available on the Pads tab of the EQ/Vector/Controller page.

This command copies the Pad from a specified program, combination/timbre, or song. (“Use the “From” field to select the mode, bank, and number of the desired copy-source. You can press a BANK key to select the desired bank.” on page 148)

Detune BPM Adjust

Detune BPM Adjust is available on the Pitch tab of the Timbre Parameters page.

This command changes a loop’s tempo by changing the Timbre’s **Detune** parameter. The sample data itself is not altered. Since this alters the pitch of the loop along with the tempo, it’s generally suited only to un-pitched percussive loops.

Note: Using **Detune BPM Adjust** will over-write any previous **Detune** settings.

1. Go to the Pitch tab of the Timbre Parameters page.
2. Select the Detune parameter for the desired Timbre.

Detune BPM Adjust is available only when the **Detune** parameter has been selected. Otherwise, the menu selection will be grayed out.

3. Select “Detune BPM Adjust” to open the dialog box.
4. In **From**, specify the loop’s original BPM value.

Ignore any previous changes from using **Detune BPM adjust**.

5. In **To**, specify the desired BPM value.

The appropriate **Detune** value will be calculated automatically from these two values.

For example, if you set “From” to 60 bpm and “To” to 120 bpm, **Detune** will be set to +1200 (one octave up).

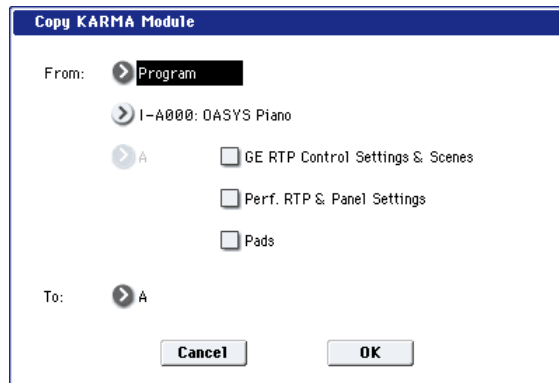
6. To execute the **Detune BPM Adjust** command, press the **OK** button. To exit without changing the **Detune** value, press the **Cancel** button.

Note: since this command does not affect the sample data itself, and always over-writes the previous **Detune** amount, using it repeatedly has no cumulative effect.

Copy KARMA Module

This command copies the settings of the KARMA Module used by a specified program, combination, or song.

1. Select “Copy KARMA Module” to open the dialog box.



2. In “From,” select the copy source mode, bank, and number.

You can press a BANK SELECT A–G switch to select the bank.

3. If you selected a combination or song as the copy-source, select the module from which you want to copy.
4. As appropriate for the content that you want to copy, turn “GE RTP Control Setting & Scenes” On (checked).

For more information, see “Settings copied by “Copy KARMA Module,”” below.

5. To copy performance realtime parameters, Dynamic MIDI, and front panel settings, turn “Perf. RTP & Panel Settings” On (checked). (☑ “Settings copied by Copy KARMA Module”)
6. To copy the note and velocity settings of pads 1–8, turn “Pads” On (checked).
7. Use the “To” field to select the copy-destination KARMA module.
8. Press the **OK** button to execute the Copy KARMA Module command, or press the **Cancel** button if you decide to cancel.

Settings copied by “Copy KARMA Module”

Copying from a Program

If **GE RTP Control Setting & Scenes** and **Perf. RTP & Panel Settings** are both **Off** (unchecked) when copying from a Program, the following content is copied:

- The selected GE, including the GE realtime parameters.
- Settings of the KARMA module parameters (from pages 7–3: Module Parameter-Trigger and 7–4: Module Parameter-Control).
- 7–5: GE RTP page **MIN**, **MAX**, and **VALUE** settings.

If **GE RTP Control Setting & Scenes** is turned **On** (checked), the following will also be copied:

- 7-5: GE RTP page **ASSIGN** and **Polarity** settings.
- The scene selected in the master buffer (A).
- The KARMA SLIDER and SWITCH settings for each scene (0-6d: Realtime Controls and 0-9f: R.Time Knobs/KARMA settings).
- 7-8: Name/Note Map controller name settings.

If **Perf. RTP & Panel Settings** is turned **On** (checked), the following will also be copied:

- **Tempo** setting.
- **Time Signature** setting.
- KARMA ON/OFF switch setting.
- KARMA LATCH switch setting.
- 7-6: Perf Real- Time Parameters page settings.
- 7-7: Dynamic MIDI page settings.

Copying from a Combination or Song

If **GE RTP Control Setting & Scenes** and **Perf. RTP & Panel Settings** are both **Off** (checked) when copying from a Combination or Song, the following content is copied:

- The selected GE, including the GE realtime parameters.
- KARMA module parameters (from pages 7-3: Module Parameter-Trigger and 7-4: Module Parameter-Control).
- 7-5: GE RTP page **MIN**, **MAX**, and **VALUE** settings.

If **GE RTP Control Setting & Scenes** is turned **On** (checked), the following will also be copied:

- 7-5: GE RTP page “**ASSIGN**” and **Polarity** settings.
- The KARMA CONTROLS slider and KARMA SWITCH settings of each scene in the copy-source buffer, and the currently selected scene.
- 7-8: Names/Note Map controller name settings.

If **Perf. RTP & Panel Settings** is turned **On** (checked), the following will also be copied:

- **Tempo** setting.
- **Time Signature** setting.
- KARMA ON/OFF switch setting.
- KARMA LATCH switch setting.
- KARMA Module Control switch setting.
- 7-6: Perf Real- Time Parameters page settings.
- 7-7: Dynamic MIDI Page settings.

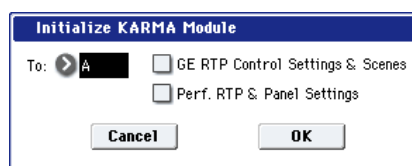
- ⚠ The “Input Channel” and “Output Channel” (Combination/Sequencer P7-1) settings of a combination or song are not copied.

Initialize KARMA Module

This command initializes the settings of the KARMA Module.

- ⚠ The GE selection will not be initialized. The GE parameter “Values” will be set to the default values that are preset for the selected GE.

1. Select “**Initialize KARMA Module**” to open the dialog box.



2. In “To,” select the KARMA Module that you wish to initialize. If you select All, all KARMA Modules A, B, C, and D will be initialized.
3. According to the content you want to initialize, you can turn “GE RTP Control Settings & Scenes” and/or “Perf. RT & Panel Setting” **ON** (checked).

For more information, see “Settings initialized by Initialize KARMA Module” on page 151.

- ⚠ The KARMA SLIDER and SWITCH settings and names in each master buffer are initialized as when the **Perf. RT & Panel Setting** option is **On** (checked).

4. To initialize the settings, press the **OK** button. To cancel without initializing, press the **Cancel** button.

Copy Scene

Please see “Copy Scene” on page 151.

Swap Scene

Please see “Swap Scene” on page 151.

Capture Random Seed

Please see “Capture Random Seed” on page 151.

Auto Assign KARMA RTC Name

This command is available on the KARMA GE tab of the Play page, and the Name/Note Map tab of the KARMA page.

For more information, please see “Auto Assign KARMA RTC Name” on page 143.

Copy Note Map

Please see “Copy Note Map” on page 143.

Copy Insert Effect

This command copies effects settings from Program, Combination, Song, or Sampling modes. For more information, please see “Copy Insert Effect” on page 153.

Note: the slot’s MIDI control channel, as specified by the **Ch** parameter on the IFX1-12 pages, will not be copied.

Swap Insert Effect

This command swaps (exchanges) insert effect settings. For more information, please see “Swap Insert Effect” on page 154.

Note: the slot’s MIDI control channel, as specified by the **Ch** parameter on the IFX1–12 pages, will not be swapped.

Insert IFX Slot

For more information, please see “Insert IFX Slot” on page 154.

Cut IFX Slot

For more information, please see “Cut IFX Slot” on page 155.

Clean Up IFX Routings

For more information, please see “Clean Up IFX Routings” on page 156.

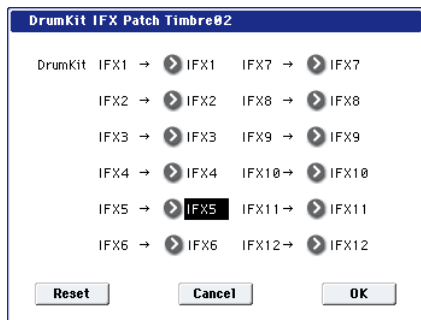
Drum Kit IFX Patch

This patches the **Bus Select** settings for each key of a drum kit, temporarily changing the insert effect connection destinations. You can execute this only if the timbre’s program is a drum program, “DKit” is checked, and the **Bus Select** (Global 5–3b) setting of the keys in the drum kit is set to either IFX1–12.

1. In the **Routing1** page or **Routing2** page, select the timbre for which you want to make settings. (Select a timbre parameter or Timbre Number.)



2. Select Drum Kit IFX Patch to open the dialog box.



RESET

3. In the DrumKit “IFX” popup, select the output bus to which you want to patch the signal: an insert effect or L/R, 1–8, 1/2–7/8, or Off.
4. To execute the Drum Kit Insert Effect Patch command, press the OK button. To cancel, press the Cancel button.

Note: To restore the condition of the drum kit, execute IFX1→IFX1, IFX2→IFX2, IFX3→IFX3, IFX4→IFX4, IFX5→IFX5, IFX6→IFX6, IFX7→IFX7, IFX8→IFX8, IFX9→IFX9, IFX10→IFX10, IFX11→IFX11, and IFX12→IFX12.

Alternatively, you can press the **Reset** button to restore the same settings.

Copy MFX/TFX

This command copies effect settings from Program, Combination, Song, or Sampling modes. For more information, please see “Copy MFX/TFX” on page 157.

Note: the slot’s MIDI control channel, as specified by the **Ch** parameter on the MFX 1-2 and TFX 1-2 pages, will not be copied.

Swap MFX/TFX

This command swaps (exchanges) insert effect settings. For more information, please see “Swap MFX/TFX” on page 158.

Note: the slot’s MIDI control channel, as specified by the **Ch** parameter on the MFX 1-2 and TFX 1-2 pages, will not be copied.

Write FX Preset

For more information, please see “Write FX Preset” on page 158.

Sequencer mode

Sequencer Overview

The OASYS contains a sophisticated sequencer that integrates a 16-track MIDI sequencer with a 16-track hard disk recorder.

The sixteen MIDI tracks and the master track (which contains tempo data, etc.) allow you to record and play back MIDI data for the internal tone generator or for external sound modules, and the sixteen audio tracks allow you to record and play back audio signals on the internal hard disk recorder in synchronization with the MIDI tracks. You can use the audio tracks to record external audio sources such as guitar or vocals as well as the sound produced by the internal tone generator. You can also automate parameters such as volume and pan.

When you've completed a song, you can resample it as a WAVE file and use Disk mode to burn it as an audio CD. This entire process can be completed on the OASYS itself.

The In-Track Sampling function, Time Stretch/Slice function, KARMA function, the sophisticated effects, controllers, and the numerous other functions of the OASYS can be used together to give you a wide range of possibilities for music production or live performance.

⚠ When you turn off the power, the settings made in Sequencer mode and the song data that you recorded will not be backed up. If you wish to keep this data, you must save it on media (internal hard disk, external USB drive etc.) before turning off the power, or perform a MIDI data dump to save the data on an external data filer etc.

If you wish to save the programs, track parameters, effects, and KARMA function settings etc. selected for a song as a template song, use the page menu command **Save Template Song**.

Immediately after the power is turned on, OASYS will not contain any song data, so if you wish to playback a song on the sequencer, you must first load data from media or receive a MIDI data dump from a MIDI filer.

⚠ When you create audio tracks, we recommend that you save them on the internal hard disk, since audio tracks can be recorded and played back only on the internal hard disk.

⚠ To record audio tracks, **MIDI Clock** must be set to **Internal**. For more information, see "MIDI Clock (MIDI Clock Source)" on page 710.

MIDI sequencer

- The sequencer lets you record a maximum of 400,000 MIDI events (or 300,000 audio events), up to 200 songs, and as many as 999 measures per song.
- Timing resolution is a maximum of $\downarrow/192$.
- There are sixteen tracks for MIDI performance data, and a master track that controls the time signature and tempo.
- The KARMA function can be used during playback or recording.
- The RPPR (Realtime Pattern Play/Recording) function can be used during playback or recording.
- Eighteen different template songs are built-in, and contain program and effect settings suitable for various musical styles. You can create up to sixteen original templates, and save them as user template songs.
- A track play loop function lets you loop specified measures independently for each track.
- 156 preset patterns ideal for drum tracks are built in. In addition, you can create up to 100 user patterns for each song. These patterns can be used as musical data within a song, or can be played by the RPPR function.

performance on the keyboard and controllers (including MIDI control events) is recorded just as you play, and step recording in which the timing, length, and velocity of each note can be specified in the LCD as you input the pitches from the keyboard.

- The musical data and control events that you recorded can be edited in various ways (including event editing and many other edit commands).
- MIDI System Exclusive (SysEx) messages can be recorded and played back. SysEx messages received from an external MIDI device or parameter changes produced by editing track parameters or effect parameters can be recorded in real-time on any desired track.

Parameter-related features

- When the **Status** of a track is set to INT or BTH, an external sequencer can be used to play OASYS as a multi-timbral tone generator. When the **Status** of a track is set to BTH, EXT, or EX2, the sequencer of OASYS can play external tone generators.
- Tone Adjust parameters let you make temporary adjustments to the sound of the program used by a track, while leaving the original program unchanged. While creating a song, you can use this capability to make changes in realtime by (for example) softening the tone of the bass sound or sharpening the attack of the strings without having

MIDI recording features

- Various methods of recording are supported, including realtime recording in which your

to return to Program mode and edit the program itself.

- OASYS's AMS (Alternate Modulation) capability lets you use control changes for realtime control of the parameters of the programs used in a program. Its MIDI Sync abilities let you synchronize the LFO speed to changes in the tempo.
- Dmod (Dynamic Modulation) functionality lets you control effect parameters in realtime. You can also use MIDI Sync to synchronize the LFO speed or delay time to changes in the tempo.

Editing and operation features

- The Auto Song Setup function lets you instantly set up program or combination settings of Program mode or Combination mode as a song, so that you can start recording simply by pressing the SEQUENCER START/STOP switch. This lets you seamlessly move from playing a program or combination to producing a song. When you come up with a phrase or an idea, this function lets you easily turn your inspiration into a song.
- Program and Combination settings can be copied to a song.
- Sequencer data such as a song that you create can be saved in OASYS's native format, or transmitted as a MIDI data dump.
- A song you created can be converted into SMF (Standard MIDI File) data. SMF songs can also be loaded.
- The **Play/Rec/Mute** and **Solo** buttons let you instantly play/mute any desired track on the fly.
- You can rewind or fast-forward MIDI Tracks while listening to the sound.

Sampling features

- Multisamples you create can be played back together with internal programs in Sequencer mode. The Time Slice function of Sampling mode lets you divide a rhythm loop sample and create performance data that corresponds to the divided samples. In Sequencer mode you can play this performance data, and adjust the playback tempo without affecting the pitch of the rhythm loop sample. You can also exchange the note numbers of the data, or modify the timing to freely re-create new rhythm loops.
- The OASYS provides an In-Track Sampling function which lets you sample an external audio source while the song plays back, and will automatically create note data to trigger that sample at the appropriate point during the playback of the track.

Hard disk recorder section

- You can use up to 300,000 audio events (or 400,000 MIDI events), up to 200 songs, and up to 999 measures per song.

- Sixteen audio tracks are provided. Each track provides linear 16-bit PCM recording, with a maximum length of 80 minutes for one recorded take.
- Automation data (volume, pan, EQ, send 1/2) can be recorded for each track.
- Sixteen tracks can be played back simultaneously, and four tracks can be recorded simultaneously.
- The Stereo Pair function lets you control two adjacent tracks by adjusting just the odd-numbered track. This lets you simultaneously make mixer settings for a pair of stereo-recorded tracks.
- A broad range of internal buses can be selected as the recording source: Audio Inputs 1–4, S/P DIF, L/R, REC Bus 1–4, or Individual 1–8. Flexible routing even lets you insert effects into external audio sources and record them.
- When you realtime-record, an audio event and region data are created. The region data is linked with the WAVE data (audio data) recorded on the hard disk. You are free to edit this data in a variety of ways, such as moving the location of the audio event, or editing/replacing the region data or WAVE file.
- You can use numerous editing commands (including event editing) to edit the recorded audio events. Event editing lets you edit the time stamp or region data of the audio events.
- Region editing lets you edit the WAVE file selection, and adjust the start/end addresses of the WAVE file in units of a single sample.
- You can freely select a region of a WAVE file (mono, 48 kHz sample rate) and use it in your song. You can use commercially available sample data etc. in your song by sample-rate converting it from 44.1 kHz into 48 kHz. WAVE files editing operations such as Volume Ramp and Normalize are also provided.
- The Time Stretch function lets you stretch or shrink the tempo of a phrase you recorded or a sample you assigned, making it match the tempo of your song.
- The convenient Anchor function makes it easy to place a phrase at the correct timing in your song.
- Auto and manual punch-in/out are provided.
- The Rehearsal function lets you practice punch-in/punch-out recording without actually recording anything.

Common section

- As the MIDI clock master, you can choose either Internal, External or Auto, letting you synchronize the OASYS with other MIDI equipment.
- For each song, three-band EQ is provided on each MIDI track and each audio track.
- For each song, you can use twelve stereo insert effects, two stereo master effects, and two stereo total effects.
- When you've created songs, you can resample them to hard disk to create WAVE files, and then use

Disk mode to create an audio CD from these WAVE files.

- In addition to the song name, you can assign names to each pattern, track, and region.

- You can use the LOCATE switch to move immediately to the desired location.

Setup parameters & Musical data

Each song consists of MIDI tracks 1–16, a master track, audio tracks 1–16, various song parameters such as the song name, settings for the vector function, settings for the KARMA function, effect settings, RPPR parameters, and 100 user patterns.

Up to 200 such songs can be created in the OASYS.

MIDI tracks 1–16 and audio tracks 1–16 each consist of “track parameters” that specify the starting state of the track, and “playback data.” The master track consists of tempo and time signature data.

- For details on Control Change messages and RPN, see “OASYS and MIDI CCs” on page 1049, and “Using RPN (Registered Parameter Numbers)” on page 1063.
- For details on MIDI System Exclusive messages, see “System Exclusive events supported in Sequencer mode” on page 618.

MIDI tracks 1–16

Setup parameters

Bank/Program No.*, Play/Rec/Mute, Pan*, Volume*

Track Play Loop, Loop Start Measure, Loop End Measure, Play Intro, EQ (Bypass, Low Gain, Mid Frequency, Mid Gain, High Gain) Status, MIDI Channel, Bank Select (When Status=EX2), Track Priority, Force OSC Mode, OSC Select, Portamento*, Transpose**, Detune**, Bend Range**, Use Program’s Scale, Delay (Mode, Time, Base Note, Times), Wave Sequence (Key Sync, Swing, Quantize Trigger), KARMA Track On/Off Control, MIDI Filter, Key Zone, Velocity Zone, Track Name, IFX/Indiv.Out Bus, FX Control Bus, Rec Bus, Send1(MFX1)*, Send2(MFX2)*, DKit, Drum Kit IFX Patch

* and **: see “Automating MIDI setup parameters,” below.

Musical data

Note On/Off
Program Change (including Bank Select)
Pitch Bend
After Touch (and Poly Aftertouch)
Control Change
Pattern No.
Exclusive Messages (SysEx)

Automating MIDI setup parameters

Most of the setup parameters can be automated simply by changing them while recording into a MIDI track in real-time. Changing the parameter sends a MIDI message, and when that MIDI message is played back, the parameter changes accordingly.

Setup parameters marked with a single asterisk * transmit and receive specific MIDI messages, such as CCs.

Setup parameters marked with two asterisks ** respond to MIDI RPN messages, and also send and receive MIDI System Exclusive messages.

The other setup parameters transmit and respond to MIDI System Exclusive messages.

Master track

Setup parameters/Musical data

Time signature, Tempo

Both Time signature and Tempo can be automated, simply by changing them in real-time during recording. Any changes are recorded into the Master Track.

Audio tracks

Setup parameters

Rec Source, Play/Rec/Mute***, Pan***, Volume***
EQ (Bypass***, Low Gain***, Mid Frequency***, Mid Gain***, High Gain***), Delay (Mode, Time, Base Note, Times), Track Name, IFX/Indiv.Out Bus, FX Control Bus, Rec Bus, Send1(MFX1)***, Send2(MFX2)***

Musical data

Audio events
Automation events

Automating Audio setup parameters

All of the Audio setup parameters can be automated simply by changing them while recording in real-time. Some use audio automation data, while others use MIDI System Exclusive messages.

Setup parameters marked with three asterisks *** generate and respond to audio automation data. You can record changes to these parameters into audio tracks, in real-time.

The other setup parameters transmit and respond to MIDI System Exclusive messages. You can adjust these parameters during realtime recording, and record the resulting MIDI System Exclusive messages into a MIDI track.

WAVE files, regions, and audio events

The data recorded on an audio track consists of a WAVE file, a “region” containing information specifying the section of the WAVE file that will actually be played, and an “audio event” containing data that specifies the locations in the song at which that region will start and stop.

You should be aware that audio events and regions can be deleted by event editing or region editing commands, and can also be lost by turning off the

power before saving them to the internal hard disk. If only the WAVE file is left, leaving the WAVE file on the internal hard disk will unnecessarily occupy space, so we recommend that you execute the Disk Utility page menu command "Delete Unused WAV Files" to delete such files.

If you power-off without deleting these WAVE files, a dialog box with the following message will appear the next time you power-on, asking you whether you want to delete these WAVE files or keep them:

There are un-saved audio files from your previous recording session.

Do you want to restore these files, or delete them from the disk?

[Restore] [Delete]

If you want to delete the files, press the Delete button. If you intend to use them in the future, for example in a new song, press the Restore button to keep them. We recommend that you delete unused WAVE files so that space on the internal hard disk is not occupied unnecessarily.

Tip: Auto Song Setup

The Auto Song Setup function copies the settings of a program or combination to a song, and puts you in record-ready mode. Then you can simply press the SEQUENCER START/STOP switch to begin recording immediately. This lets you seamlessly move from playing a program or combination to producing a song. For example if you've been using the KARMA function and have come up with a phrase or an idea, this function lets you easily turn your inspiration into a song.

Procedure (example: Combination mode)

1. **Enter Combination mode.**
2. **In P0- Prog Select/Mixer page, select the desired combination and edit the KARMA RTC etc. as desired.**

Note: If you want to save the edited state of the combination, use the "Update Combination" or "Write Combination" menu commands.

3. **Hold down the ENTER switch and press the REC/WRITE switch.**

The "Setup to Record" dialog box will appear.

4. **To execute the Auto Song Setup function, press the OK button. If you decide not to execute, press the Cancel button.**

You will automatically move to Sequencer mode, and the settings of the combination will be copied to the song.

The first unused song will be the copy-destination song.

Contents automatically copied from a combination

The copied contents will be the same as when you execute the page menu command **Copy From Combination** with the following settings in the dialog box.

- **IFXs-All, MFXs, TFXs checked**
- **Multi REC Standby checked**

Contents automatically copied from a program

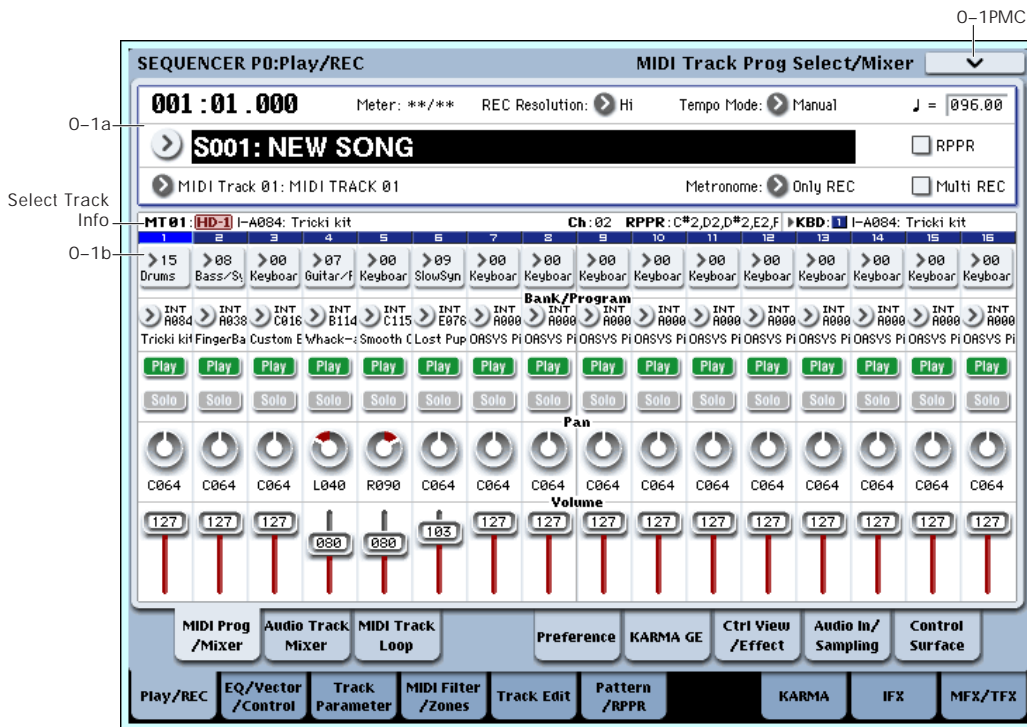
The copied contents will be the same as when you execute the page menu command **Copy From Program** with the following settings in the dialog box.

- **IFXs-All, MFXs, TFXs checked**
- **with KARMA checked**
- **To set to MIDI Track 01**
- **KARMA Module set to A**

5. **The OASYS will automatically enter record-ready mode, and the metronome will sound according to the Metronome setting (Sequencer 0-5d).**
6. **Press the START/STOP switch to begin realtime recording. To stop recording, press the START/STOP switch once again.**

Sequencer PO: Play/REC

0-1: MIDI Track Prog Select/Mixer



Here you can make basic settings for MIDI track recording and playing back in the song, and can select the program that will be used by each track.

0-1a: Location, Song/Track Select

Location [001:01.000...999:16.191]

This display shows the current position in the song.

From the left, the numbers are the measure (001-999), beat (01-16), and clock (000-191). When you modify these values, the current location will change.

MIDI When **MIDI Clock** (Global 1-1a) is set to **Internal** (or **Auto**, if no MIDI clocks are being received), the OASYS will transmit Song Position Pointer messages when the **Location** is changed.

Also, if the **MIDI Clock** parameter is set to **External MIDI** (or **Auto**, if MIDI clocks are currently being received), and **Receive Ext. Realtime Commands** (Global 1-1a) is on, the **Location** will change in response to received Song Position Pointer messages.

The range in which the beat and clock can be modified will depend on the currently specified time signature.

Meter [**/**, 1/4...16/4, 1/8...16/8, 1/16...16/16]

This is the time signature at the current location of the song. The time signature can be changed at each measure.

****/****: This will be displayed when you press the SEQUENCER REC/WRITE switch. Specify this when you wish to use the time signature that is already recorded for that measure, and wish to record without changing the time signature.

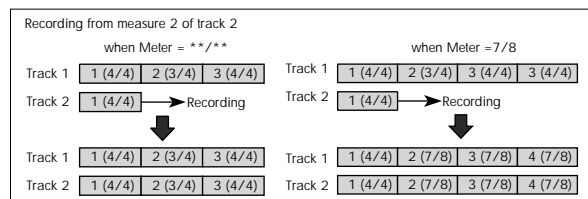
1/4-16/4, 1/8-16/8, 1/16-16/16: This is the time signature at the current location of the song.

Set **Track Select** to a MIDI Track 01-16, or Audio Track 01-16 press the SEQUENCER REC/WRITE switch, and specify the time signature here.

When you press the SEQUENCER START/STOP switch to begin recording, the time signature you specify will be recorded on the Master Track and on the already-recorded tracks.

Be aware that if you press the SEQUENCER START/STOP switch during the pre-count to stop recording, the time signature will not be recorded.

Normally, you will specify the time signature when you record the first track, and select ****/**** when recording subsequent tracks.

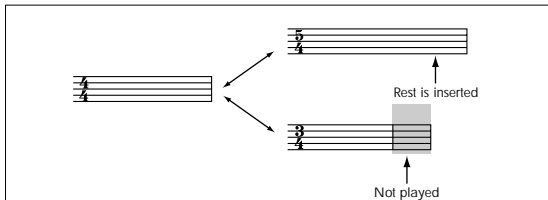


Changing the time signature in the middle of a song

If you know beforehand the location at which you wish to change time signatures in the middle of a song, use the "Insert Measure" menu command to specify and insert the time signature for each measure of the same time signature, and then record your musical data.

If you wish to change the time signature in the middle of a song which already contains musical data, use **Track Select** to specify the Master Track (or any Track01–16 which contains data), and use the "MIDI Event Edit" menu command to modify the time signature of the Bar event. You can also change this by specifying an audio track and using the "Automation Edit" menu command.

If the number of beats in a measure increases when you modify the time signature, rests will be inserted in the portion that was added. Conversely if the number of beats decreases, that portion will not be played. However if you return to the original time signature, the data that had been hidden will once again be played. (The data itself will not be erased.)



REC Resolution (Realtime REC Quantize Resolution)

[Hi, $\frac{1}{3}$, $\frac{1}{4}$, $\frac{1}{8}$, $\frac{1}{16}$, $\frac{1}{32}$, $\frac{1}{64}$, $\frac{1}{128}$, $\frac{1}{256}$]

This lets you correct timing as you record. It applies to all MIDI data, including notes and continuous controllers, as well as audio track automation.

Note that this does not affect previously-recorded data, or audio event data.

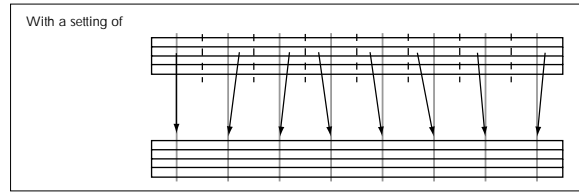
Important: The **REC Resolution** affects *all* MIDI and audio automation data. This can cause "stair-steps" in recorded controller data, such as pitch bend.

If you don't want this effect, set **REC Resolution** to **Hi** when recording, and then use the **Quantize** menu command afterward to correct only the desired type of data (such as notes).

Hi (High Resolution): Timing will not be corrected, and data will be recorded at the maximum resolution ($\frac{1}{192}$).

$\frac{1}{3}$ - $\frac{1}{16}$: Timing will be corrected to the nearest interval of the specified rhythmic value. For example, if you select $\frac{1}{3}$, data will be corrected to the nearest 32nd-note triplet interval. If you select $\frac{1}{4}$, data will be corrected to the nearest quarter note interval.

Audio events are always recorded at the maximum, uncorrected resolution.



Tempo Mode [Auto, Manual, REC]

Auto: The tempo will follow the tempo of the Master Track. The tempo of the master track can be specified by using the **MIDI Event Edit** menu command, with the Master Track chosen in **Track Select**, or by the REC operation described below. When Auto is selected, it will not be possible to modify the "♩ (Tempo)" setting while a song is playing or recording (or during standby).

Manual: The "♩ (Tempo)" setting will be used.

REC: Tempo changes will be recorded on the Master Track.

♩ (Tempo) [040.00...240.00, EXT]

This specifies the tempo of the song. This tempo applies to song playback and the KARMA function, etc.

040.00...240.00: When the "Tempo Mode" is Manual, this tempo will be used for recording and playback. When "Tempo Mode" is REC, this tempo will be recorded on the master track.

EXT: This will appear when **MIDI Clock** (Global 1–1a) is set to either External MIDI or Auto. The tempo of the internal sequencer will synchronize with MIDI Clock messages received from an external sequencer or other MIDI device, between 40 and 240 BPM.

If **MIDI Clock** (Global 1–1a) is set to "Internal," the above tempo setting (040.00–240.00) is used. If you've selected Auto, operation will automatically switch from Internal to External if MIDI Clock data is received from an external MIDI device connected to the MIDI IN connector, and this indication will appear.

Note: You can also adjust this by turning the TEMPO knob. Alternatively, you can set the tempo by pressing the TAP TEMPO switch at the desired interval.

Note: If Tempo is selected as an alternate modulation source, ♩ = 120.00 will be the base value.

To record tempo changes

First, set **Track Select** to a MIDI Track.

Press the SEQUENCER REC/WRITE switch to enter recording-standby mode, you will be able to select REC.

Set **Tempo Mode** to **REC**, start recording, and change the system tempo either by turning the TEMPO knob, or using numeric keys 0–9 to enter a value and then pressing the ENTER switch. You can also vary the tempo by pressing the TAP TEMPO switch at the desired timing.

This cannot be selected when the Preferences page item **Recording Setup** is set to Loop All Tracks.

When you change the “♩ (Tempo)” value while recording, the tempo changes will be recorded, causing the tempo to change as the song progresses.

You can't record tempo changes during audio recording.

Tempo changes can also be created using the “MIDI Event Edit” or “Create Control Data” menu commands.

Note: If you wish to record only the tempo changes, set **Recording Setup** (0-5a) to Overdub, and the tempo will be recorded on the master track without being affected by the musical data of **Track Select**.

Song Select [000...199]

Select the song that you want to record or play back.

Either select the song name from the popup menu, or use numeric keys 0-9 to specify the song number and then press the ENTER switch.

Creating a new song

Choose a number from the popup menu whose song name is blank, or use the numeric keys 0-9 to specify the song number and press the ENTER switch to open the dialog box. Then specify “Set Length” to specify the number of measures in the song, and press the OK button.



Note: If you want to change the length of a song after creating it, use the page menu command “Set Song Length.” When creating a new song, you can specify the length to be somewhat longer than necessary, and after you have finished recording and editing, use “Set Song Length” to specify the correct length.

If **MIDI Clock** (Global 1-1a) is set to **Internal** (or **Auto**, if no MIDI clocks are being received), changing the song will cause Song Select and Song Position Pointer messages to be transmitted.

If **MIDI Clock** is set to **External MIDI** (or **Auto**, if MIDI clocks are currently being received), the OASYS will change songs in response to received Song Select messages.

When the song changes, tracks whose track **Status** is EXT, EX2 or BTH will transmit Bank Select, Program Change, Volume, Pan, Portamento, Send1, 2, Post IFX Pan, and Post IFX send 1, 2 messages on their respective MIDI channels.

Track Select [MIDI Track01...MIDI Track16, Master Track, Audio Track01...Audio Track16]

MIDI Track 01-MIDI Track 16: Select the MIDI track that you want to record. This is also where you make your selection when editing a MIDI track in P4: Track Edit.

When **Multi Rec** is off, this also selects the record-enabled track.

When **Multi Rec** is on, the **Play/Rec/Mute** buttons (0-1b, 0-2a) select the record-enabled tracks, regardless of the **Track Select** setting.

Use **Track Name** to give the track a descriptive name.

If other tracks are set to the same MIDI channel as the selected track, and their **Status** is set to INT or BTH, they'll be controlled by the keyboard as well.

Also, if other tracks are set to the same MIDI channel as the selected track, and their **Status** is set to EXT, EX2, or BTH, they'll transmit MIDI to external devices. For another look at this, see the table below.

MIDI Channel	Status	Keyboard plays Internal Sounds	Keyboard Transmits MIDI Out
Same as the selected MIDI Track	OFF	No	No
	INT	Yes	No
	EXT	No	Yes
	EX2	No	Yes
	BTH	Yes	Yes
Different from the selected MIDI Track	Any setting	No	No

If you've selected Master Track or Audio Track 01-16, the settings of the most recently selected MIDI track will be used.

Master Track: Select the master track if you want to use the P4: Track Edit page menu commands to edit the master track. You cannot perform realtime recording or step recording on the master track by itself.

Audio Track 01...Audio Track 16: Select the audio track you want to record. You will also select one of these when you want to edit an audio track in P4: Track Edit, etc.

In the same way as for MIDI tracks, the data will be recorded on the selected track if you're using single-track recording. If you want to perform multi-track recording, turn on **Multi REC** (0-1a), and use the **Play/Rec/Mute** buttons (0-1b, 0-2a) to select the tracks you want to record.

You can record up to four audio tracks simultaneously.

RPPR On/Off [Off, On]

This turns the RPPR (Realtime Pattern Play/Recording) function on/off. RPPR lets you assign a pattern to each note of the keyboard, so that the pattern will playback (or be recorded) when you press the appropriate key.

On (checked): The RPPR function will be on. If a pattern has been assigned to each key in the P5: RPPR Setup page, pressing that key will perform the assigned pattern. For details, see “5-3: RPPR Setup” on page 547.

Metronome [Only REC, REC & Play, Off]

Only REC: The metronome will sound only during recording.

REC & Play: The metronome will sound during recording and playback.

Off: The metronome will not sound. However, the pre-count will sound before recording begins.

Multi REC [Off, On]

On (checked): Multi-track recording setup is enabled. Select this if you want to record two or more tracks simultaneously.

Use MIDI multi-track recording if you want to simultaneously record multiple MIDI tracks of different channels, such as when recording the output of the KARMA or RPPR functions, or when recording from an external multi-track sequencer.

You can also record up to four audio tracks simultaneously.


If the Multi REC box is checked, the **Play/Rec/Mute** status of the track you select in **Track Select** will be set to REC; press the **Play/Rec/Mute** button of the track(s) you want to record so that they indicate REC. (The button indication will change in the order of Play → Rec → Mute.)

Regardless of the **Track Select** (0–1a) setting, data will be recorded on the MIDI tracks and audio tracks that are set to REC. MIDI data will be recorded on the tracks of the matching MIDI channel.

For details on how to record from the KARMA function or an external multi-track sequencer onto multiple tracks of different MIDI channels, see the Operation Guide: “KARMA function settings in Sequencer mode” on page 214, and “Realtime multi-track recording using settings copied from a combination” on page 216.

Note: If you’re recording data from an external multi-track sequencer, set **MIDI Clock** (Global 1–1a) to External MIDI so that the OASYS will synchronize to your external sequencer. Tempo changes cannot be recorded.

Off (unchecked): Single track recording setup will be selected. Recording will occur on the track selected by **Track Select**.

 This cannot be selected if **Recording Setup** is set to Loop All Tracks.

0–1b: Track Program Select

Selected Track Info


This page displays information about the track you’re editing. If you’ve selected a MIDI track, this shows the bank type, T: MIDI track number/program bank/number/name, Ch: MIDI channel number, RPPR (Assign): the key number that starts the RPPR assigned to the track, and KBD: the MIDI Track number/program bank/number/name that sounds when you play the keyboard.

RPPR (Assign) will not show all of the assignments if there are many RPPR assignments. The P6– Pattern Edit page lets you see all of the assignments.

If you’ve selected an audio track, this shows AT: audio track number/region number of the first audio event/name, [STEREO]: Stereo Pair on/off status, and

KBD: The MIDI Track number/program bank/number/name that sounds when you play the keyboard.

Gray color and [Inactive] warning in Track Info

 Normally, the numbers for un-selected Tracks use a dark blue background, and a light blue background highlights the selected Track.

If the background is gray, instead, this means that the maximum amount of EXi Fixed Resources has been exceeded, and the EXi Program assigned to the Track will be muted and inactive. In this case, the Selected Track Info will also show the warning [Inactive] after the Program’s name.

For more information on this subject, including ways to get more out of the system, see “CX-3 & STR-1: Limitations on EXi fixed resources” on page 382.

Track 01 (Track Number)

This shows the MIDI track number. The parameters below this let you make settings for the track.

Track Category [00...17]

Here you can select a category and sub-category to choose the program used by the MIDI track. All programs are organized into up to 18 categories and 8 sub-categories. Choose the desired category and sub-category, and then choose from the programs within that category.

Press this popup button to access the Category Program Select menu, and choose a program.


For details, see “Category/Program Select” on page 380.

Program Select [INT–A...F, USER–A...G: 000...127 G, g(1)...g(9), g(d): 001...128]

Selects the program that will be used by each MIDI track.

The lower line displays part of the program name.

The program you select here will be used when the song is played or recorded from the beginning. If the program is changed while recording, the program change will be recorded as musical data, and the program will change during playback. You can also change the program manually during playback. However if musical data (program change data) is already recorded, the program will change at that point.

 If the **Status** (2–1a) is either INT or BTH, programs can be selected by receiving MIDI program change messages. Also, when the song is changed or when the song returns to the beginning, tracks whose **Status** is EXT, EX2 or BTH will transmit the bank and program numbers via MIDI. Tracks whose **Status** is EX2 will show Bank as “–” and will transmit the bank number that was selected in the “Bank Select” (2–1b) parameter.

Various ways to change the program for a track

- Choose “Program Select,” use numeric keys 0–9 to input a program number, and press the ENTER switch.

- Choose “Program Select,” and turn the VALUE dial or use the Δ/∇ switches.
- If you’ve chosen “Program Select,” the front-panel BANK buttons will change the program bank for the selected track. (If “Program Bank” is selected, the BANK switch LED of the program bank selected for the track will light.)
- Use the Bank/Track Program Select menu to view and select programs by bank.
- Use the Category/Track Program Select menu to view and select programs by category.
- Use the Favorite function; in the Bank/Track Program Select menu or the Category/Track Program Select, you can view and select programs whose “Favorite” setting is turned on.
- Transmit MIDI program change messages from a connected external MIDI device (if the track **Status** is INT or BTH).
- You can also use the above methods to **switch programs while a song is playing**. If you switch programs while recording, the program change data will be recorded, and the program will switch at that point in the song during playback. You can also use the page menu command “MIDI Event Edit” to add program change data to a track.

CX-3: Limitations on EXi fixed resources

Under certain circumstances, there may be limitations on the number of particular EXi Programs that you can load simultaneously. For more information, please see “CX-3 & STR-1: Limitations on EXi fixed resources” on page 382.

Play/Rec/Mute [Play, Rec, Mute]

Use this to mute a MIDI track, or to select the recording tracks for multi-track recording. During playback, or for single-track recording (normal recording), it is possible only to select Play or Mute for tracks (playback tracks) other than the recording track. For multi-track recording, tracks can be set to Play, Rec, or Mute. The setting will alternate each time you press the Play/Rec/Mute button.

Play: The track will play.

Rec: This will be displayed during single-track recording (normal recording). It cannot be selected.

When you use multi-track recording (when the Preferences page “Multi REC” is on), select REC for the tracks that you wish to record.

Mute: The track will be muted (silent).

Note: You can use the control surface to control Play/Rec/Mute. You can also make this setting from the front panel mixer section or from the P0- Control Surface page of the LCD. The procedure given below describes how to make these settings from the front panel.

1. Press the CONTROL ASSIGN MIXER TIMBRE/TRACK switch to select tracks 1-8 or 9-16.
2. Use the MIX PLAY/MUTE 1/9 - 8/16 switches to switch the Play/Rec/Mute status of each track. (You can't select REC for single-track recording.)

Solo On/Off [On, Off]

This turns the Solo function on/off.

Only tracks with SOLO On will sound. Other tracks will be muted.

The setting will alternate on/off each time you press the Solo button.

The operation will depend on the **Exclusive Solo** setting.

Exclusive Solo off: Multiple tracks can be soloed. The solo setting of each track will change each time you press its Solo On/Off button.

Exclusive Solo on: When you press a Solo On/Off button, only that track will be soloed.

Note: You can use the control surface to turn Solo on/off. You can also make this setting from the front panel mixer section or from the P0- Control Surface page of the LCD. The procedure given below describes how to make these settings from the front panel.

1. Press the CONTROL ASSIGN MIXER TIMBRE/TRACK switch to select tracks 1-8 or 9-16.
2. Press the SOLO switch.
3. Use the MIX SELECT 1/9-8/16 switches to turn Solo on/off for each track.

Note: The Solo function applies to MIDI tracks 1-16, audio tracks 1-16, audio inputs 1-4, and S/P DIF input L/R.

Note: If even one track is being soloed, the SOLO switch LED will blink.

Tip: To turn Solo off for all tracks, hold down the RESET CONTROLS switch and press the blinking SOLO switch.

MIDI If MIDI tracks whose **Status** (2-1a) is BTH, EXT, or EX2 are muted by Mute or by the Solo function, note on/off messages will not be transmitted on the MIDI channel selected for those tracks.

⚠ Solo settings are not saved with the song.

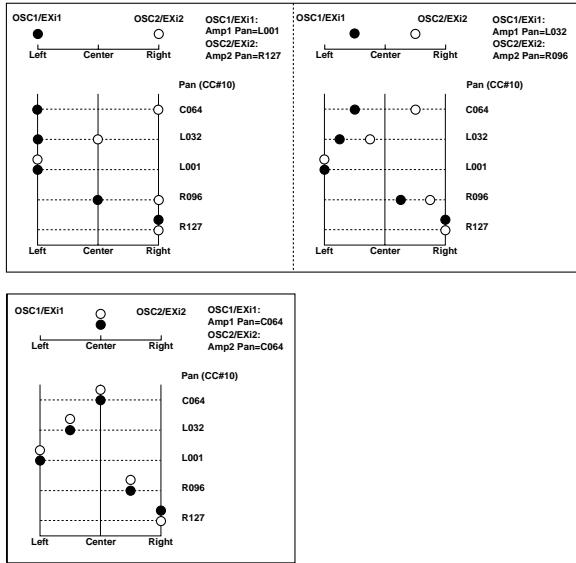
Recording MIDI Track Pan and Volume

The pan and volume that you specify here will be used when you playback or record from the beginning of the song. If you change the settings during recording, the changes will be recorded as musical data, and pan and volume will change during playback. You can also change the settings during playback. However when the song reaches a location where pan or volume data was recorded, the settings will change accordingly.

Pan [RND, L001...C064...R127]

This specifies the pan of MIDI track.

L001...C064...R127: A setting of L001 is far left and R127 is far right. A setting of C064 will reproduce the oscillator pan setting of the Program mode.



If a mono insert effect is in use, the settings you make here will be ignored. In this case, the “Pan (CC#8)” parameter in P8– Insert FX page will adjust the panning of the sound after the Insert Effect. For details, see “Mixer” on page 804.

RND: The pan will change randomly at each note-on.
Note: You can use the control surface to adjust the pan. You can also make this setting from the front panel mixer section or from the P0– Control Surface page of the LCD. The procedure given below describes how to make these settings from the front panel.

1. Press the **CONTROL ASSIGN MIXER TIMBRE /TRACK** switch to select tracks 1–8 or 9–16.
2. If you want to control the pan, EQ, and effect send levels of a single track, press the **MIXER KNOBS** switch to select **CHANNEL STRIP**. Then press the **MIX SELECT 1/9–8/16** switch for the track you want to control.

If you want to adjust the pan of tracks 1–8 or 9–16 together, press the **MIXER KNOBS** switch to select **INDIVIDUAL PAN**.

3. If you’ve selected **CHANNEL STRIP**, use the **MIX CHANNEL STRIP Pan (knob 1)** to adjust the pan.

If you’ve selected **INDIVIDUAL PAN**, use the **MIX CHANNEL STRIP** knobs to adjust the pan of tracks 1–8 or 9–16.

You can adjust the knobs in a range of L001 to R127. (You can’t select RND.)

MIDI If **Status** (2–1a) is INT or BTH, CC#10 Pan can be received to control the panning. When receiving CC#10, a value of 0 or 1 is far left, 64 is center, and 127 is far right. When you change the song or return to the beginning of the song, tracks whose **Status** is EXT, EX2 or BTH will transmit the pan you specify here as a MIDI message (except for RND).

Volume [000...127]

Sets the volume of MIDI tracks 1–16.

Note: You can use the control surface to adjust the volume. You can also make this setting from the front panel mixer section or from the P0– Control Surface page of the LCD. The procedure given below describes how to make these settings from the front panel.

1. Press the **CONTROL ASSIGN MIXER TIMBRE /TRACK** switch to select tracks 1–8 or 9–16.
2. Use the **MIX VOLUMES 1/9–8/16** sliders to adjust the volume.

MIDI When **Status** (2–1a) is INT or BTH, CC#7 Volume can be received to control the volume. The volume of a track is determined by multiplying the MIDI Volume (CC#7) and Expression (CC#11) values. When you change the song or return to the beginning of the song, tracks whose **Status** is EXT, EX2 or BTH will transmit the volume you specify here as a MIDI Volume message.

Track 02... 16 (Track Number)

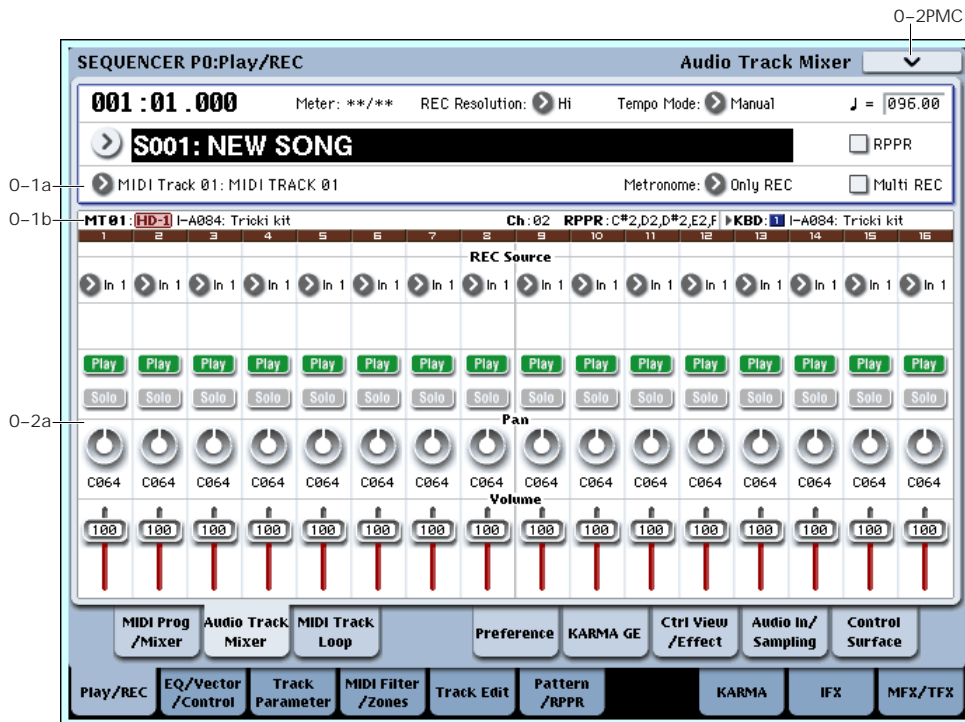
For more information, please see “Track 01 (Track Number)” on page 474.

▼ 0–1: Page Menu Commands

The number before each command shows its **ENTER + number-key** shortcut. For more information on these shortcuts, see “ENTER + 0-9: shortcuts for menu commands” on page 142.

- 0: **Memory Status.** For more information, see “Memory Status” on page 582.
- 1: **Exclusive Solo.** For more information, see “Exclusive Solo” on page 142.
- 2: **Rename Song.** For more information, see “Rename Song” on page 582.
- 3: **Delete Song.** For more information, see “Delete Song” on page 582.
- 4: **Copy From Song.** For more information, see “Copy From Song” on page 582.
- 5: **Load Template Song.** For more information, see “Load Template Song” on page 582.
- 6: **Save Template Song.** For more information, see “Save Template Song” on page 583.
- 7: **FF/REW Speed.** For more information, see “FF/REW Speed” on page 583.
- 8: **Set Location** (for Locate Key.) For more information, see “Set Location (for Locate Key)” on page 583.
- 9: **GM Initialize.** For more information, see “GM Initialize” on page 584.
- 10: **Copy From Combination.** For more information, see “Copy from Combination” on page 584.
- 11: **Copy From Program.** For more information, see “Copy From Program” on page 584.

0-2: Audio Track Mixer



Here you can make settings for recording and playback of audio tracks in the song. You can specify the audio source for recording, and change the Play/Mute status, Solo status, pan, and volume for playback.

0-2a: Audio Track Select

Selected Track Info

This displays information about the currently selected MIDI or audio track. For more information, see "0-1b: Track Program Select" on page 474.

Track 01 (Track Number)

This indicates the audio track number. The parameters below this track number are the settings for that track.

REC Source [(Stereo Pair Off): Audio Input 1...4,
S/P DIF-L, S/P DIF-R, L, R,
REC1...4, Individ. 1...8]

[(Stereo Pair On): Audio Input 1/2...3/4,
S/P DIF L/R, L/R, REC1/2...3/4,
Individ. 1/2...7/8]

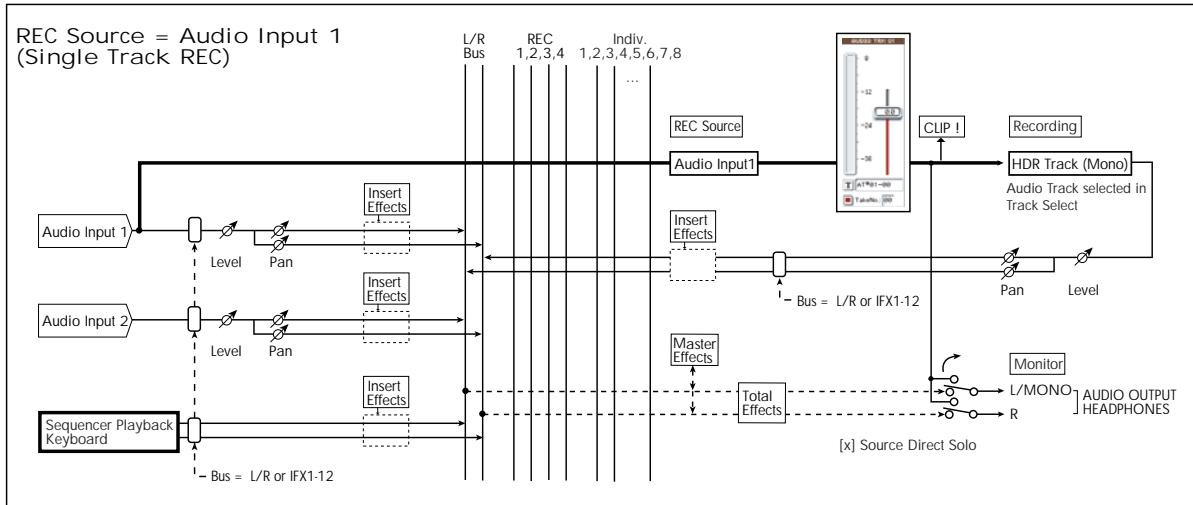
This selects the source that will be recorded on the track. The signal of the bus line you specify here will be recorded.

The available settings depend on whether or not **Stereo Pair** is enabled for the track.

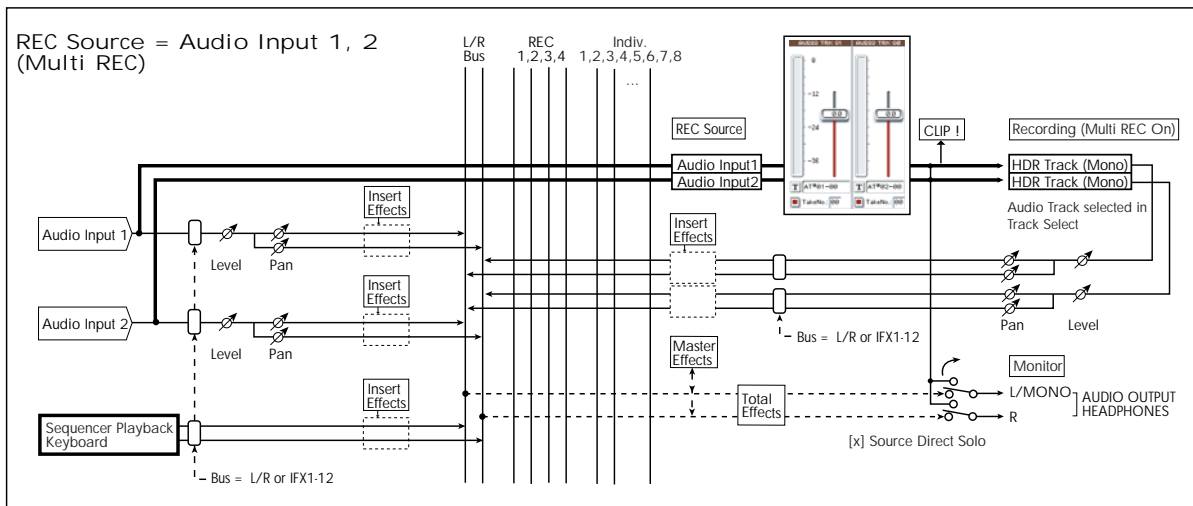
Audio Input 1...4, Audio Input 1/2 and 3/4: Choose these to record directly from analog inputs 1-4. The input signal will be recorded directly, without passing through any buses or effects, and without being

Sequencer mode

affected by the audio input mixer settings. For more information, see the diagram “REC Source = Audio Input 1, 2,” below.

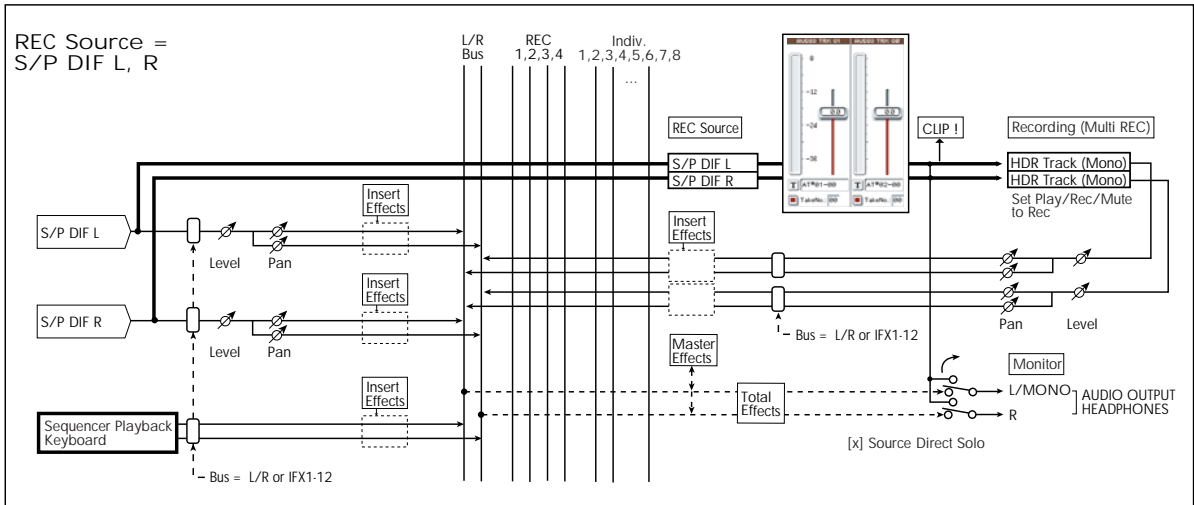


If **Stereo Pair** is on, inputs 1 and/or 3 are sent to odd-numbered tracks, and inputs 2 and/or 4 are sent to even-numbered tracks.



S/P DIF L, R, S/P DIF L/R: Choose these if you want to record the input from the S/P DIF jack. The input from the S/P DIF jack will be recorded directly without passing through the L/R bus, REC buses, or Individual buses. The S/P DIF L,R input will be connected directly, regardless of the Audio Input (0–8a) settings for **Pan**, “Level,” “Solo,” and “Play/Mute.” See the diagram “REC = S/P DIF L, R,” below.

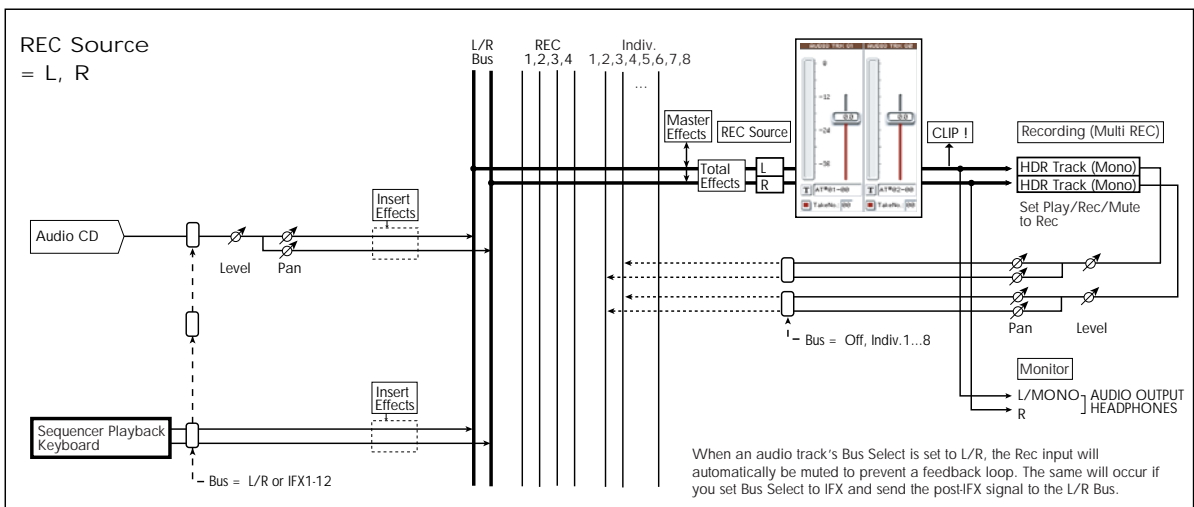
If “Stereo Pair” is on, S/P DIF L is sent to odd-numbered tracks, and S/P DIF IN R is sent to even-numbered tracks.



L, R, L/R: This is the L/R bus, after passing through both TFX 1 and 2. Choose this if you want to record an external audio signal being sent to the L/R bus (specified by 0-8a), or the sound being produced by

the OASYS (and sent to the L/R bus) in response to sequencer playback, keyboard playing, or MIDI input. See the diagram “REC Source = L, R,” below.

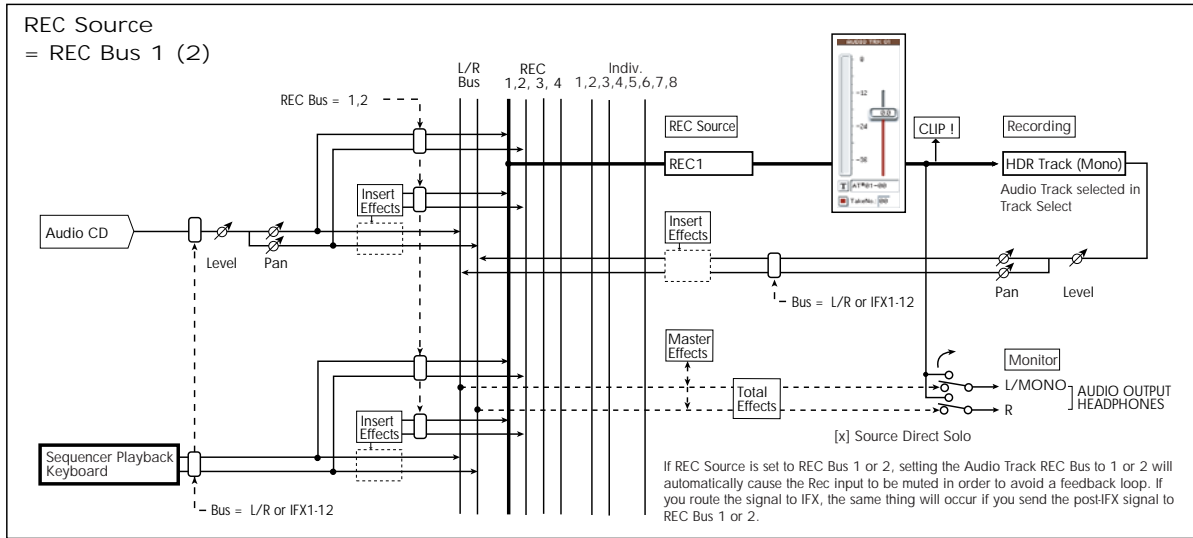
If “Stereo Pair” is on, L is sent to odd-numbered tracks, and R is sent to even-numbered tracks.



REC 1, 2, 1/2, REC 3, 4, 3/4: The REC 1/2 or REC 3/4 buses will be recorded. Choose this if you want to record only the audio input while hearing the sequencer playback and your keyboard playing from the L/R outputs. You can also mix several audio inputs to the REC buses, or use the REC buses to mix the direct sound from the audio inputs with the sound processed by insert effects, and record the result. For more information, see the diagram “REC Source = REC Bus 1, 2.”

Sequencer mode

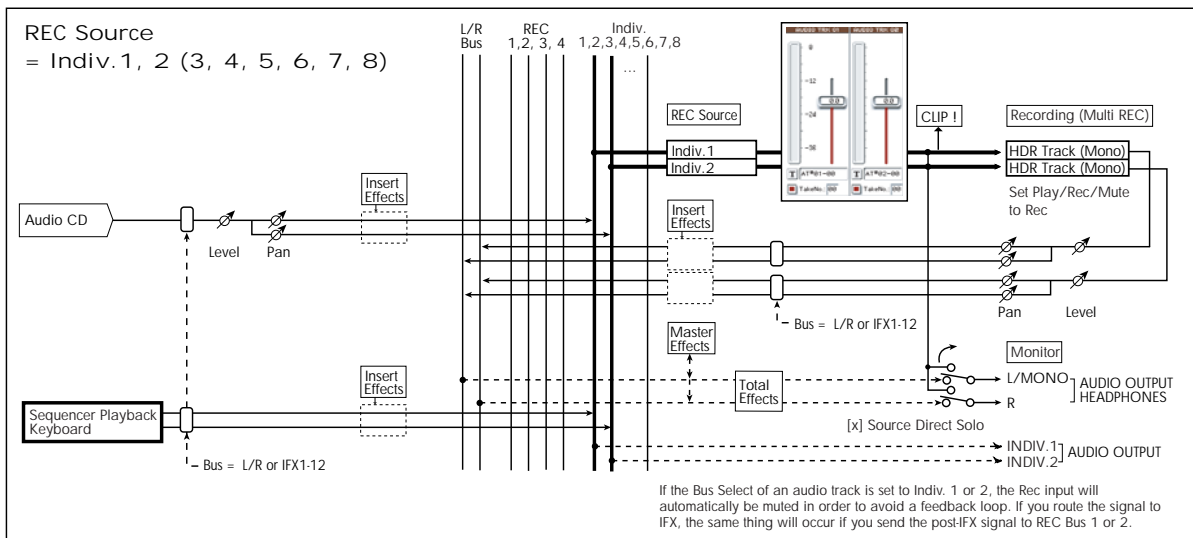
If “Stereo Pair” is on, REC Bus 1 (3) is sent to odd-numbered tracks, and REC Bus 2 (4) is sent to even-numbered tracks.



Indiv.1...8, Indiv.1/2, Indiv.3/4, Indiv.5/6, Indiv.7/8:
The Indiv.1/2–Indiv.7/8 buses will be recorded. Similarly to when using the REC buses, you can choose this when you want to monitor the L/R output while

recording only the audio input. For more information, see the diagram “REC Source = Indiv. 1, 2 (3, 4, 5, 6, 7, 8).”

If “Stereo Pair” is on and you’ve selected Indiv.1/2, the Indiv. bus 1 will be sent to odd-numbered tracks, and Indiv. bus 2 will be sent to even-numbered tracks.



STEREO

This is shown if “Stereo Pair” is on.

Play/Rec/Mute [Play, Rec, Mute]

Use this to mute an audio track, or to select the recording tracks for multi-track recording. During playback, or for single-track recording (normal recording), it is possible only to select Play or Mute for tracks (playback tracks) other than the recording track. For multi-track recording, tracks can be set to Play, Rec, or Mute. The setting will alternate each time you press the **Play/Rec/Mute** button.

Play: The track will play.

Rec: This will be displayed during single-track recording (normal recording). It cannot be selected. When you use multi-track recording (the Preferences page “Multi REC” is on), select REC for the tracks that you wish to record. You can specify REC for up to four tracks.

Mute: The track will be muted (silent).

Note: You can use the control surface to control Play/Rec/Mute. You can also make this setting from the front panel mixer section or from the P0– Control Surface page of the LCD. The procedure given below describes how to make these settings from the front panel.

1. Press the **CONTROL ASSIGN MIXER AUDIO** switch to select tracks 1–8 or 9–16.

2. Use the MIX PLAY/MUTE 1/9 – 8/16 switches to switch the Play/Rec/Mute status of each track. (You can't select REC for single-track recording.)

Solo On/Off

[On, Off]

This turns the Solo function on/off.

Only tracks that are set to Solo On will sound. Other tracks will be muted.

The setting will alternate on/off each time you press the Solo button.

The operation will depend on the setting of the **Exclusive Solo** menu command, as described below:

Exclusive Solo off: Multiple tracks can be soloed. The solo setting of each track will change each time you press its Solo On/Off button.

Exclusive Solo on: When you press a Solo On/Off button, only that track will be soloed.

Note: You can use the control surface to turn Solo on/off. You can also make this setting from the front panel mixer section or from the P0- Control Surface page of the LCD. The procedure given below describes how to make these settings from the front panel.

1. Press the CONTROL ASSIGN MIXER AUDIO switch to select tracks 1-8 or 9-16.
2. Press the SOLO switch.
3. Use the MIX SELECT 1/9-8/16 switches to turn Solo on/off for each track.

Note: The Solo function applies to MIDI tracks 1-16, audio tracks 1-16, audio inputs 1-4, and S/P DIF input L, R.

Note: If even one track is being soloed, the SOLO switch LED will blink.

Tip: To turn Solo off for all tracks, hold down the RESET CONTROLS switch and press the blinking SOLO switch.

- 🔊 Solo settings are not saved with the song.

Recording Audio Track Pan and Volume

The pan and volume that you specify here will be used when you playback or record from the beginning of the song. If you modify these settings while recording, your changes will be recorded as automation event data on the automation track for each audio track, and the pan and volume data will change accordingly during playback. You can also change the settings during playback. However when the song reaches a location where pan or volume data was recorded, the settings will change accordingly.

Pan [L000...C064...R127]

This specifies the pan of audio track.

L000...C064...R127: L000 is hard left, and R127 is hard right.

If a mono insert effect is in use, the settings you make here will be ignored. In this case, the "Pan (CC#8)" parameter in P8- Insert FX page will adjust the panning of the sound after the Insert Effect. For details, see "Mixer" on page 804.

Note: You can use the control surface to adjust the pan. You can also make this setting from the front panel mixer section or from the P0- Control Surface page of the LCD. The procedure given below describes how to make these settings from the front panel.

1. Press the CONTROL ASSIGN MIXER AUDIO switch to select tracks 1-8 or 9-16.
2. If you want to control the pan, EQ, and effect send levels of a single track, press the MIXER KNOBS switch to select CHANNEL STRIP. Then press the MIX SELECT 1/9-8/16 switch for the track you want to control the pan.

If you want to adjust the pan of tracks 1-8 or 9-16 together, press the MIXER KNOBS switch to select INDIVIDUAL PAN.

3. If you've selected CHANNEL STRIP, use the MIX CHANNEL STRIP PAN (knob 1) to adjust the pan.

If you've selected INDIVIDUAL PAN, use the MIX CHANNEL STRIP knobs to adjust the pan of tracks 1-8 or 9-16.

You can adjust the knobs in a range of L000 to R127. (Random pan is not available for audio tracks.)

- 🔊 For paired audio tracks, the above parameters are controlled by the odd-numbered audio track. These parameters will not be controlled if you edit the even-numbered audio track. If, however, in the "Stereo Pair" page menu command you set "Pan Mode" to **Index**, the Pan of the even-numbered audio track will be valid.

Volume [000...127]

Sets the volume of audio tracks 1-16.

Note: You can use the control surface to adjust the volume. You can also make this setting from the front panel mixer section or from the P0- Control Surface page of the LCD. The procedure given below describes how to make these settings from the front panel.

1. Press the CONTROL ASSIGN MIXER AUDIO switch to select tracks 1-8 or 9-16.
2. Use the MIX VOLUMES 1/9-8/16 sliders to adjust the volume.

- 🔊 For paired audio tracks, the above parameters are controlled by the odd-numbered audio track. These parameters will not be controlled if you edit the even-numbered audio track.

Track 02... 16 (Track Number)

For details, see "Track 01 (Track Number)" on page 477.

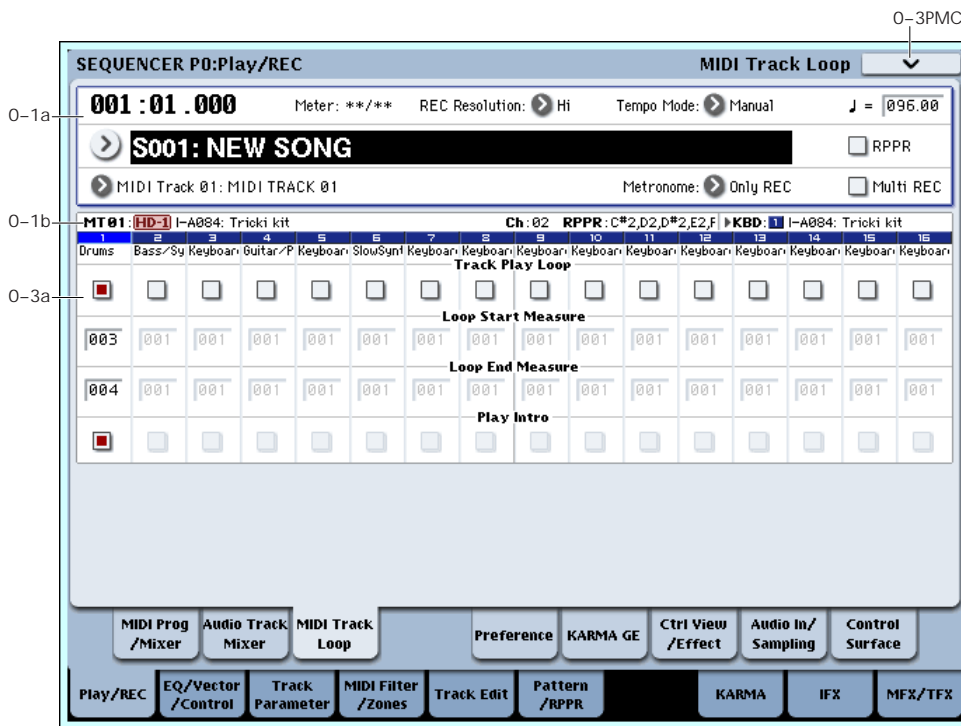
▼ 0-2: Page Menu Commands

The number before each command shows its ENTER + number-key shortcut. For more information on these shortcuts, see "ENTER + 0-9: shortcuts for menu commands" on page 142.

- 0: **Memory Status.** For more information, see "Memory Status" on page 582.
- 1: **Exclusive Solo.** For more information, see "Exclusive Solo" on page 142.

- 2: **Rename Song.** For more information, see “Rename Song” on page 582.
- 3: **Delete Song.** For more information, see “Delete Song” on page 582.
- 4: **Copy From Song.** For more information, see “Copy From Song” on page 582.
- 5: **Load Template Song.** For more information, see “Load Template Song” on page 582.
- 6: **Save Template Song.** For more information, see “Save Template Song” on page 583.
- 7: **FF/REW Speed.** For more information, see “FF/REW Speed” on page 583
- 8: **Set Location** (for Locate Key.) For more information, see “Set Location (for Locate Key)” on page 583.
- 9: **GM Initialize.** For more information, see “GM Initialize” on page 584.
- 10: **Copy From Combination.** For more information, see “Copy from Combination” on page 584.
- 11: **Copy From Program.** For more information, see “Copy From Program” on page 584.
- 12: **Stereo Pair.** For more information, see “Stereo Pair” on page 585.
- 13: **Auto HDR/Sampling Setup.** For more information, see “Auto HDR/Sampling Setup” on page 587.

0-3: MIDI Track Loop



When playing or recording a song, you can independently loop the MIDI tracks.

0-3a: Track Select

Selected Track Info

This displays information about the currently selected MIDI or audio track. For more information, see “0-1b: Track Program Select” on page 474.

Track 01 (Track Number)

Category [(00...17)]

Indicates the category.

Track Play Loop [Off, On]

Specifies looping for a MIDI track.

On (checked): That track will loop between “Loop Start Measure” and “Loop End Measure.”

Loop Start Measure [001...999]

Specifies the first measure of the loop.

Loop End Measure [001...999]

Specifies the last measure of the loop.

Play Intro [Off, On]

On (checked): After the measures before the specified “Loop Start Measure” are played once, the region of “Loop Start Measure” – “Loop End Measure” will be played repeatedly.

For example, you can use this on a drum track to make it play a fill-in and then begin looping.

Off (unchecked): Playback will begin from the “Loop Start Measure,” and will begin looping immediately.

- This will be valid if “Track Play Loop” is checked and “Loop Start Measure” is set to other than 001.

Example) When “Play Intro” is checked

MT01: HD-1 I-A004: Tricki kit								C
1	2	3	4	5	6	7	8	
Drums	Bass/Sy	Keyboard	Guitar/P	Keyboard	SlowSyn1	Keyboard	Keyboard	
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Track Play Loop								
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Loop Start								
003	001	001	001	001	001	001	001	
Loop End								
004	001	001	001	001	001	001	001	
Play Intro								
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

Track 1 will loop as follows.

M001 – M002 – M003 – M004 – M003 – M004 – M003 – M004...

When “Play Intro” is not checked

MT01: HD-1 I-A004: Tricki kit								C
1	2	3	4	5	6	7	8	
Drums	Bass/Sy	Keyboard	Guitar/P	Keyboard	SlowSyn1	Keyboard	Keyboard	
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Track Play Loop								
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Loop Start								
003	001	001	001	001	001	001	001	
Loop End								
004	001	001	001	001	001	001	001	
Play Intro								
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

Track 1 will loop as follows.

M003 – M004 – M003 – M004 – M003 – M004 – M003 – M004...

In this way, you can use “Track Play Loop” to make the realtime recording process more efficient.

Track 02...16 (Track Number)

For details, see “Track 01 (Track Number)” on page 477.

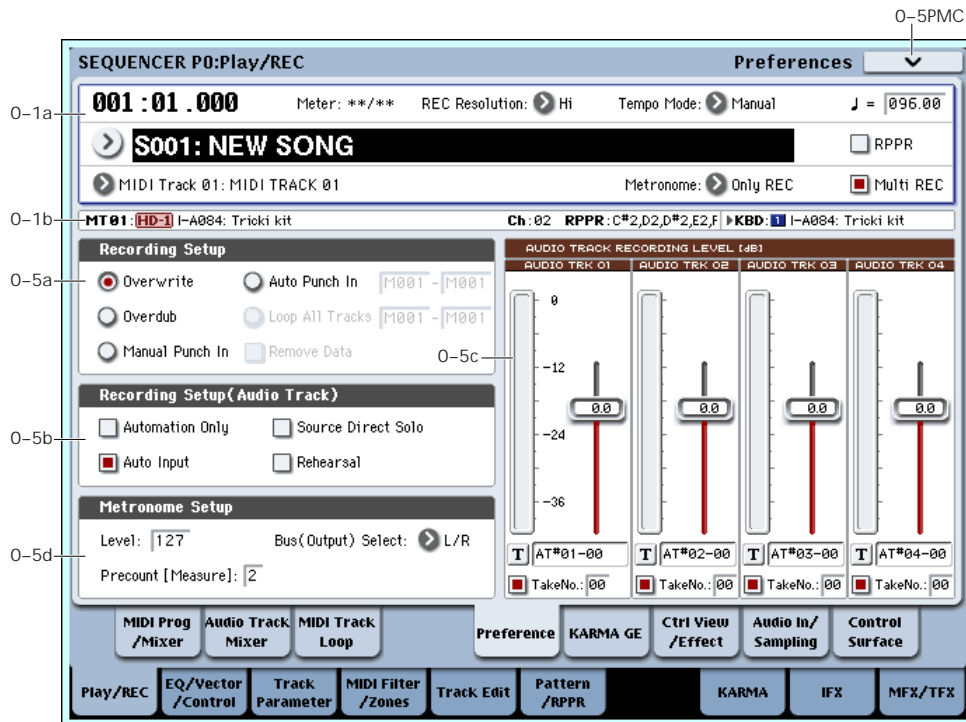
▼ 0-3: Page Menu Commands

The number before each command shows its ENTER + number-key shortcut. For more information on these shortcuts, see “ENTER + 0-9: shortcuts for menu commands” on page 142.

- 0: **Memory Status.** For more information, see “Memory Status” on page 582.
- 1: **Exclusive Solo.** For more information, see “Exclusive Solo” on page 142.
- 2: **Rename Song.** For more information, see “Rename Song” on page 582.
- 3: **Delete Song.** For more information, see “Delete Song” on page 582.
- 4: **Copy From Song.** For more information, see “Copy From Song” on page 582.
- 5: **Load Template Song.** For more information, see “Load Template Song” on page 582.
- 6: **Save Template Song.** For more information, see “Save Template Song” on page 583.
- 7: **FF/REW Speed.** For more information, see “FF/REW Speed” on page 583

- 8: **Set Location** (for Locate Key.) For more information, see “Set Location (for Locate Key)” on page 583.
- 9: **GM Initialize.** For more information, see “GM Initialize” on page 584.
- 10: **Copy From Combination.** For more information, see “Copy from Combination” on page 584.
- 11: **Copy From Program.** For more information, see “Copy From Program” on page 584.

0-5: Preferences



Here you can specify the realtime recording method, adjust levels and make other settings for audio recording, and adjust the metronome settings.

Selected Track Info

This displays information about the currently selected MIDI or audio track. For more information, see “0-1b: Track Program Select” on page 474.

0-5a: Recording Setup

Selects the method of realtime recording.

For detailed, step-by-step instructions, please see “MIDI recording” on page 89 of the Operation Guide.

Overwrite

When recording for the first time, you will normally select this method.

To begin recording, press the SEQUENCER REC/WRITE switch and then the SEQUENCER START/STOP switch. To stop recording, press the SEQUENCER START/STOP switch once again.

If you use this method to record on a track that has already been recorded, the result will differ depending on the track or type of event, as follows.

MIDI Tracks, Audio Track Automation Events: All data following the measure at which you begin recording will be erased.

Audio Track Audio Events: As with Overwrite, only the measures you recorded will be overwritten; the data in subsequent measures will remain unchanged.

Overdub

Select this method when you wish to add data to a previously-recorded track. (except for audio events)

To begin recording, press the SEQUENCER REC/WRITE switch and then the SEQUENCER START/STOP switch. To stop recording, press the SEQUENCER START/STOP switch once again.

If you use this method to record on a track that has already been recorded, the result will differ depending on the track or type of event, as follows.

MIDI Tracks, Audio Track Automation Events: The previously-recorded data will remain, and the newly-recorded data will be added to it.

Audio Track Audio Events: As with Overwrite, only the measures you recorded will be overwritten; the data in subsequent measures will remain unchanged.

Manual Punch In

Select this method when you wish to use the SEQUENCER REC/WRITE switch or a foot switch to re-record selected portions of a previously-recorded track.

Press the SEQUENCER START/STOP switch to playback the song. When you reach the measure at which you wish to begin re-writing the data, press the SEQUENCER REC/WRITE switch or the foot switch, and recording will begin. When you are finished recording, press the SEQUENCER REC/WRITE switch or the foot switch once again, and recording will end.

Auto Punch In

Select this method when you wish to automatically re-record selected portions of a previously-recorded track.

If you select Auto Punch In, the display will indicate “M***-M*** (Auto Punch In Start Measure–Auto Punch In End Measure)” at the right, allowing you to specify the range of measures that will be rewritten.

Press the SEQUENCER REC/WRITE switch and then the START/STOP switch, and playback will occur until the specified measure is reached. Then, recording will occur only over the specified area (**Start Measure–End Measure**), rewriting it with the newly recorded data.

Auto Punch In Start Measure [M001...M999]

Auto Punch In End Measure [M001...M999]

When **Recording Setup** is set to Auto Punch In, specify the measures at which recording will start and end.


Loop All Tracks


Select this method when you wish to repeatedly record a specified area of a track, and continue adding data. This is suitable for creating drum patterns, etc.

If you select Loop All Tracks, the display will indicate “M***-M*** (Loop Start Measure–Loop End Measure)” at the right, allowing you to specify the range of measures that will be recorded repeatedly.

Press the SEQUENCER REC/WRITE switch and then the SEQUENCER START/STOP switch, and playback will occur until the specified measure is reached. Then, recording will occur repeatedly over the specified area (“Loop Start Measure”–“Loop End Measure”). Previously-recorded data will remain, and the new data will be added. This applies only to MIDI data.

While recording, you can check “Remove Data” to delete unwanted data.

 You can't record audio events to audio tracks while using Loop All Tracks. If you set **Track Select** to an audio track, and leave “Automation Only” (0-5b) unchecked, you won't be able to start recording. Checking “Automation Only” will allow you to start recording so that you can record automation events. You can use “Remove Data” to delete audio track automation events.

 If **Multi REC** is **checked**, this parameter will not be available.

Loop Start Measure [M001...M999]

Loop End Measure [M001...M999]

Specifies the range of measures over which recording will repeat when **Recording Setup** is set to Loop All Tracks.

Remove Data [Off, On]

Use this to delete unwanted MIDI data or audio track automation events that you recorded while using Loop All Tracks. This is available when **Recording Setup** is set to Loop All Tracks.

On (checked): You can delete unwanted MIDI data while recording with Loop All Tracks. During recording, press the key (note number) that corresponds to the MIDI data you wish to delete. All occurrences of that note number will be deleted for the interval that you continue holding down the key. Controller data can also be erased in a similar way. For example while you move and hold the joystick in the X

(horizontal) direction, bender data will be erased. While you apply pressure to the keyboard, after touch data will be erased. This applies to keyboard aftertouch, Joystick+Y (CC#01)/-Y (CC#02), Joystick X (Pitch Bend), and Ribbon Controller (CC#16).

Also, you can press and hold down the SEQUENCER REC/WRITE switch to delete all MIDI data for as long as the key is held.

If you want to delete audio track automation events, check “Automation Only” (0-5b), choose Loop All Tracks, and begin recording. Then check “Remove Data” (0-5a) and hold down the SEQUENCER REC/WRITE switch to delete the automation events that occur while you're holding down that switch.

0-5b: Recording Setup (Audio Track)

Automation Only [Off, On]

On (checked): Only audio track automation events will be recorded. Audio events will not be changed.

Off (unchecked): Both audio track automation events and audio events will be recorded.

Auto Input [Off, On]

This switches the monitor channel (**REC Source**/ track playback) for the audio track selected in **Track Select**. See the table that follows.

If “Multi REC” is on, this applies to all tracks whose **Play/Rec/Mute** is set to REC.

On (checked): When performing auto/manual punch-in recording, the audio track selected in **Track Select** will be monitored via its **REC Source** during the measures being recorded, and the track playback will be monitored during measures that are not being recorded.

For the audio tracks not selected in **Track Select**, you will always be monitoring the track playback.

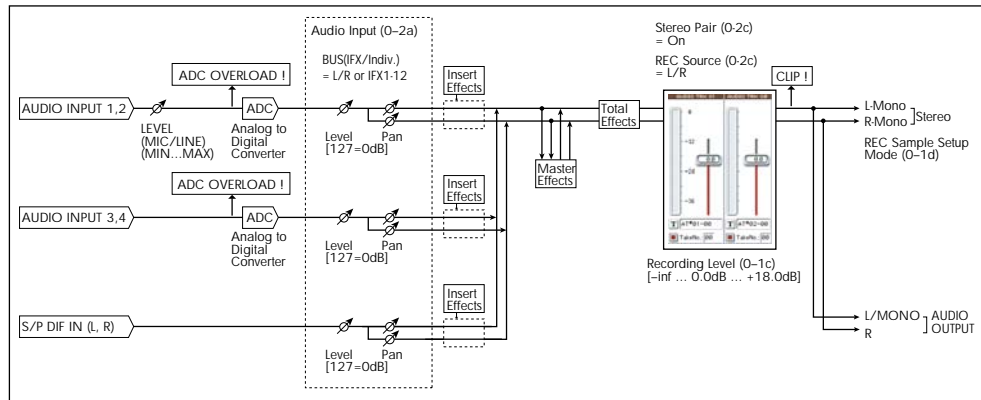
When performing auto/manual punch-in recording with “Multi REC” on, audio tracks whose **Play/Rec/Mute** is set to REC will be monitored via **REC Source** during the measures being recorded, and will automatically switch to monitoring the track playback during measures that are not being recorded. For the audio tracks that are not set to REC, you will always be monitoring the track playback.

Off (unchecked): The audio track selected in **Track Select** will always be monitored via its “REC Source.” For the audio tracks not selected in **Track Select**, you will always be monitoring the track playback.

If “Multi REC” is on, you will always be monitoring the **REC Source** of audio tracks whose **Play/Rec/Mute** is set to REC.

For the audio tracks that are not set to REC, you will always be monitoring the track playback.

Audio Input/Output



Audio track monitor channels

(Line: REC Source, Track: track playback)

	Auto Input	During Stop	During Play	During Rec	During Punch Rec		
					...In	In...Out	Out...
Track Select track	On	Line	Track	Line	Track	Line	Track *
	Off	Line	Line	Line	Line	Line	Line
Tracks other than "Track Select"	On	Track	Track	Track	Track	Track	Track
	Off	Track	Track	Track	Track	Track	Track

Source Direct Solo [Off, On]

On (checked): Only the signal of the bus line specified by **REC Source** will be output to the L/R jacks and the headphone jack. Check this if you want to monitor only the sound that's being recorded. When using Multi REC, you'll hear the sound from the **REC Source** buses whose **Play/Rec/Mute** setting is set to REC.

Off (unchecked): The L/R (post-TFX) and bus line signal(s) specified by **Source Bus** will be sent from the L/R jacks and the headphone jack as specified by the Audio Input "Bus Select (IFX/Indiv. Out Bus Select)" (8-3a) and post-IFX **Bus Sel.** (8-5a) settings. This is the normal state.

Note: If the **Source Bus** is L/R, this setting is ignored; the L/R (post-TFX) signal is output from the L/R jacks and the headphone jack.

Rehearsal [Off, On]

On (checked): Recording to the audio track(s) will be simulated (recording will not actually occur).

The monitoring during rehearsal will depend on the "Auto Input" setting. If "Auto Input" is checked, you will monitor the external input between punch-in and punch-out, and monitor the already-recorded sound at other times.

For example if you set punch-in at 005 (measure 5) and punch-out at 008 (measure 8), you will monitor the already-recorded sound during measures 1 to 4 and measures 9 to the end, and monitor the external input during measures 5 to 8.

0-5c: Audio Track Recording Level [dB]

Recording Level, Name, Take, and Take No. settings for the sixteen audio tracks are not maintained separately for each song; instead, they apply globally to the entire Sequencer mode.

This area displays the settings of the track selected in **Track Select** (for single track recording) or the settings of the tracks whose **Play/Rec/Mute** button is set to REC (for multi-track recording).

Audio Tracks 1...4

Recording Level 1...4 [-Inf, -72.0...+18.0]

Level Meter 1...4

This adjusts the final level of the signal being recorded from the **REC Source** to the audio track. Adjust the level optimally without allowing the level meter to reach the "CLIP !" indication.

The upper part of the level meter/slider shows the corresponding audio track number.

If you're using single track recording, **Recording Level 1** and **Level Meter 1** are valid.

If you're using multi-track recording, the settings for tracks whose "Play/Rec/Mute" is REC will be valid.

When recording a single audio track, the signal level will appear in the level meters as soon as you set **Track Select** to an audio track. When recording multiple audio tracks via Multi REC, the signal levels will appear in the level meters when you press the SEQUENCER REC/WRITE switch to enter record-standby mode.

Use the sliders to adjust the signal levels.

For more information, see "Setting levels" on page 14, "Tips for eliminating distortion when using the analog inputs" on page 15, and "Avoiding extraneous noise" on page 14.

CLIP ! message

If 0 dB is exceeded, the display will indicate "CLIP !" This means that the level of the sampling signal is too high, so adjust the level as described under "Setting levels" on page 14.

ADC OVERLOAD! message

For more information, please see "CLIP ! message," above.

Name 1...4

Here you can specify the names of the regions and WAVE files that will be created when you record audio tracks.

You can use up to eight characters.

If you check **Take** at the right, the take number will automatically be input as the last two characters of the name. For more information, see **Take** (below).

Take [Off, On]

On (checked): The take number specified by **Take No.** will automatically be assigned as the last two characters in the name of the region and WAVE files that are saved. The number will automatically increment after recording. If you are recording repeatedly, you can use the take numbers to manage the separate recordings.

If **Take** is unchecked, you can input up to eight characters as the file name. If it is checked, you can input up to six characters.

Off (unchecked): The take number will not be included in the name of the subsequently-recorded region and WAVE files.

Take No. [00...99]

This specifies the take number that will be used if **Take** is checked. After each recording, this number will automatically increase by one from the previous take.

- 2: **Rename Song.** For more information, see "Rename Song" on page 582.
- 3: **Delete Song.** For more information, see "Delete Song" on page 582.
- 4: **Copy From Song.** For more information, see "Copy From Song" on page 582.
- 5: **Load Template Song.** For more information, see "Load Template Song" on page 582.
- 6: **Save Template Song.** For more information, see "Save Template Song" on page 583.
- 7: **FF/REW Speed.** For more information, see "FF/REW Speed" on page 583.
- 8: **Set Location** (for Locate Key.) For more information, see "Set Location (for Locate Key)" on page 583.
- 9: **GM Initialize.** For more information, see "GM Initialize" on page 584.
- 10: **Copy From Combination.** For more information, see "Copy from Combination" on page 584.
- 11: **Copy From Program.** For more information, see "Copy From Program" on page 584.
- 12: **Stereo Pair.** For more information, see "Stereo Pair" on page 585.
- 13: **Auto HDR/Sampling Setup.** For more information, see "Auto HDR/Sampling Setup" on page 587.

0-5d: Metronome Setup

Here you can make metronome settings.

Level [000...127]

Sets the volume of the metronome.

Bus (Output) Select [L/R, L, R, 1...8, 1/2...7/8]

Selects the output destination of the metronome sound.

L/R, L, R: Output from OUTPUT (MAIN) L/Mono and/or R.

1...8, 1/2...7/8: Output from OUTPUT (INDIVIDUAL) 1-8 respectively.

Precount [Measure] [0...2]

Specifies the pre-count that will occur before recording begins.

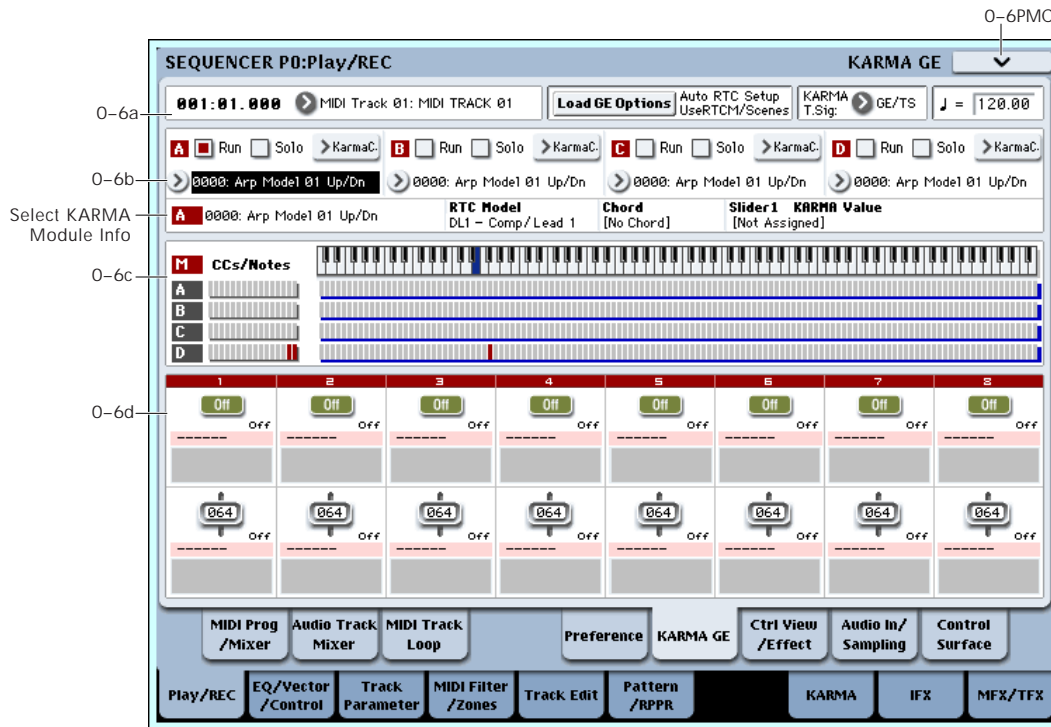
With a setting of 0, recording will begin the instant you press the SEQUENCER START/STOP switch (after first pressing the SEQUENCER REC/WRITE switch).

▼ 0-5: Page Menu Commands

The number before each command shows its ENTER + number-key shortcut. For more information on these shortcuts, see "ENTER + 0-9: shortcuts for menu commands" on page 142.

- 0: **Memory Status.** For more information, see "Memory Status" on page 582.
- 1: **Exclusive Solo.** For more information, see "Exclusive Solo" on page 142.

0-6: KARMA GE



This page gives you an overview of the four KARMA Modules (A-D), and lets you make basic adjustments. For more detailed editing of KARMA parameters, see “Sequencer P7: KARMA” on page 550.

The settings of the KARMA ON/OFF and LATCH switches, KARMA SCENES 1-8 switches, KARMA SLIDERS 1-8, and KARMA SWITCHES 1-8 are saved independently for each Song.

0-6a: Location, Track Select, Load GE Options, KARMA T.Sig, Tempo

Location [001:01.000...999:16.191]
Track Select [MIDI Track01...MIDI Track16, Master Track, Audio Track01...Audio Track16]
♩ (Tempo) [040.00...240.00, EXT]

These parameters let you select the current Track, set the location of the sequence, and control the tempo. For more information, see “0-1a: Location, Song/Track Select” on page 471.

Load GE Options [Dialogue]

These options let you specify whether the values and assignments for the KARMA SLIDERS and SWITCHES will be set automatically, be initialized, or be preserved when you select a GE. For more information, see “Load GE Options” on page 7.

KARMA T. Sig (KARMA Time Signature) [GE/TS, 1/4...16/4, 1/8...16/8, 1/16...16/16]

For more information, see “KARMA T.Sig (Time Signature)” on page 8.

0-6b: GE Select

A, B, C, D (Module A, B, C, D)

Run [Off, On]
Solo [Off, On]
GE Select [Preset 0000...2047, USER-A U-A000...U-A127, ..., USER-L U-L000...U-L127]

GE Bank Select [Preset...USER-L]
GE Category Select [Arpeggio...Real-Time]

For more information, please see “0-6b: GE Select” on page 384.

Selected KARMA Module Info

GE Number & Name
RTC Model [List of RTC Models]

Chord
KARMA Value

For more information, see “Selected KARMA Module Info” on page 384.

0-6c: Note/CC Activity

S (Scene) [1...8]

The blue square in the upper left of the section shows the current scene of the selected KARMA module.

The number in parentheses is the default Scene.

In Sequencer mode, the default Scene works slightly differently than in Program and Combination modes. Whenever you enter Sequencer mode, or select a Song, the default is set to the current Scene. After that, the default stays the same until you select another Song, or exit Sequencer mode.

If you select a Scene, then go to another Song or change modes, and finally go back to the original Song, the previously-selected Scene will now be the default.

Module [M, A...D]

CCs/Notes and Scan Zones

These are the same as in Combination mode. For details, see "0-6c: Note/CC Activity" on page 385.

0-6d: Real-Time Controls

KARMA SWITCHES 1...8

Current Value 1...8

Stored value 1...8

Control Timbre Category 1...8

Name 1...8

KARMA SLIDERS 1...8

Current Value 1...8

Stored value 1...8

Control Timbre Category 1...8

Name 1...8

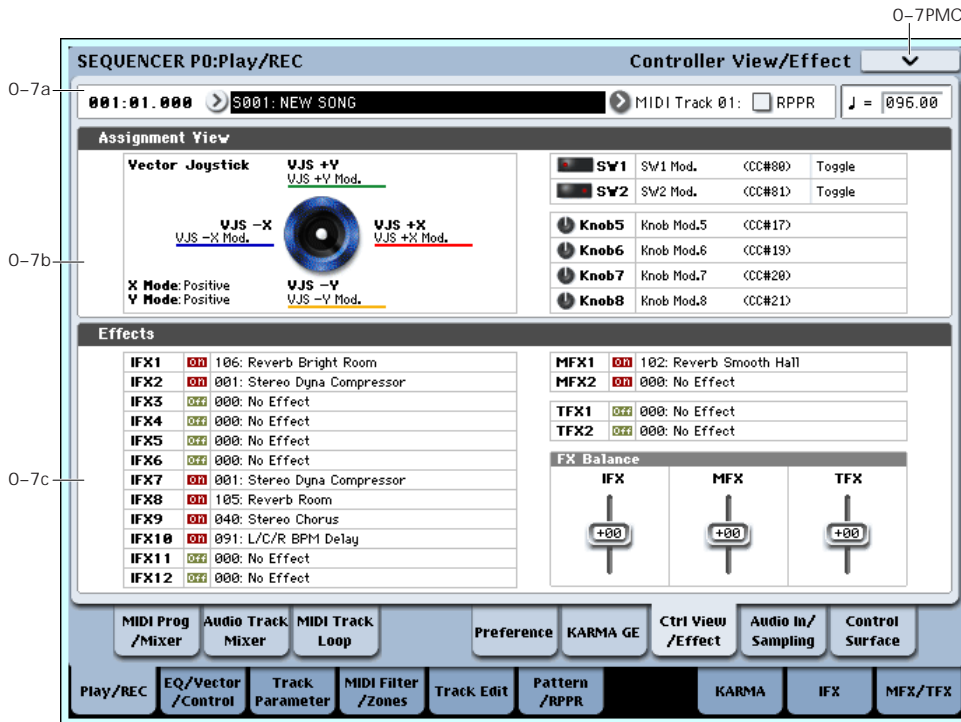
These are the same as in Combination mode. For details, see "0-6d: Realtime Controls" on page 385.

▼ 0-6: Page Menu Commands

The number before each command shows its ENTER + number-key shortcut. For more information on these shortcuts, see "ENTER + 0-9: shortcuts for menu commands" on page 142.

- 8: **Set Location** (for Locate Key.) For more information, see "Set Location (for Locate Key)" on page 583.
- 9: **GM Initialize**. For more information, see "GM Initialize" on page 584.
- 10: **Copy From Combination**. For more information, see "Copy from Combination" on page 584.
- 11: **Copy From Program**. For more information, see "Copy From Program" on page 584.
- 12: **Copy KARMA Module**. For more information, see "Copy KARMA Module" on page 464.
- 13: **Initialize KARMA Module**. For more information, see "Initialize KARMA Module" on page 465.
- 14: **Copy Scene**. For more information, see "Copy Scene" on page 465.
- 15: **Swap Scene**. For more information, see "Swap Scene" on page 465.
- 16: **Capture Random Seed**. For more information, see "Capture Random Seed" on page 465.
- 17: **Auto Assign KARMA RTC Name**. For more information, see "Auto Assign KARMA RTC Name" on page 465.
- 0: **Memory Status**. For more information, see "Memory Status" on page 582.
- 1: **Exclusive Solo**. For more information, see "Exclusive Solo" on page 142.
- 2: **Rename Song**. For more information, see "Rename Song" on page 582.
- 3: **Delete Song**. For more information, see "Delete Song" on page 582.
- 4: **Copy From Song**. For more information, see "Copy From Song" on page 582.
- 5: **Load Template Song**. For more information, see "Load Template Song" on page 582.
- 6: **Save Template Song**. For more information, see "Save Template Song" on page 583.
- 7: **FF/REW Speed**. For more information, see "FF/REW Speed" on page 583.

0-7: Controller View/Effect



Here you can view the function that is assigned to the vector joystick, SW1 and 2, and knobs 5-8, and view information about the effects. You can also adjust the FX Balance.

0-7a: Location, Song/Track Select

Location [001:01.000...999:16.191]
Song Select [000...199]
Track Select [MIDI Track01...MIDI Track16, Master Track, Audio Track01...Audio Track16]
RPPR [Off, On]
J (Tempo) [040.00...240.00, EXT]

Select the song whose information you want to view. For more information, see “0-1a: Location, Song/Track Select” on page 471.

0-7b: Assignment View

VJS

This area shows information about the vector joystick.

X Mode, Y Mode: These indicate the behavior of the vector CC for the X-axis and Y-axis. For more information, see “VJS X Mode” on page 407.

VJS +X, VJS -X, VJS +Y, VJS -Y: These indicate the controller transmitted by the +X, -X, +Y, and -Y vectors. For more information, see “+X” on page 407.

SW1, SW2, Knob5...8

SW1, SW2: These indicate the functions assigned to SW1 and 2.

Knob5...8: These indicate the functions assigned to knobs 5-8. For more information, see “1-8: Set Up Controllers” on page 412.

0-7c: Effects

IFX1...12, MFX1, 2, TFX1, 2: This area indicates the effect assigned to each insert effect, master effect, and total effect, and its on/off status.

FX Balance

IFX: This controls the “Wet/Dry” balance of all insert effects. A setting of +10 is Wet or -Wet, a setting of +0 leaves the settings of the track program, and a setting of -10 is Dry.

MFX: This controls the MFX1 and 2 “Return.” A setting of +10 is 127, a setting of +0 leaves the settings of the track program, and a setting of -10 is 000.

TFX: This controls the “Wet/Dry” balance of TFX1 and 2. A setting of +10 is Wet or -Wet, a setting of +0 leaves the settings of the track program, and a setting of -10 is Dry.

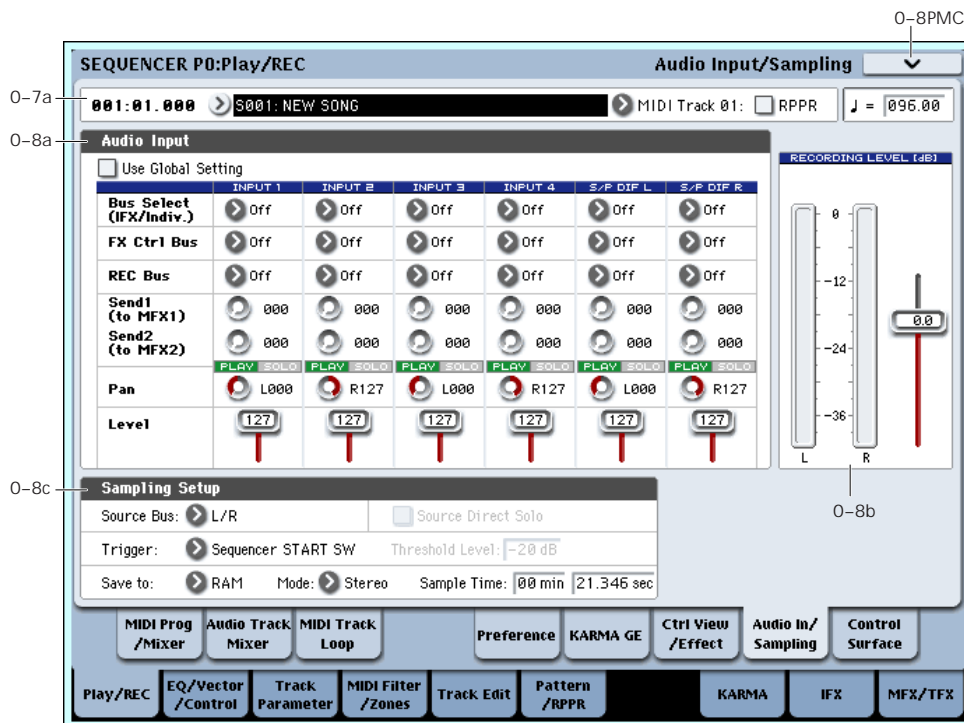
⚠ When you edit, the changes will be immediately reflected in the sound, but will not be saved in the song. Use this when you want to make temporary adjustments to the effect settings of the selected song.

▼ 0-7: Page Menu Commands

The number before each command shows its ENTER + number-key shortcut. For more information on these shortcuts, see “ENTER + 0-9: shortcuts for menu commands” on page 142.

- 0: **Memory Status.** For more information, see “Memory Status” on page 582.
- 1: **Exclusive Solo.** For more information, see “Exclusive Solo” on page 142.
- 2: **Rename Song.** For more information, see “Rename Song” on page 582.
- 3: **Delete Song.** For more information, see “Delete Song” on page 582.
- 4: **Copy From Song.** For more information, see “Copy From Song” on page 582.
- 5: **Load Template Song.** For more information, see “Load Template Song” on page 582.
- 6: **Save Template Song.** For more information, see “Save Template Song” on page 583.
- 7: **FF/REW Speed.** For more information, see “FF/REW Speed” on page 583
- 8: **Set Location** (for Locate Key.) For more information, see “Set Location (for Locate Key)” on page 583.
- 9: **GM Initialize.** For more information, see “GM Initialize” on page 584.
- 10: **Copy From Combination.** For more information, see “Copy from Combination” on page 584.
- 11: **Copy From Program.** For more information, see “Copy From Program” on page 584.

0-8: Audio In/Sampling



Here you can adjust the settings for the analog/digital audio signal input (AUDIO INPUT, S/P DIF), and the sampling-related settings for Sequencer mode.

In Sequencer mode, the external audio sources you specify here can be recorded to audio tracks or sampled. (You can also record or sample a song that’s played back by the OASYS or your own playing on the keyboard.) You can also use the OASYS as a 6-in/10-out effect processor.

- ⚠ You can’t record a Song or pattern while sampling. Nor can you sample while recording a Song or pattern.

Using the control surface to adjust Audio Inputs

You can use the control surface to adjust the Audio Input Send1 (to MFX1), Send2 (to MFX2), Play/Rec/Mute, Solo On/Off, Pan, and Level.

For more information, please see “0-9c: Audio Inputs” on page 22.

- ⚠ The control surface will control the Global mode settings if “Use Global Setting” is On (checked).

0-8a: Audio Input

These parameters control the level, pan, play/mute and solo status, send levels, and bus assignments for each of the analog and digital inputs. For more information, see “0-8a: Audio Input” on page 12.

Use Global Setting [Off, On]

Each Song can either use the single, Global audio input mixer setup, or have its own custom settings. For more information, see “Use Global setting” on page 12.

Input 1...4


S/P DIF L, S/P DIF R

Bus Select (IFX/Indiv. Out Assign)

	[L/R, IFX1...12, 1...8, 1/2...7/8, Off]
FX Ctrl Bus (FX Control Bus)	[Off, 1, 2]
REC Bus	[Off, 1...4, 1/2, 3/4]
Send1 (to MFX1)	[000...127]
Send2 (to MFX2)	[000...127]
Play/Mute	[Play, Mute]
Solo On/Off	[Off, On]
Pan	[L000...C064...R127]
Level	[000...127]

0-8b: Recording Level [dB]

These parameters are the same as in Program mode P0- Audio Input/Sampling. For more information, please see "0-8b: Recording Level [dB]" on page 14.

 The final signal level when recording an audio track is set by the P0- Preference page **Recording Level** setting.

Recording Level [-Inf, -72.0...+18.0]

The **Recording Level** setting applies to all of Sequencer mode, and is not saved with individual Songs.

0-8c: Sampling Setup

Here you can select the source to be sampled, and the method by which to initiate sampling.

Except for "Trigger," the following parameters are the same as in the Program mode P0- Audio Input/Sampling page. See "0-8c: Sampling Setup" on page 15.

Sampling Setup settings are maintained not separately for each song, but as a single set in Sequencer mode.

Source Bus [L/R, REC1/2...3/4, Audio Input1/2...3/4, S/P DIF L/R, Indiv.1/2...7/8]


Source Direct Solo [Off, On]

Trigger [Sampling START SW, Note On, Threshold, Sequencer START SW]

Specifies how sampling will be initiated.

Sampling START SW: Pressing the SAMPLING REC switch will cause the OASYS to enter sampling-standby mode, and sampling will begin when you press the SAMPLING START/STOP switch.

Note On: Press the SAMPLING REC switch, and then press the SAMPLING START/STOP switch to enter sampling-standby mode. Sampling will begin when you play the keyboard.

 You can also initiate sampling by receiving a MIDI note-on message instead of playing the keyboard.

Threshold: Sampling will begin automatically when the input level exceeds the specified **Level** value. For more information, see "0-8c: Sampling Setup" on page 633.

Sequencer START SW: Press the SAMPLING REC switch and then the SAMPLING START/STOP switch to enter sampling-standby mode. Then press the SEQUENCER START/STOP switch to begin sampling. Use this when you want to resample the song playback.

To stop sampling, press the SAMPLING START/STOP switch once again. Sampling will also end if you keep sampling until the time specified by "Sample Time." For the procedure, see "Trigger" on page 633.

Metronome Precount [Off, 4, 8, 3, 6]

Threshold Level [-63dB...00dB]

When sampling with **Trigger** set to Threshold, this specifies the level at which sampling will begin. This can be set only when **Trigger** is set to Threshold. See step 3 of the **Trigger** Threshold procedure.

Save to [RAM, DISK]

For more information, please see "Save to" on page 17.

Mode (Sample Mode) [L-Mono, R-Mono, Stereo]

For more information, please see "Mode (Sampling Mode)" on page 17.

Sample Time [min sec]

For more information, please see "Sample Time" on page 17.

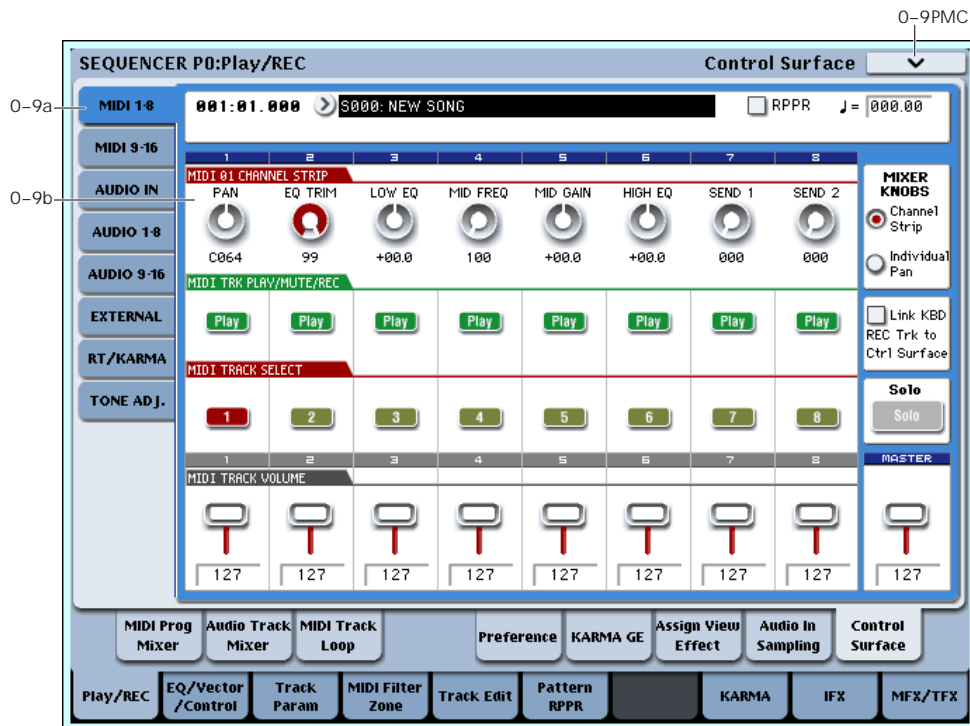
▼ 0-8: Page Menu Commands

The number before each command shows its ENTER + number-key shortcut. For more information on these shortcuts, see "ENTER + 0-9: shortcuts for menu commands" on page 142.

- **0: Memory Status.** For more information, see "Memory Status" on page 582.
- **1: Exclusive Solo.** For more information, see "Exclusive Solo" on page 142.
- **2: Rename Song.** For more information, see "Rename Song" on page 582.
- **3: Delete Song.** For more information, see "Delete Song" on page 582.
- **4: Copy From Song.** For more information, see "Copy From Song" on page 582.
- **5: Load Template Song.** For more information, see "Load Template Song" on page 582.
- **6: Save Template Song.** For more information, see "Save Template Song" on page 583.
- **7: FF/REW Speed.** For more information, see "FF/REW Speed" on page 583.
- **8: Set Location** (for Locate Key.) For more information, see "Set Location (for Locate Key)" on page 583.
- **9: GM Initialize.** For more information, see "GM Initialize" on page 584.
- **10: Copy From Combination.** For more information, see "Copy from Combination" on page 584.
- **11: Copy From Program.** For more information, see "Copy From Program" on page 584.

- 12: **Optimize RAM.** For more information, see “Optimize RAM” on page 143.
- 13: **Select Sample No.** This applies only when **Save to** is set to **RAM**. For more information, see “Select Sample No.” on page 143.
- 13: **Select Directory.** This applies only when **Save to** is set to **Disk**. For more information, see “Select Directory” on page 144.
- 14: **Auto HDR/Sampling Setup.** For more information, see “Auto HDR/Sampling Setup” on page 587.
- 15: **Bounce All Tracks To Disk.** For more information, see “Bounce All Tracks To Disk” on page 593.

0–9: Control Surface



The Control Surface is the set of 9 sliders, 8 knobs, and 16 switches to the left of the LCD display. It looks like a mixer, but it can do other things as well, including editing sounds, controlling KARMA, and sending MIDI messages to external devices.

This page shows you the current values for each of the sliders, knobs, and buttons, along with information about what they are controlling. For instance, you can:

- Adjust the volume and pan for all 16 MIDI Tracks and 16 Audio Tracks
- Control each Track’s EQ settings and Master Effects Send levels
- Modulate sounds and effects using the Real Time Knobs
- Control KARMA, and select KARMA scenes, using the sliders and switches
- Edit sounds using Tone Adjust
- Assign sliders, knobs, and switches to different Tone Adjust parameters
- Select the Keyboard Track and the HDR Audio record track

For more information about the Control Surface, see:

- “Front-panel LEDs for sliders and knobs” on page 19
- “Jump/Catch” on page 19
- “RESET CONTROLS” on page 19

Local Control On/Off and the Control Surface

The Control Surface generates and receives MIDI CCs and System Exclusive messages, so that you can record knob, switch, and slider movements into a sequencer. This means that the Global mode **Local Control** setting is important:

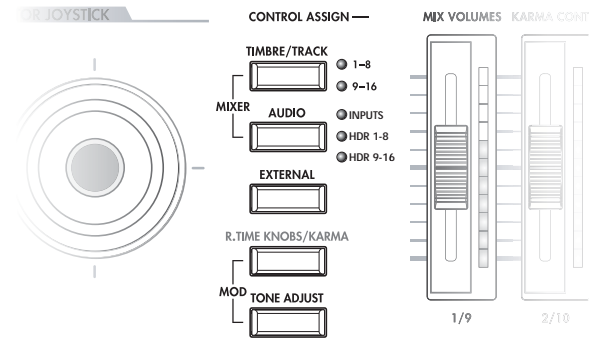
- If **Local Control** is On, the physical Control Surface will work properly as long as MIDI is **not** being looped back into the OASYS.
- If **Local Control** is Off, you **must** loop back MIDI into the OASYS in order for the physical Control Surface to work properly.
- Regardless of the **Local Control** setting, you can always edit Control Surface parameters via the touch-screen.

For more information, see “Local Control and the Control Surface” on page 709.

Control Assign Switches and Tabs

You can switch the Control Surface between its different functions using either the tabs on the left side of the LCD display, or the front-panel Control Assign switches. The tabs and the front-panel switches mirror one another; when you change one of them, the other changes as well.

Control Assign switches



In Sequencer mode, you can select one of six different functions:

TIMBRE/TRACK lets you adjust the volume, pan, EQ, and send levels for each of the 16 Tracks, eight at a time. The LEDs to the right of the switch show whether you're currently editing Tracks 1–8 or 9–16; press the **TIMBRE/TRACK** button to toggle between the two.

If you switch to one of the other Control Assign modes, and then go back to **TIMBRE/TRACK**, it will automatically return to the previously selected group (1–8 or 9–16).

The **AUDIO** button lets you control both the HDR Audio Tracks, and the Audio Inputs. The LEDs to the right of the switch show whether you're currently editing HDR Tracks 1–8, HDR Tracks 9–16, or the Audio Inputs; press the **AUDIO** button repeatedly to step through the three options.

As with **TIMBRE/TRACK** above, the Control Surface remembers your last selection under **AUDIO**. If you switch to one of the other Control Assign modes, and then go back to **AUDIO**, it will automatically return to the previously selected group.

AUDIO HDR 1–8 and HDR 9–16 let you adjust the volume, pan, EQ, and send levels for each of the 16 hard-disk Audio Tracks, eight at a time.

AUDIO INPUTS lets you adjust the volume, pan, and send levels for the analog and S/P DIF audio inputs.

EXTERNAL lets you send MIDI messages to external MIDI devices.

R.TIME KNOBS/KARMA lets you modulate sounds and effects with the knobs, and control **KARMA** with the sliders and switches.

TONE ADJUST lets you edit Programs within the context of the Song, and without making any changes to the original Program data. You also get hands-on access to these edits, using the sliders, knobs, and switches.

You can freely change back and forth between the different functions, without losing any of your edits.

0–9a: Song Select & Tempo

This section duplicates the most important information from the main Play page.

Song [000...127]

This is the current Song.

Tempo [040.00...240.00, EXT]

This is the tempo for the current Song, which applies to **KARMA**, tempo-synced LFOs and Wave Sequences, and so on.

EXT means that the tempo will sync to external MIDI clocks.

040.00...240.00 allow you to set a specific tempo in BPM, with 1/100 BPM accuracy.

0–9b: MIDI Tracks 1–8 and 9–16

These Control Assign settings lets you adjust the volume, pan, EQ, and FX send settings for MIDI Tracks 1–8 and 9–16.

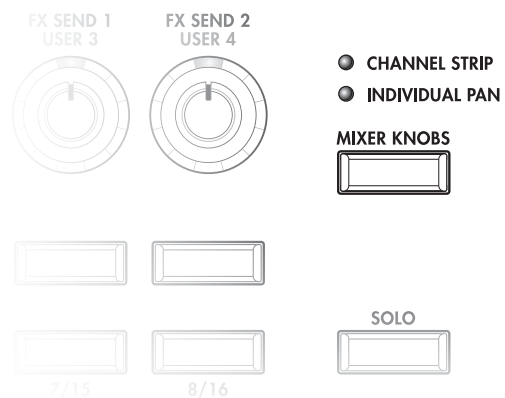
Mixer Knobs [Channel Strip, Individual Pan]

The Mixer Knobs switch is on the front panel, immediately to the right of the knobs, and is also duplicated in the on-screen display. The eight knobs can control two different sets of parameters, depending on the setting of this switch.

Channel Strip: With this setting, the eight knobs will control the Pan, EQ, and FX Send settings for the selected Track. Use the **TIMBRE/TRACK** button to select a group of 8 Tracks (1–8 or 9–16), and then use the **SELECT** buttons to choose the specific Track.

Individual Pan: With this setting, the knobs will control the Pan for the current group of Tracks. Knob 1 controls the pan for Track 1 (or 9), knob 2 controls the pan for Track 2 (or 10), and so on.

Mixer Knobs switch



Knobs 1–8, Channel Strip

When the Mixer Knobs switch is set to Channel Strip, the knobs provide quick access to the Pan, EQ, and FX Send parameters. The Pan and EQ parameters duplicate the similarly-named parameters found on the Song editing pages; changing them here will change them in the editing pages, and vice-versa.

Pan [Random, L001...C064...R127]

This controls the stereo pan of the selected Track. A setting of **L001** places the sound at the far left, **C064** in the center, and **R127** to the far right.


Random is available only via the LCD. (Otherwise, it would be difficult to use the knob to sweep smoothly from left to right.) With the **Random** setting, each note will have a different, random pan position.

Note: With some EXi instruments, such as the CX-3, notes cannot be panned individually. For these EXi, **Random** pan will move all sounding notes to a different pan position at each note-on.

EQ Trim [00...99]

This controls the volume level going into the EQ.

High settings of the Low, Mid, and High Gain controls can cause substantial increases in the overall level. You can compensate for this by turning down the input trim.

 Note: if the EQ page EQ Bypass parameter is turned On, then none of the EQ parameters here will have any effect.

Low EQ [-18...+00.0...+18.0dB]

This controls the gain of the 80Hz Low Shelf EQ, in increments of 0.5dB.

Mid EQ Freq [100Hz...10kHz]

This sets the center frequency for the Mid sweep EQ.

Mid EQ Gain [-18.0...+00.0...+18.0dB]

This controls the gain of the Mid Sweep EQ, in increments of 0.5dB.

High EQ [-18.0...+00.0...+18.0dB]

This controls the gain of the 10kHz High Shelf EQ, in increments of 0.5dB.

Send 1 [000...127]

This controls the send level into FX Send 1. If the Track's **Output Bus** parameter is set to L/R or OFF, it scales the Oscillator send levels. If the **Output Bus** is set to IFX 1-12, it directly controls the post-IFX send levels.

Send 2 [000...127]

This controls the send level into FX Send 2. For more details, see **Send 1**, above.

Knobs 1/9-8/16, Individual Pan

When the Mixer Knobs switch is set to Individual Pan, the knobs will control the Pan for the current group of Tracks. Knob 1 controls the pan for Track 1, knob 2 controls the pan for Track 2, and so on.

These duplicate the Song's Track Pan parameters; changing them here will change them in the editing pages, and vice-versa.

Pan 1/9 [Random, L001...C064...R127]

This controls the stereo pan of either Track 1 or Track 9, depending on whether the **TIMBRE/TRACK** button is set to 1-8 or 9-16.

A setting of **L001** places the sound at the far left, **C064** in the center, and **R127** to the far right.

Random is available only via the LCD. (Otherwise, it would be difficult to use the knob to sweep smoothly from left to right.) With the **Random** setting, the pan position will be different for each note-on.

Note: with some EXi sounds, such as the CX-3, **Random** pan may affect all notes at once.

Pan 2/10-8/16 [Random, L001...C064...R127]

These control the stereo pan of Tracks 2-8 or 10-16, depending on the setting of the **TIMBRE/TRACK** button. For more details, see **Pan 1/9**, above.

Play/Mute switches 1/9-8/16

The top row of switches allow you to turn each of the Tracks on and off.

Play/Mute 1/9 [Off, On]

This controls the play/mute status of either Track 1 or Track 9, depending on whether the **TIMBRE/TRACK** button is set to 1-8 or 9-16.

When this switch is on (LED = on), Track 1 will play. When the switch is off (LED = off), Track 1 will be muted.

Play/Mute 2/10-8/16 [Off, On]

These control the play/mute status of Tracks 2-8 or 10-16, depending on the setting of the **TIMBRE/TRACK** button.

For more details, see **Play/Mute 1/9**, above.

Solo switch and Select switches 1/9-8/16**Solo** [Off, On]

Solo lets you isolate one or more MIDI Tracks, HDR Audio Tracks, or Audio Inputs, so that you hear them by themselves. It does this by temporarily muting all non-soloed Tracks and Inputs.

Solo uses the Select switches. These switches can show and control either which Track is currently selected, or which Tracks are soloed. The main Solo button lets you switch back and forth between the two views.

When the Solo button is **Off** (LED = Off), the Select switches select the current Track; when the Solo button is **On** (LED = On or blinking), the Select switches let you solo one or more Tracks.

When Solo is **On**, and one or more Tracks or Audio Inputs are soloed, the Solo LED will blink on and off to remind you that solo is in use.

NOTE: The main Solo button merely changes the functions of the Select switches. It does not enable or clear the individual solo states.

Clearing all solos

To turn off **Solo** for all MIDI Tracks, Audio Tracks, and Audio Inputs at once:

1. Press and hold the **RESET CONTROLS** button.
2. While holding **RESET CONTROLS**, press the **SOLO** button.

Exclusive Solo menu parameter

The menu's **Exclusive Solo** parameter also affects the way that Solo works. When **Exclusive Solo** is **Off** (unchecked), you can solo multiple Tracks and inputs at once.

When **Exclusive Solo** is **On** (checked), only one MIDI Track, HDR Track, or Audio Input can be soloed at a time. In this mode, pressing a Solo switch automatically disables any previous solos.

On most pages, you can also toggle **Exclusive Solo** by holding **ENTER** and pressing **1** on the numeric keypad.

Select 1/9-8/16 [Off, On]

These buttons either select or solo the Track, depending on the state of the **Solo** switch. For more details, see **Solo**, above.

You can link these Select buttons to the Keyboard Track selection, so that you can switch between playing the different tracks simply by pressing their front-panel buttons. For more information, see "Link KBD/REC Trk to Ctrl Surface," below.

Link KBD/REC Trk to Ctrl Surface [Off, On]

This on-screen check-box links the Select buttons to the Keyboard Track (for MIDI tracks) and the Rec track (for HDR audio tracks).

When the box is checked, and **CONTROL SELECT** is set to **TIMBRE/TRACK**, pressing the Select buttons will change the Keyboard Track, and vice-versa.

Also, when **CONTROL SELECT** is set to **AUDIO HDR 1-8** or **9-16**, pressing the Select buttons will change the audio record track, and vice-versa.

Volume Sliders 1/9-8/16

These sliders adjust the volume level of the Tracks.

Volume 1/9 [000...127]

This controls the volume of either Track 1 or Track 9, depending on whether the **TIMBRE/TRACK** button is set to 1-8 or 9-16.

Volume 2/10-8/16 [000...127]

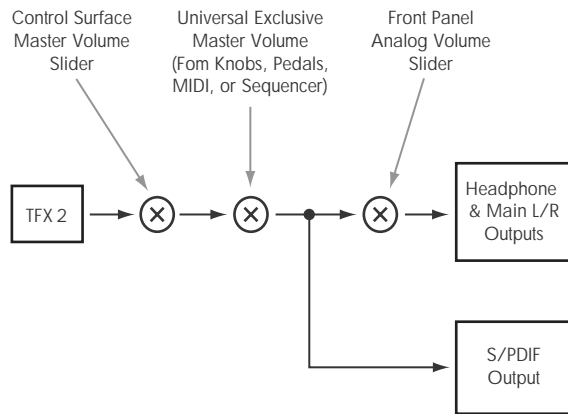
These control the volume of Tracks 2-8 or 10-16, depending on the setting of the **TIMBRE/TRACK** button. For more details, see **Volume 1/9**, above.

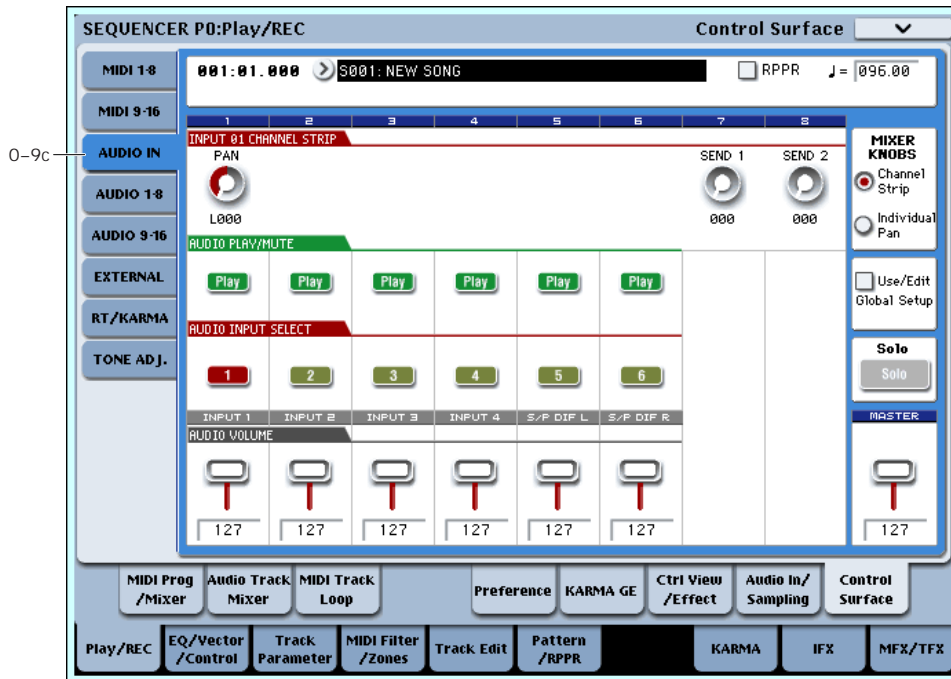
Master Volume Slider

Master Volume [000...127]

This controls the volume of the main stereo outputs, after the Total Effects. It does not affect Individual Outputs 1-8.

Master Volume





0–9c: Audio Inputs

This Control Assign setting lets you adjust the volume, pan, and FX send settings for each of the six audio inputs: Analog 1–4, and S/P DIF left and right.

You can use this page to mix sounds from other sources into the OASYS outputs—as an on-stage submixer, for instance.

Use/Edit Global Setup [Off, On]

Songs can use the single, Global audio input mixer setup, or can instead have their own custom settings.

When **Use/Edit Global Setup** is **On**, the Song uses the Global settings. This is the default, and lets you change freely between different Programs and Song without affecting the audio inputs.

Also, any edits made on this page will affect the Global setting, along with any other Programs, Combis, or Songs which use the Global setting.

On the other hand, it may sometimes be convenient to save a particular mixer setup with an individual Song, to set up special sub-mixer settings or effects processing for particular inputs. In this case, set **Use/Edit Global Setup** to **Off**, and the audio inputs will use the Song’s custom settings.

Mixer Knobs [Channel Strip, Individual Pan]

This switch controls whether the knobs show the pan settings for all 6 inputs at once (Individual Pan), or the pan and FX Send levels for the selected input (Channel Strip). For more information, please see “Mixer Knobs” on page 497.

Knobs 1–8, Channel Strip

When the Mixer Knobs switch is set to Channel Strip, the knobs provide quick access to the selected input’s Pan and FX Send parameters.

Pan [L000...C064...R127]

This controls the stereo pan of the selected input. A setting of **L000** places the sound at the far left, **C064** in the center, and **R127** to the far right.

Send 1 [000...127]

This controls the send level into FX Send 1. If the input’s **Output Bus** parameter is set to L/R or OFF, it scales the programmed send level. If the **Output Bus** is set to IFX 1–12, it directly controls the post-IFX send levels, overwriting any previous setting.

Send 2 [000...127]

This controls the send level into FX Send 2. For more details, see “Send 1,” above.

Knobs 1–6, Individual Pan

When the Mixer Knobs switch is set to Individual Pan, knobs 1–4 control the pan settings for analog inputs 1–4, respectively, and knobs 5–6 control the pan settings for the left and right S/P DIF inputs. Knobs 7 and 8 have no effect.

Audio Input Pan (1–6) [L000...C064...R127]

These control the pan for Analog Inputs 1–4 and S/P DIF Left and Right, respectively. A setting of **L000** places the sound at the far left, **C064** in the center, and **R127** to the far right.

Play/Mute switches 1–6

The top row of switches allow you to mute any or all of the audio inputs.

Play/Mute (1–6) [Off, On]

When this switch is on (LED = on), the input will be enabled. When the switch is off (LED = off), the input will be muted.

Solo switch and Select switches 1–6

Solo [Off, On]

Solo lets you isolate one or more MIDI Tracks, HDR Audio Tracks, or Audio Inputs, so that you hear them by themselves. It does this by temporarily muting all non-soloed Tracks and Inputs.

The Select switches can show and control either which Input is currently selected, or which Inputs are soloed. The main Solo button lets you switch back and forth between the two views.

When the Solo button is **Off** (LED = Off), the Select switches select the current Input; when the Solo button is **On** (LED = On or blinking), the Select switches let you solo one or more Inputs.

When Solo is **On**, and one or more Tracks or Audio Inputs are soloed, the Solo LED will blink on and off to remind you that solo is in use.

NOTE: The main Solo button merely changes the functions of the Select switches. It does not enable or clear the individual solo states.

For more information, see “Clearing all solos” on page 495, and “Exclusive Solo menu parameter” on page 496.

Select (1–6) [Off, On]

This switch either selects or solos the input, depending on the Solo switch setting. For more details, see “Solo,” above.

Volume Sliders 1–6

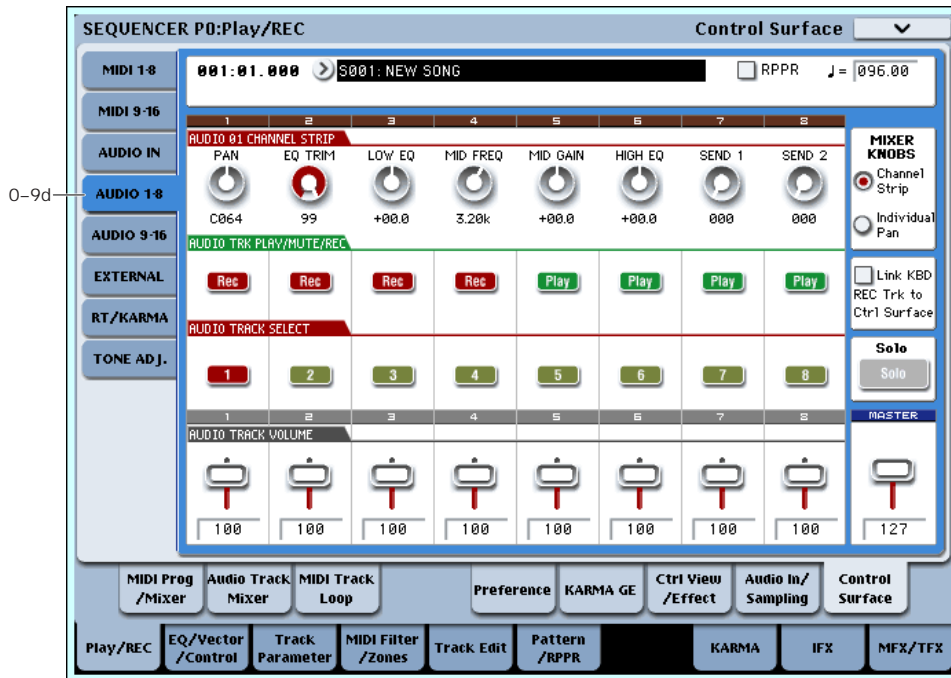
Audio Input Volume (1–6) [000...127]

These sliders adjust the volume levels of the audio inputs.

Master Volume Slider

Master Volume [000...127]

This controls the volume of the main stereo outputs, after the Total Effects. It does not affect Individual Outputs 1–8. For more information, see the diagram “Master Volume” on page 496.

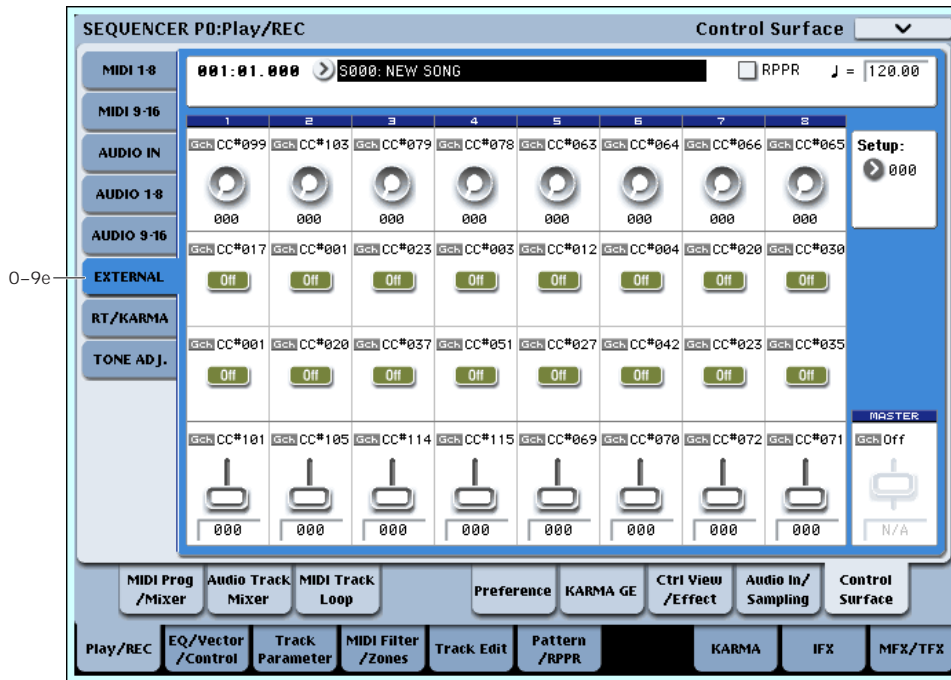


0–9d: Audio HDR 1–8 and HDR 9–16

These Control Assign settings let you control the volume, pan, EQ, and send levels for each of the 16 hard-disk Audio Tracks, eight at a time.

Except for Pan, the audio track mixer functions identically to the MIDI Track mixer, as described under “0–9b: MIDI Tracks 1–8 and 9–16” on page 494.

Pan is slightly different for audio tracks: hard left is L000 (as opposed to L001), and the Random setting is not available.



0-9e: External

This Control Assign setting lets you send MIDI messages to external devices. Each slider, knob, and switch can be assigned to a separate MIDI controller and MIDI channel. The eight drum pads also have separate settings which apply only when Control Assign is set to External.

In Global mode, you can create up to 128 different External Setups. For instance, you might make one setup for controlling several different pieces of MIDI gear on stage, another for controlling a software synthesizer (such as one of Korg's Legacy Collection synths), and so on.

These External Setups are completely separate from the Song. You can think of External mode as being a separate control surface which just happens to share OASYS's sliders, knobs, switches, and drum pads.

When you select an External Setup, it stays selected even when you change Songs, or switch to Program or Combi modes. This makes it easy to select different OASYS sounds without disrupting any external MIDI control, and vice-versa.

Setup [000...127]

This selects the Global setup for the knobs, sliders, switches, and drum pads.

Note: this selection is not stored with the Song.

Knobs 1-8

MIDI Channel (1-8) [01...16, Gch]

This read-only parameter shows the MIDI Channel assigned to the knob. Each can send on a different channel, if desired.

Gch means that the knob will transmit on the Global MIDI Channel, as set in Global mode. This allows you to re-direct any number of sliders, knobs, switches, and pads to a different channel at once, without editing the individual controls.

CC# Assign (1-8) [Off, 000...119]

This read-only parameter shows the MIDI CC sent by the knob.

Value (1-8) [000...127]

This is the current value of the knob's MIDI CC.

Switches 1-16

MIDI Channel (1-16) [01...16, Gch]

This read-only parameter shows the MIDI Channel for the switch. Each can send on a different channel, if desired.

Gch means that the slider will transmit on the Global MIDI Channel, as set in Global mode.

CC# Assign (1-16) [Off, 000...119]

This read-only parameter shows the MIDI CC sent by the switch.

Switch On/Off (1-16) [Off, On]

When the switch is turned on, it sends a value of 127; when it is turned off, it sends a value of 0.

Sliders 1-8 & Master Slider

MIDI Channel (1-8) [01...16, Gch]

This read-only parameter shows the MIDI Channel for the slider. Each can send on a different channel, if desired.

Gch means that the slider will transmit on the Global MIDI Channel, as set in Global mode.

CC# Assign (1-8)

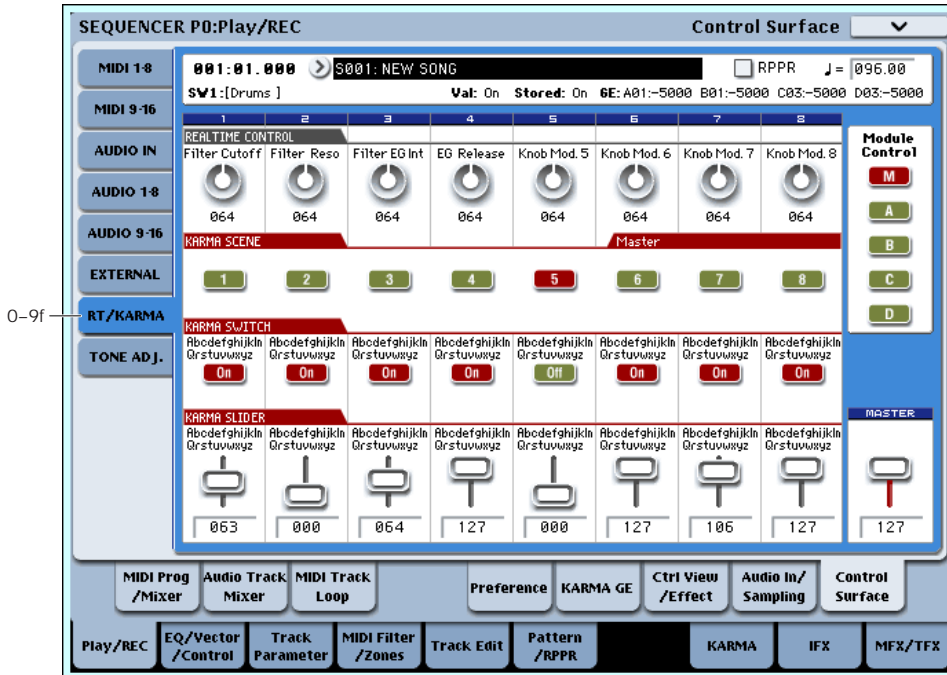
[Off, 000...119]

This read-only parameter shows the MIDI CC sent by the slider.

Value (1-8)

[000...127]

This is the current value of the slider's MIDI CC.



0-9f: RT (Real Time Knobs)/KARMA AMSOURCE

This Control Assign setting lets you modulate Program and Effects parameters with the eight knobs, and control KARMA with the switches and sliders.

Selected parameter information

When you select a KARMA Slider or Switch, this area shows detailed information about its KARMA parameter assignments.

Control [(SW1...8, SL1...8)]

This shows which Switch or Slider is currently selected.

Assignment [Name]

Each KARMA Slider or Switch can control multiple internal parameters simultaneously. The group of parameters can be given a single name, which is shown here.

You can select different names, if desired. For more information, see "7-9: Name/Note Map" on page 125

Module and Parameter [A...D 01...32, P 01...08]

This read-only display shows the KARMA parameter(s) assigned to the Slider or Switch.

A, B, C, and D mean that the slider or switch controls a GE Real-Time Parameter from the corresponding KARMA Module. The following number identifies the specific parameter within the module. For instance, A22 is parameter 22 of Module A.

P means that the switch is controlling a Performance Real-Time Parameter.

You can assign many parameters to a single slider or switch, if desired. Due to space limitations, however, only first four parameters will be shown here. If there are more assignments than can be displayed, you'll see a ">" symbol after the fourth parameter.

To change the parameter assignments, use the KARMA GE RTP and Perf RTP pages. For more information, please see "7-5: GE Real-Time Parameters" on page 113, and "7-6: Perf Real-Time Parameters" on page 116.

Parameter Value [Depends on parameter]

This shows the value of the GE or Performance Real-Time Parameters assigned to the selected Slider or Switch. The range can vary, depending on the individual parameters.

KARMA Module Control

Module Control [M, A, B, C, D]

When used to control KARMA, the Control Surface sliders and switches are five layers deep: one for each Module (A-D), and a Master Layer capable of controlling selected parameters from all of the Modules at once. Each layer has its own Slider, Switch, and Scene settings.

The **Module Control** radio buttons (and the front-panel **MODULE CONTROL** button) let you switch between these five layers.

To select a different layer, just press its on-screen radio button, or use the front-panel **MODULE CONTROL** button to step through each layer in turn. When you do so, all of the KARMA Sliders, Switches and Scenes will update instantly to show their current values and names within the selected layer.

Knobs 1–8

Knobs 1–4 all have dedicated functions which correspond to MIDI CCs. Knobs 5–8 can be assigned to a wide variety of functions, many of which also have corresponding MIDI CCs.

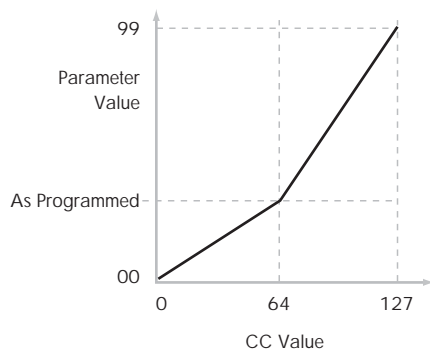
When you move the knob, it will send the corresponding MIDI CC to the current Keyboard Track, and also to all Tracks on the same MIDI Channel as the Keyboard Track. (To edit individual Programs, use Tone Adjust instead.)

Also, when the CC is received via MIDI or generated by KARMA, the knob value will change to match the CC value.

Note that the Knob 1–8 settings of the individual Programs do not apply in Sequencer mode.

Unless otherwise noted, “scaling” means that the parameters are at their programmed values when the controller is at 64, at their minimum when the controller is at 0, and at their maximum when the controller is at 127. For another look at this, see the diagram below.

CC scaling of parameters



Knob 1: CUTOFF (CC#74) [000...127]

This knob scales the cutoff frequencies of Filters A and B, and transmits and receives MIDI CC #74.

Knob 2: RESONANCE (CC#71) [000...127]

This knob scales the resonance of Filters A and B, and transmits and receives MIDI CC #71.

Knob 3: Filter EG Intensity (CC#79) [000...127]

This knob scales the effect of the Filter EG on the cutoff frequencies of Filters A and B. It also transmits and receives MIDI CC#79.

Knob 4: EG Release (CC#72) [000...127]

This knob scales the release time of the Filter and Amp EGs, and transmits and receives MIDI CC#72.

Knobs 5–8 [000...127]

You can set knobs 5–8 to a wide variety of modulation functions, using the Controller Setup page (P1–8).

Many of the functions scale a particular set of Program parameters. All of the settings also correspond to MIDI messages—usually CCs.

KARMA SCENES 1-8

A KARMA Scene includes the settings for all of the KARMA Sliders and Switches. Each Song can contain up to eight Scenes.

To select a Scene, just press its switch - you’ll see all of the KARMA Sliders and Switches update instantly to their new values.

KARMA SWITCHES 1-8

These switches control KARMA Performance or GE (Generated Effect) Real-Time Parameters, as assigned on the KARMA Perf RTP and GE RTP pages.

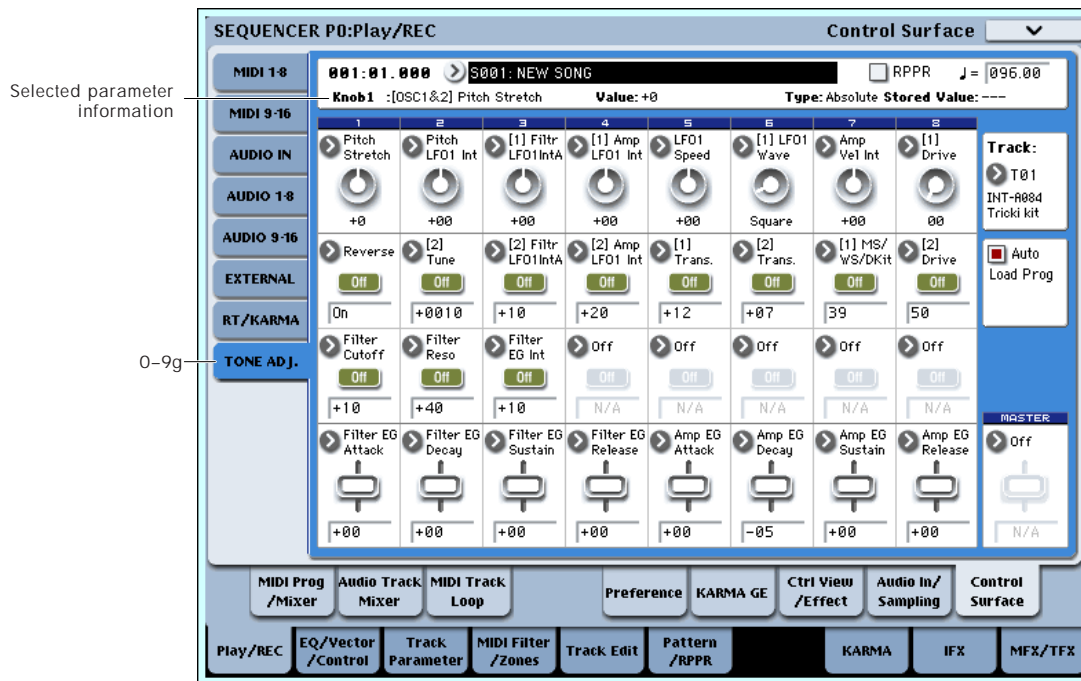
Karma Sliders 1-8

These sliders control KARMA Performance or GE Real-Time Parameters, as assigned on the KARMA Perf RTP and GE RTP pages.

Master Volume Slider

Master Volume [000...127]

This controls the volume of the main stereo outputs, after the Total Effects. It does not affect Individual Outputs 1–8. For more information, see the diagram “Master Volume” on page 496.



0-9g: Tone Adjust

Tone Adjust provides two important features simultaneously:

- It lets you use all of the sliders, knobs, and switches to control Program parameters - like the knobs on an analog synth, or the drawbars on an organ.
- It lets you modify Programs for use within a specific Song, including everything from subtle tweaks (like changing LFO speeds) to dramatic changes (such as selecting a different Multisample). Any changes that you make are stored with the Song, and do not alter the original Program.

Each of the sixteen Tracks has its own set of tone adjust parameters, but only one Track is shown at a time.

For more information, see:

- “Tone Adjust and MIDI SysEx” on page 27
- “Interaction between Tone Adjust and MIDI CCs” on page 27
- “Absolute, Relative, and Meta parameters” on page 27

Saving Tone Adjust Edits

In Program mode, when you make edits via Tone Adjust and then save the results, the Program data is changed—just as if you’d edited the internal parameters directly. For more information, see “Saving Tone Adjust Edits” on page 27.

In Sequence mode, however, all Tone Adjust edits are stored within the Song; the Program itself is not changed. This lets you alter the way that a Program sounds in one specific Song without affecting the way that it sounds in Program mode, or in any other Combis or Songs.

Track select

Track

[1...16]

This selects the Track whose Tone Adjust parameters appear on the screen and the Control Surface. You can switch back and forth between the different Timbres as much as you like, without losing your edits.

This parameter is the same as the selected Track in TIMBRE/TRACK mode; changing one will also change the other.

You can use a shortcut to change the current Track directly from the Control Surface, without leaving Tone Adjust mode:

1. **Press and hold the TONE ADJUST button.**
2. **While holding TONE ADJUST, press a PLAY/MUTE or SELECT button to select a Track.**

The PLAY/MUTE buttons select Tracks 1–8, and the SELECT buttons select Tracks 9–16.

3. **Release the TONE ADJUST button.**

The Control Surface and screen will change to show the Tone Adjust parameters for the newly selected Track.

Auto Load PRG

[Off, On]

When you first load a Program into a Track, this parameter determines whether or not the Program’s Tone Adjust settings will be loaded as well.

These settings include the parameters assigned to each slider, knob, and switch, along with the on/off state of any Switches assigned to Absolute parameters.

Note that any edits you’ve made using Tone Adjust in Program mode will already have been stored into the Program’s parameters. This means that the Program will still sound the same, whether or not you load the Tone Adjust settings.

Once the Program has been loaded, you can change any or all of the Tone Adjust settings as desired, including both assignments and values. All such edits are stored in the Song, without affecting the original Program.

If **Auto Load PRG** is **On**, Tone Adjust settings will be automatically loaded along with the Program.

If **Auto Load PRG** is **Off**, then the relationship between the types of the old and new Programs will determine what happens, as shown in the table below:

If the old Program is...	And the new Program is...	Then Tone Adjust parameters and values are...
An HD-1 Program	An HD-1 Program	kept the same
An HD-1 Program	An EXi Program	loaded from the new Program
Any EXi Program	An HD-1 Program	loaded from the new Program
An EXi Program	An EXi Program with the same EXi assigned to the same slots as the previous Program	kept the same
An EXi Program	An EXi Program which does not use the same EXi as the previous Program	loaded from the new Program

Selected parameter information

This status line shows detailed, read-only information about the currently selected Tone Adjust parameter.

(Control) [Knob1...8, SW1...16, Slider1...8, Slider M]

This is the physical controller assigned to the Tone Adjust parameter. **Slider M** is the Master Slider.

(Assignment) [Full Parameter Name]

This shows the full name of the parameter assigned to the controller. You can change this using the "Assign" parameter, below.

Value [Current Parameter Value]

This shows the current value of the parameter. The range of values will vary depending on the parameter assigned to the control.

Type [Relative, Absolute, Meta]

This shows the type of the parameter, which relates to how edits to the parameter are saved. For more information, see "Absolute, Relative, and Meta parameters" on page 27.

Stored Value [Original Parameter Value]

This shows the original value of the parameter, before the effects of Tone Adjust. It applies only to Tone Adjust parameters which control a single Program parameter.

If you un-assign a parameter from a control, it will revert to this value.

Knobs 1–8

Assign [List of Tone Adjust assignments]

This lets you assign a Tone Adjust parameter to the knob.

The first group of parameters are the Common set, which are supported by most Program types. For a full list, see "Common Tone Adjust Parameters" on page 399.

After the Common parameters, the items in the list will vary depending on the Program type. For more information, please see:

"HD-1 Tone Adjust Parameters," on page 30.

"AL-1: Tone Adjust," on page 214.

"CX-3: Tone Adjust," on page 236.

"STR-1: Tone Adjust" on page 282.

"MS-20EX Tone Adjust parameters" on page 309

"PolysixEX Tone Adjust parameters" on page 325.

Other EXi instruments will have their own set of parameters, as described in their manuals.

Assignments are exclusive

Each controller can be assigned to only one parameter, and each parameter can be assigned to only one controller.

To swap a parameter from one control to another, you'll need to first un-assign it from the old control, and then assign it to the new control.

Value [Depends on parameter]

This shows the current value of the parameter. The range of values will vary depending on the parameter assigned to the control.

Switches 1–16

Tone Adjust switches act a little differently than knobs and sliders.

When a switch is assigned to a **Relative** parameter, or an **Absolute** parameter with more than two states:

Switch On = **On Value** (see below)

Switch Off = the Program's stored value

When a switch is assigned to a two-state **Absolute** parameter, such as **Hold**, the switch status directly reflects the parameter value:

Switch On = **On**

Switch Off = **Off**

Assign [List of Tone Adjust assignments]

This lets you assign a Tone Adjust parameter to the switch. For more information, see "Assign," above.

On Value [Depends on parameter]

The parameter is set to this value when the switch is On.

When the switch is assigned to a two-state **Absolute** parameter, such as **Hold**, this will always be the same as the **Switch Status** (see below).

Switch Status [Off, On]

This simply shows whether the switch is On or Off. The status is also shown by the LEDs in the physical buttons.

Sliders 1–8 and Master Slider

These work identically to Knobs 1–8, as described above.

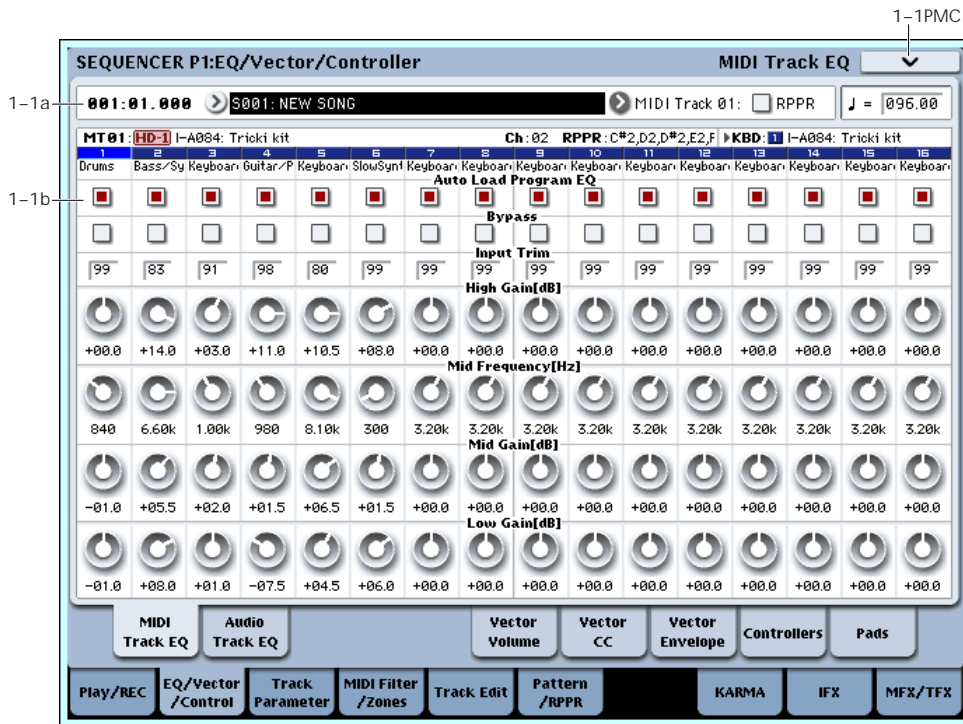
▼ 0–9: Page Menu Commands

The number before each command shows its ENTER + number-key shortcut. For more information on these shortcuts, see “ENTER + 0-9: shortcuts for menu commands” on page 142.

- 0: **Memory Status**. For more information, see “Memory Status” on page 582.
- 1: **Exclusive Solo**. For more information, see “Exclusive Solo” on page 142.
- 2: **Rename Song**. For more information, see “Rename Song” on page 582.
- 3: **Delete Song**. For more information, see “Delete Song” on page 582.
- 4: **Copy From Song**. For more information, see “Copy From Song” on page 582.
- 5: **Load Template Song**. For more information, see “Load Template Song” on page 582.
- 6: **Save Template Song**. For more information, see “Save Template Song” on page 583.
- 7: **FF/REW Speed**. For more information, see “FF/REW Speed” on page 583.
- 8: **Set Location** (for Locate Key.) For more information, see “Set Location (for Locate Key)” on page 583.
- 9: **GM Initialize**. For more information, see “GM Initialize” on page 584.
- 10: **Copy From Combination**. For more information, see “Copy from Combination” on page 584.
- 11: **Copy From Program**. For more information, see “Copy From Program” on page 584.
- 12: **Copy Tone Adjust**. This is available only when **Control Assign** is set to **TONE ADJUST**. For more information, see “Copy Tone Adjust” on page 463.
- 13: **Reset Tone Adjust**. This is available only when **Control Assign** is set to **TONE ADJUST**. For more information, see “Reset Tone Adjust” on page 463.
- 12: **Copy Scene**. This is available only when **Control Assign** is set to **RT KNOBS/KARMA**. For more information, see “Copy Scene” on page 151.
- 13: **Swap Scene**. This is available only when **Control Assign** is set to **RT KNOBS/KARMA**. For more information, see “Swap Scene” on page 151.

Sequencer P1: EQ/Vector/Controller

1-1: MIDI Track EQ



Each Track has a dedicated three-band EQ, with sweepable mid band. This page lets you view and adjust the settings for all 16 MIDI Tracks at once.

1-1a: Location, Song/Track Select

Location [001:01.000...999:16.191]
 Song Select [000...199]
 Track Select [MIDI Track01...MIDI Track16, Master Track, Audio Track01...Audio Track16]
 RPPR [Off, On]
 ♪ (Tempo) [040.00...240.00, EXT]

For more information, please see "0-1a: Location, Song/Track Select" on page 471.

1-1b: 3 Band Parametric EQ

Select Track Info — MT01: HD-1 I-A084: Tricky kit
 Track Number — 1 2 3 4
 Track Category — Drums Bass/Sy Keyboard Guitar/P

Selected Track Info

This page displays information about the track that's selected for editing. If you've selected a MIDI track, this shows the bank type, T: MIDI track number/program bank/number/name, Ch: MIDI channel number, RPPR (Assign): the key number that

starts the RPPR assigned to the track, and KBD: the bank/number/name of the program that will sound when you play the keyboard.

If you've selected an audio track, this shows the AT: audio track number/region number and name of the first audio event, [STEREO]: Stereo Pair on/off status, and KBD: the bank/number/name of the program that will sound when you play the keyboard.

RPPR (Assign) will not show all of the RPPR assignments if there are many of them. You can use the P5- Pattern Edit page to see all of the RPPR assignments.

Track Number

This indicates the MIDI track number. The various parameters below each track number make settings for the corresponding track.

Track Category [00...17]

This shows the abbreviated category name of the Program assigned to the Track.

Track 01 (Track Number)

Auto Load Prog EQ [Off, On]

When you first load a Program into a Track, this parameter determines whether or not the Program's EQ settings will be loaded as well.

Once the Program has been loaded, you can change any or all of the EQ settings as desired. All such edits are stored in the Combination, without affecting the original Program.

Regardless of this setting, subsequent edits to the Program's EQ in Program mode will not affect the Combination.

On: the Program's EQ settings will be loaded automatically along with the Program. This is the default setting.

Off: the Program's EQ settings won't be loaded. Use this if you've set up the EQ in a specific way, and then want it to stay unchanged while you try out different Programs.

Bypass [Off, On]

If this is **On (checked)**, all of the EQ will be disabled, including "Input Trim." Bypass can be convenient for comparing the results of the EQ with the original signal.

Input Trim [00...99]

This controls the volume level going into the EQ. Note that this parameter uses a linear scale; 50 is equivalent to -6dB, 25 is the same as -12dB, and so on.

High settings of the Low, Mid, and High Gain controls can cause substantial increases in the overall level. You can compensate for this by turning down the input trim.

High Gain [-18.0...+18.0dB]

This controls the gain of the 10kHz High Shelf EQ, in increments of 0.5dB.

Mid Frequency [100Hz...10.00kHz]

This sets the center frequency for the Mid sweep EQ.

Mid Gain [-18.0...+18.0dB]

This controls the gain of the Mid Sweep EQ, in increments of 0.5dB.

Low Gain [-18.0...+18.0dB]

This controls the gain of the 80Hz Low Shelf EQ, in increments of 0.5dB.

MIDI Track EQ and the control surface

You can use the Control Surface to adjust almost all of the Track EQ parameters (except for **Bypass**). To do so:

1. Press the **CONTROL ASSIGN MIXER TIMBRE/TRACK** switch to select either Tracks 1-8 or 9-16.
2. Use the **MIX SELECT 1/9-8/16** switches to select the Track you want to control.
3. Press the **MIXER KNOBS** switch to select **CHANNEL STRIP**.
4. Use the **MIX CHANNEL STRIP** knobs 2-6 to adjust the **EQ TRIM**, **LOW EQ gain**, **MID EQ frequency and gain**, and **HIGH EQ gain**, as desired.

Track 02...16 (Track Number)

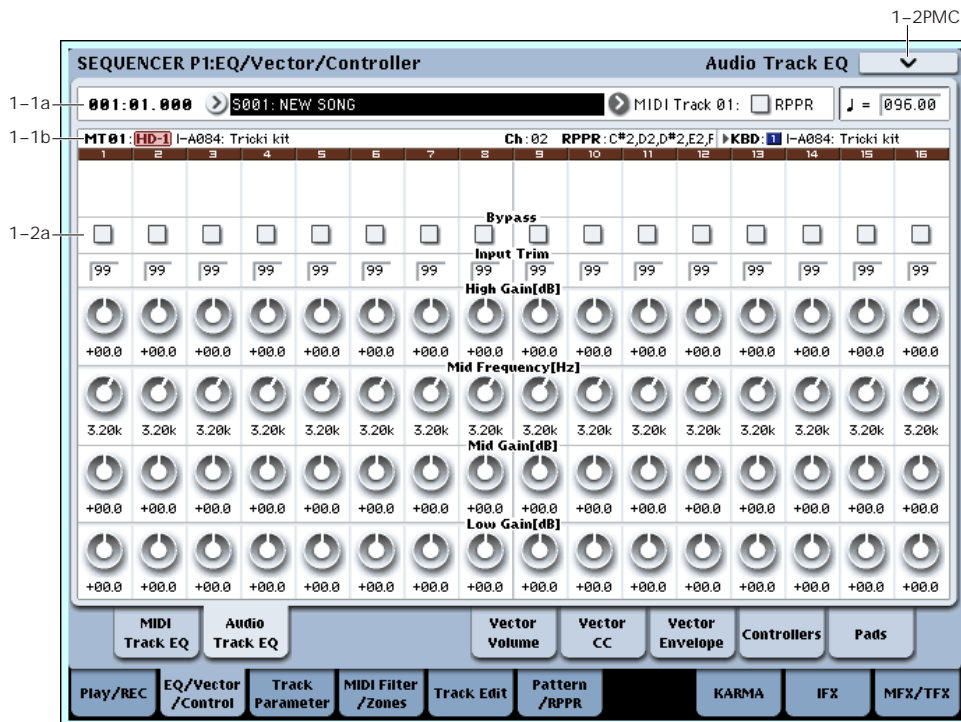
These parameters adjust the three-band EQ (with sweepable mid range) for MIDI tracks 2 through 16. They are the same as for track 1. See "Track 01":.

▼ 1-1: Page Menu Commands

The number before each command shows its ENTER + number-key shortcut. For more information on these shortcuts, see "ENTER + 0-9: shortcuts for menu commands" on page 142.

- 0: **Memory Status**. For more information, see "Memory Status" on page 582.
- 1: **Exclusive Solo**. For more information, see "Exclusive Solo" on page 142.
- 2: **Rename Song**. For more information, see "Rename Song" on page 582.
- 3: **Delete Song**. For more information, see "Delete Song" on page 582.
- 4: **Copy From Song**. For more information, see "Copy From Song" on page 582.
- 5: **Load Template Song**. For more information, see "Load Template Song" on page 582.
- 6: **Save Template Song**. For more information, see "Save Template Song" on page 583.
- 7: **FF/REW Speed**. For more information, see "FF/REW Speed" on page 583.
- 8: **Set Location** (for Locate Key.) For more information, see "Set Location (for Locate Key)" on page 583.
- 9: **GM Initialize**. For more information, see "GM Initialize" on page 584.
- 10: **Copy From Combination**. For more information, see "Copy from Combination" on page 584.
- 11: **Copy From Program**. For more information, see "Copy From Program" on page 584.
- 12: **Show EQ Graphic**. For more information, see "Show EQ Graphic" on page 463.

1-2: Audio Track EQ



Here you can adjust the three-band EQ (with sweepable mid range) for audio track.

1-2a: 3 Band Parametric EQ

Track 01... 16 (Track Number)

STEREO

This is shown if "Stereo Pair" is on.

Bypass	[Off, On]
Input Trim	[00...99]
High Gain	[-18.0...+18.0dB]
Mid Frequency	[100Hz...10.00kHz]
Mid Gain	[-18.0...+18.0dB]
Low Gain	[-18.0...+18.0dB]

Here you can adjust the mid-sweepable three-band EQ for audio tracks 1-16. For more information, please see "1-1b: 3 Band Parametric EQ" on page 505.

Recording the Audio Track EQ

The "Bypass," "Input Trim," "High Gain," "Mid Frequency," "Mid Gain," and "Low Gain" settings you make here are used when you play back or record from the beginning of the song. If settings other than "Bypass" are modified during recording, the changes are recorded to each audio track as automation event data, and these changes will be reproduced during playback.

You can also modify the settings during playback. However if you've recorded EQ data, the settings will change according to the recorded data.

Audio Track EQ and the control surface

EQ parameters other than "Bypass" can be edited not only from within the screen, but also using the control surface. You can also make this setting from the front panel mixer section or from the P0- Control Surface page of the LCD. The procedure given below describes how to make these settings from the front panel.

1. Press the CONTROL ASSIGN MIXER AUDIO switch to select either 1-8 or 9-16.
2. Press the MIXER KNOBS switch to select CHANNEL STRIP.
3. Use the MIX SELECT 1/9-8/16 switches to select the track you want to control.
4. Use the MIX CHANNEL STRIP 2-6 knobs to adjust "EQ TRIM," "LOW GAIN," "MID FREQ," "MID GAIN," and "HIGH EQ."

⚠ For tracks that you've specified as a stereo pair, the EQ of the odd-numbered track will control both tracks. Editing the EQ of the even-numbered track will not control the sound.

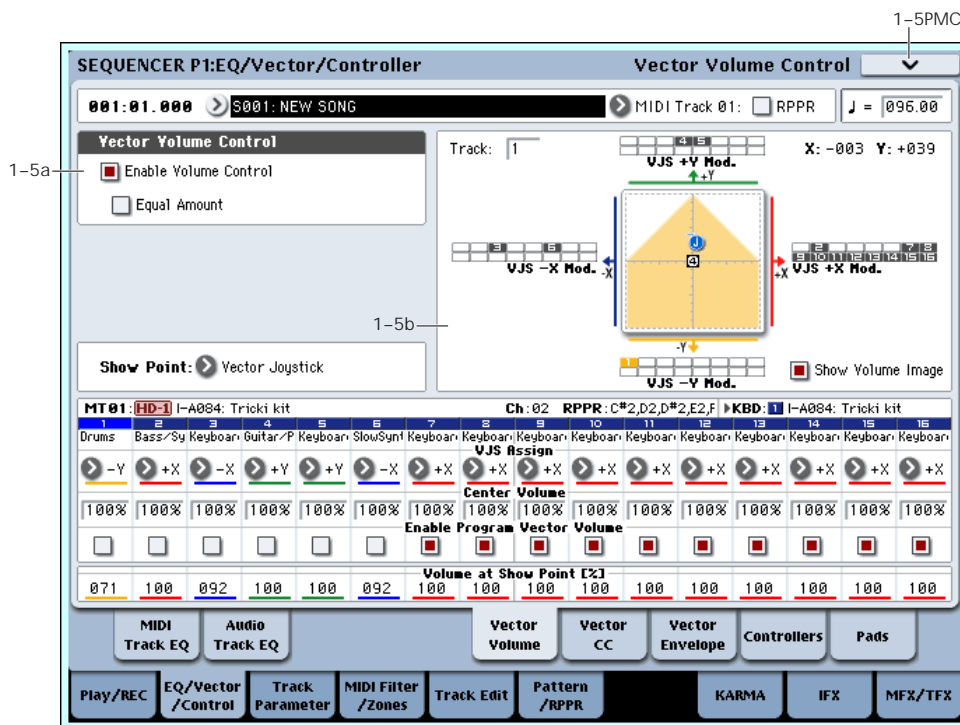
▼ 1-2: Page Menu Commands

The number before each command shows its ENTER + number-key shortcut. For more information on these shortcuts, see "ENTER + 0-9: shortcuts for menu commands" on page 142.

- 0: **Memory Status**. For more information, see "Memory Status" on page 582.
- 1: **Exclusive Solo**. For more information, see "Exclusive Solo" on page 142.
- 2: **Rename Song**. For more information, see "Rename Song" on page 582.

- 3: **Delete Song.** For more information, see “Delete Song” on page 582.
- 4: **Copy From Song.** For more information, see “Copy From Song” on page 582.
- 5: **Load Template Song.** For more information, see “Load Template Song” on page 582.
- 6: **Save Template Song.** For more information, see “Save Template Song” on page 583.
- 7: **FF/REW Speed.** For more information, see “FF/REW Speed” on page 583
- 8: **Set Location (for Locate Key.)** For more information, see “Set Location (for Locate Key)” on page 583.
- 9: **GM Initialize.** For more information, see “GM Initialize” on page 584.
- 10: **Copy From Combination.** For more information, see “Copy from Combination” on page 584.
- 11: **Copy From Program.** For more information, see “Copy From Program” on page 584.
- 12: **Show EQ Graphic.** For more information, see “Show EQ Graphic” on page 463.
- 13: **Stereo Pair.** For more information, see “Stereo Pair” on page 585.

1–5: Vector Volume Control



Vector Synthesis lets you control Track volumes and Program & Effects parameters by moving the Vector Joystick, by using the programmable Vector Envelope, or by the combination of the two.

For more background information on Vector Synthesis, please see “What does Vector mean?” on page 39, and “Vector Joystick and Vector Envelope” on page 39.

Program and Song Vectors work together

In Sequencer mode, each Track’s Program still has its own Vector EG, which controls volume and CCs as it did in Program mode. You can disable the Program Vector Volume and CC control separately for each Track, if desired.

There is also a separate Song-wide Vector EG, with its own Vector Volume and CC control settings. As with the Program Vector, you can disable the Song Volume and CC control separately for each Track. Note that the Song Vector CCs affect only Tracks and Effects on the Global MIDI Channel.

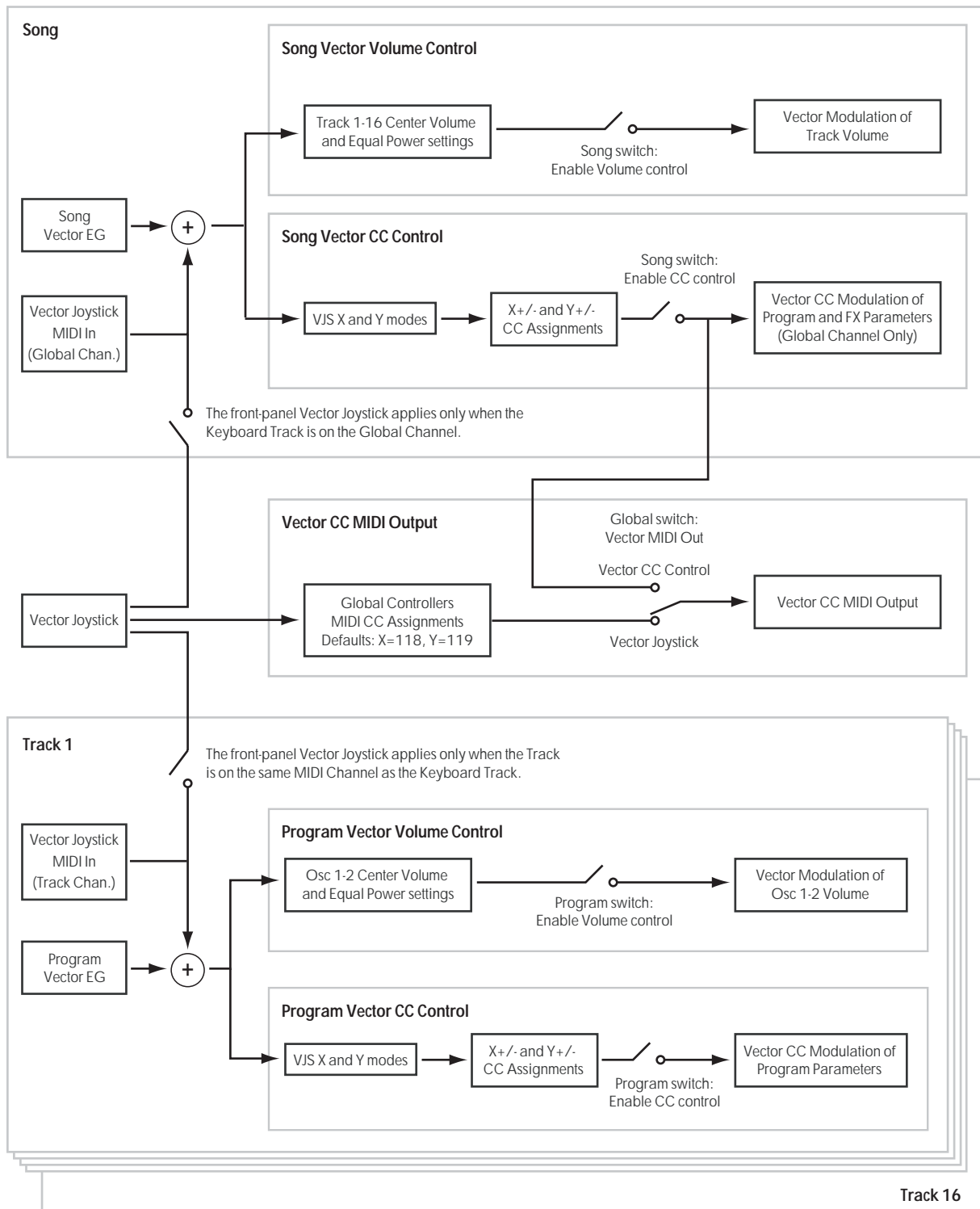
How Sequencer mode Vector Volume works

In Program mode, Vector Volume fades between the two Oscillators. Oscillator 1 is always at maximum volume when the Vector position is all the way to the left (–X), and Oscillator 2 is always at maximum when the Vector Position is all the way to the right (+X).

In Sequencer mode, on the other hand, the Vector can fade between any or all of the 16 Tracks. You can assign each of the Tracks to be controlled by any of the four Vector axes (+X, –X, +Y, –Y), or to not be controlled at all.

This lets you set up complex transitions between different Programs, including between HD-1 and different EXi instruments.

Vector Synthesis system, Sequencer mode



1-5a: Vector Volume Control

Vector Volume Control lets you adjust the relative volumes of the 16 Tracks by moving the Vector Joystick (or the Vector Envelope) from left to right on the X axis, and up and down on the Y axis.

The **Equal Amount** check-box makes the Vector create a smooth fade between the Tracks, while the individual Track **Center Volume** parameters allow you to create more complex fade shapes.

Enable Volume Control

[Off, On]

When this box is checked, the Vector position will control the volumes of all Tracks whose **VJS Assign** parameter is not set to **Off**.

When this box is not checked, the Vector position will not directly affect volume. However, it's still possible for the Vector to control volume via Vector CCs and AMS, depending on the individual Program's parameter settings.

Equal Amount [Off, On]

This applies only when **Enable Volume Control** is On.

When **Equal Amount** is On, the Vector will fade between all four Vector axes while maintaining a total amount of 100%. This provides a smooth fade between the different sounds, and is the type of volume control used by classic vector synths.

Note that this will work best when the Programs assigned to each of the four axes have equivalent volumes. For instance, you might create a Song with four Programs, each sounding at the same volume and assigned to a different axis. You could then add a fifth Program, assign it to one of the axes, and then reduce the volumes of both Programs on that axis by 50%—so that their combined volume is the same as any one of the other Programs.

Also, when this is checked, the **Center Volume** parameters will be grayed out, since **Equal Amount** sets them automatically.

When **Equal Amount** is Off, the individual Track **Center Volume** parameters determine the way in which Vector position affects volume.

Note: For an interesting variation on this effect, turn **Equal Amount** Off, and instead set all of the Track **Center Volumes** to 50%. The Tracks will still fade together smoothly, but with a more gentle effect towards the extremes of the Vector axes.

1-5b: Vector Graphic

Vector Graphic

This shows a diagram of the vector space, including the five points of the Vector EG (labeled 0-4) and the current position of the Vector Joystick (labeled J).

The transitions between the EG's points are shown by black lines, and the loop transition is shown by a gray line.

Show Volume Image [Off, On]

The vector graphic includes an image representing the Vector Volume Control settings for the current Track (see **Track Select**, below). You can use the **Show Volume Image** check-box to toggle this part of the graphic on and off.

Track Select [01...16]

This selects the Track whose volume image will be shown.

Show Point [VJS, Vector EG Point 0...4]

You can view the volume and CC values for the current position of the Vector Joystick, or for any of the EG's five points. This selects the point whose values will be shown.

Track Volume & CC Display

This read-only display shows the volume and CC values for the current Vector point, as selected by the Show Point parameter, above.

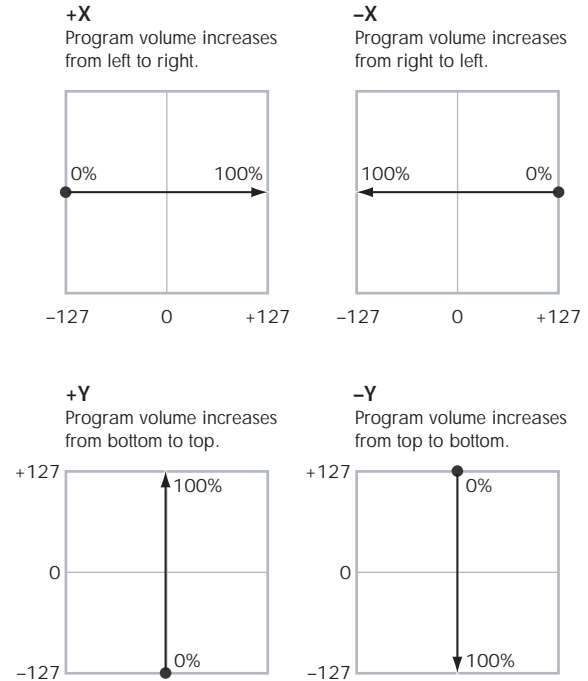
Track 01

VJS Assign [Off, +X, -X, +Y, -Y]

This assigns an axis of the Vector to control the Track's volume. See the diagram "VJS Assign and Program Volume," below, for more details.

Off means that the Vector position will not affect the Track's volume.

VJS Assign and Program Volume



Center Volume [0, 25, 50, 75, 100%]

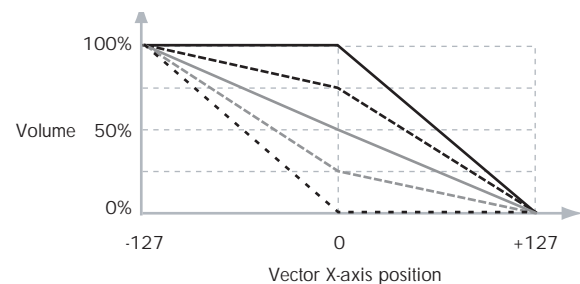
This sets the volume of Track 1 at the center point. It applies only when **Equal Amount**, above, is set to **Off**.

The volumes at the extreme ends of the axis are fixed, depending on the setting of the **VJS Assign** parameter.

For instance, if **VJS Assign** is set to **-X**, the Track will always be at 100% volume on the left side, and 0% (silent) on the right side.

This parameter applies only to the Song Vector Volume control, and does not change the Program's individual Vector Volume settings.

Track Center Volume, VJS Assign = -X



- Center Volume Values:
- 100
 - - - - - 75
 - 50
 - - - - - 25
 - 0

Enable Program Vector Volume [Off, On]

When this is turned **On**, the Program's Vector Volume control will function as it does in Program mode, crossfading between Oscillators 1 and 2. The crossfade will be controlled by the combination of the Program's Vector EG and the Vector Joystick, and is not affected by the Song's Vector EG.

When this is turned **Off**, the Program's Vector Volume control will be disabled.

Tracks 02-16

The parameters for Tracks 2-16 are identical to those for Track 01, as described above.

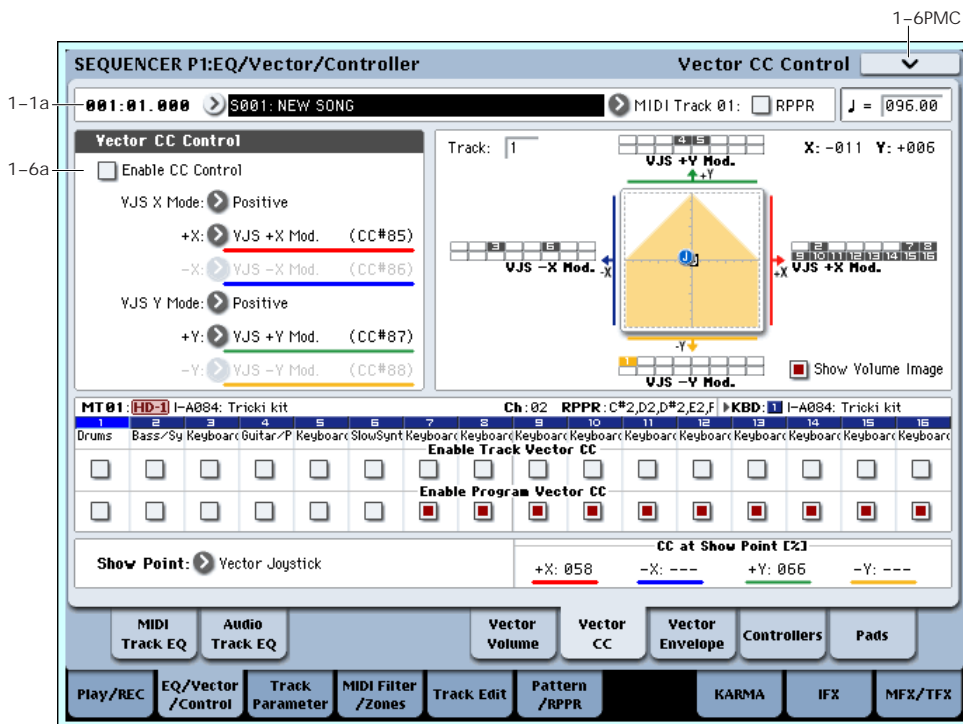
▼ 1-5: Page Menu Commands

The number before each command shows its ENTER + number-key shortcut. For more information on these shortcuts, see "ENTER + 0-9: shortcuts for menu commands" on page 142.

- 0: **Memory Status**. For more information, see "Memory Status" on page 582.
- 1: **Exclusive Solo**. For more information, see "Exclusive Solo" on page 142.

- 2: **Rename Song**. For more information, see "Rename Song" on page 582.
- 3: **Delete Song**. For more information, see "Delete Song" on page 582.
- 4: **Copy From Song**. For more information, see "Copy From Song" on page 582.
- 5: **Load Template Song**. For more information, see "Load Template Song" on page 582.
- 6: **Save Template Song**. For more information, see "Save Template Song" on page 583.
- 7: **FF/REW Speed**. For more information, see "FF/REW Speed" on page 583.
- 8: **Set Location (for Locate Key)**. For more information, see "Set Location (for Locate Key)" on page 583.
- 9: **GM Initialize**. For more information, see "GM Initialize" on page 584.
- 10: **Copy From Combination**. For more information, see "Copy from Combination" on page 584.
- 11: **Copy From Program**. For more information, see "Copy From Program" on page 584.

1-6: Vector CC Control



1-6a: Vector CC Control

Vector CC Control lets you use the combination of the Vector Joystick and the Vector EG to kit control the Song's Effects.

Each of the four directions of the Vector can send a different MIDI CC, including left (-X), right (+X), up (+Y), and down (-Y). You can choose between several different patterns combining these four directions by using the VJS X Mode and VJS Y Mode parameters.

The Vector CCs are also sent to all Global Channel Tracks. These may modulate Program parameters, like any other MIDI CCs, depending on the settings within each individual Program.

Finally, you can optionally send these CCs out to external MIDI instruments. A global parameter allows you to enable or disable this MIDI output; by default, it is disabled.

Program and Song Vectors work together

In Sequencer mode, each Track's Program still has its own Vector EG, which controls volume and CCs as it did in Program mode. You can disable the Program's Vector Volume and CC control separately for each Track, if desired.

Program Vector CCs affect only their own Program, even if other Tracks are set to the same MIDI channel.

There is also a single, separate Vector EG for the entire Song, with its own Vector Volume and CC control settings. Song Vector CCs affect all Tracks set to the Global channel. As with the Program Vector, you can disable the Song Volume and CC control separately for each Track.

Vector and MIDI

The Vector features interact with MIDI in two different ways: through the Vector Joystick, and through the Vector CC Control.

The **Vector Joystick** sends and receives two MIDI controllers: one for the X axis, and the other for the Y axis. In Global mode, you can assign these to any MIDI CC numbers you like. The defaults are CC#118 for the X axis, and CC#119 for the Y axis.

The Vector Joystick and its CCs *control* the Vector position, in conjunction with the Vector EG.

The **Vector CC Control**, on the other hand, is *generated by* the Vector position. Normally, this will only affect internal sounds and effects. If you like, however, you can also enable a Global parameter to send these generated CCs to external MIDI devices.

Note that, in Sequencer mode, only the Song's Vector CCs can be sent to external MIDI instruments; the individual Program's vector CCs are only used internally.

Enable CC Control [Off, On]

When this box is checked, the Vector position will send the CCs assigned to +X, -X, +Y, and -Y, as set below. Note that the Song Vector CCs affect only Tracks and Effects on the Global MIDI Channel.

When this box is not checked, the Vector position will not affect these CCs. However, the joystick will still send and receive its dedicated MIDI CCs, just like other physical controllers. See "Vector and MIDI," above, for more information.

This parameter affects only the Song Vector CCs. Even if this is turned **Off**, the individual Programs' Vector CCs will still function normally.

VJS X Mode [Positive, Negative, Xfade, Split]

You can set up the Vector to send out CCs in several different patterns, as shown in the graphic below. This controls the pattern for the X axis.

Note that this setting affects only CC Control; it has no effect on Volume Control. Also, it applies only to the Song's Vector CCs, and has no effect on the individual Program Vector CCs.

Positive sends out only +X, starting at 0 at the far left, and increasing to 127 at the far right. -X is disabled in this mode.

Negative sends out only -X, starting at 0 at the far right, and increasing to 127 at the far left. In this mode, +X is grayed out.

Xfade sends out both +X and -X, overlapping throughout the X axis. As one increases, the other decreases.

Split sends out both +X and -X, with a split in the center. +X is sent when the point moves to the right of the center, and -X is sent when the point moves to the left of center.

+X [Off...MIDI CC#119]

This assigns the controller sent by the +X vector. You can use this as an AMS source to control Program parameters, or as a Dmod source to control Effects parameters. It will be grayed out if the VJS X Mode, above, is set to Negative.

In addition to the standard list of MIDI controllers, you can also assign the +X vector to duplicate the function of several front-panel controllers, including JS X, JS+X, JS-X, Knobs 5-8, and SW 1-2.

For instance, if you assign +X to Knob 6, the vector's +X will use the controller assigned to Knob 6 on the Controller Assign page.

Finally, you can also assign +X to control the Master Volume.

-X [Off...MIDI CC#119]

This assigns the controller sent by the -X vector. It will be grayed out if the VJS X Mode, above, is set to Positive.

The selections are the same as for +X, above.

VJS Y Mode [Positive, Negative, Xfade, Split]

This controls the Vector CC pattern for the Y axis. For more information, see the description under VJS X Mode, above.

+Y [Off...MIDI CC#119]

This assigns the controller sent by the +Y vector. It will be grayed out if the VJS Y Mode, above, is set to Negative.

The selections are the same as for +X, above.

-Y [Off...MIDI CC#119]

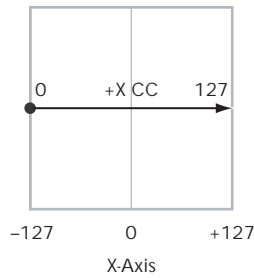
This assigns the controller sent by the -Y vector. It will be grayed out if the VJS Y Mode, above, is set to Positive.

The selections are the same as for +X, above.

Vector CC Modes

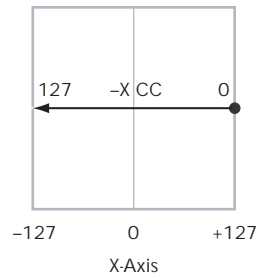
Positive

Generates only +X, increasing from left to right.



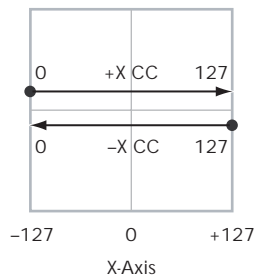
Negative

Generates only -X, increasing from right to left.



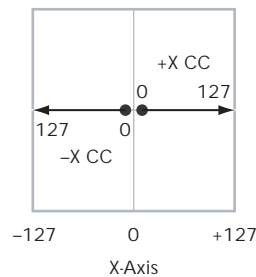
Xfade

Generates both +X and -X. One increases as the other decreases.



Split

Generates both +X and -X. Both are 0 in the center. +X increases to the right; -X increases to the left.



Show Point [VJS, Vector EG Point 0...4]

You can view the volume and CC values for the current position of the Vector Joystick, or for any of the EG's five points. This selects the point whose values will be shown.

CC at Show Point [%]

This read-only display shows the volume values for the current Vector point, as selected by the Show Point parameter, above.

Track 01

Enable Song Vector CC [Off, On]

This controls whether or not the Track will receive the Song's Vector CCs.

If this is **On**, the Track will receive the CCs, and the Track's Program will respond to them according to its own AMS settings.

If this is **Off**, the Track will not receive the CCs. This can be useful if the Song's Vector CCs are causing unwanted modulation, or conflicting with the Program's own Vector CCs.

Enable Program Vector CC [Off, On]

This controls whether or not the Program's own Vector CCs will be active.

If this is **On**, the Program's Vector CCs and Vector EG will work as AMS sources, just as they did in Program mode. The CCs will not affect any other Tracks, even if they are set to the same MIDI channel.

Note that, in some cases, the Vector CCs may have been used for modulating the Program's effects via Dmod. This functionality is not carried into the Song; for modulating the Song's effects, use the Song's Vector CCs instead.

If Enable Program Vector CC is **Off**, then the Program's Vector CCs will have no effect. This can be useful if they are conflicting with the Song's Vector CCs.

Tracks 02-16

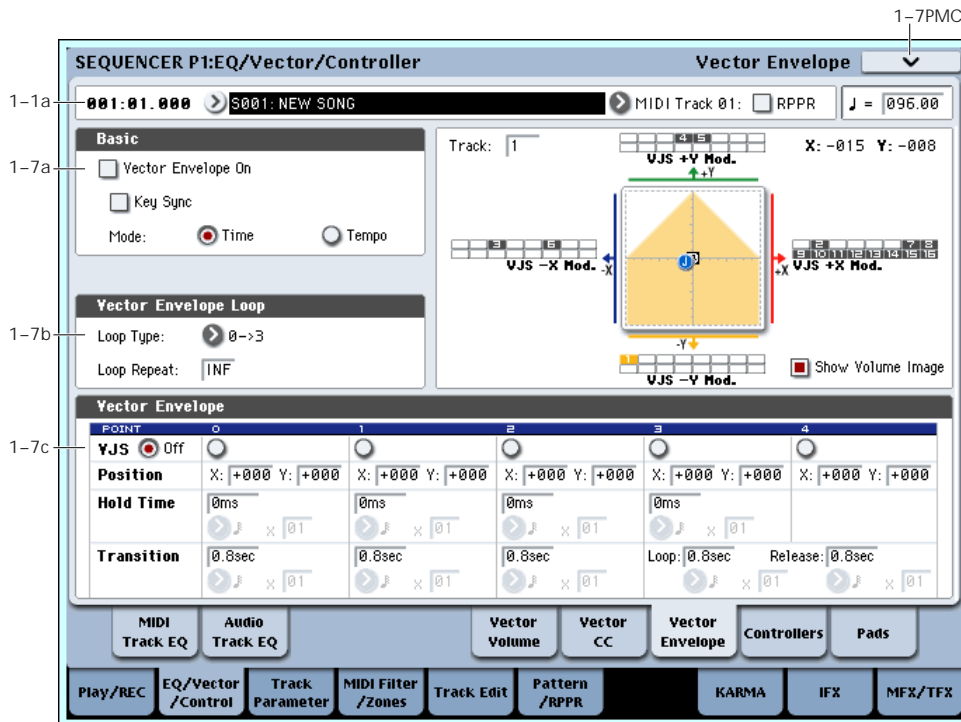
The settings for Tracks 2-16 are identical to those for Track 01, as described above.

▼ 1-6: Page Menu Commands

The number before each command shows its ENTER + number-key shortcut. For more information on these shortcuts, see "ENTER + 0-9: shortcuts for menu commands" on page 142.

- 0: **Memory Status**. For more information, see "Memory Status" on page 582.
- 1: **Exclusive Solo**. For more information, see "Exclusive Solo" on page 142.
- 2: **Rename Song**. For more information, see "Rename Song" on page 582.
- 3: **Delete Song**. For more information, see "Delete Song" on page 582.
- 4: **Copy From Song**. For more information, see "Copy From Song" on page 582.
- 5: **Load Template Song**. For more information, see "Load Template Song" on page 582.
- 6: **Save Template Song**. For more information, see "Save Template Song" on page 583.
- 7: **FF/REW Speed**. For more information, see "FF/REW Speed" on page 583.
- 8: **Set Location** (for Locate Key.) For more information, see "Set Location (for Locate Key)" on page 583.
- 9: **GM Initialize**. For more information, see "GM Initialize" on page 584.
- 10: **Copy From Combination**. For more information, see "Copy from Combination" on page 584.
- 11: **Copy From Program**. For more information, see "Copy From Program" on page 584.

1-7: Vector Envelope



The Vector Envelope works together with the Vector Joystick to control the Vector position. It's particularly convenient for modulating effects, since it's the only programmable modulation source stored with the Song, outside of KARMA.

The Vector Envelope is different from the other envelopes in several ways:

- Each point has two “levels” - one for the X axis, and one for the Y axis.
- The envelope times can be based on seconds and milliseconds, or synced to tempo.
- Each point has a hold time, as well as a transition time to the next point.
- The envelope can loop between two points, for either a specified number of repeats, or as long as you hold the note.

Vector Volume and CC control use separate EGs

There are actually two different Vector EGs, which share the same parameters: one for Volume Control, and the other for CC Control.

All of the notes on the Song's Global Channel share a single CC Control EG. This EG starts when you first play a note, and continues as long as any notes are held down on the keyboard. When you release all of the notes, the EG goes into its release phase.

Each note then has its own, additional Volume Control EG, which lets you crossfade between Programs to create complex, evolving timbres. The **Key Sync** parameter applies only to this per-note EG.

When the **Key Sync** parameter is **Off**, the CC Control and Volume Control EGs are completely synchronized.

When **Key Sync** is **On**, each note's Volume Control EG will start at note-on, and go into release at note-off. All the notes will still share a single CC Control EG.

1-7a: Basic

Vector Envelope On [Off, On]

On (checked): When this box is checked, the Vector EG will work with the Vector Joystick to control the vector position.

Off (unchecked): When this box is not checked, the Vector EG will not run. The vector position will be controlled solely by the Vector Joystick.

Key Sync [Off, On]

The Key Sync parameter applies only to Vector Volume control. As described under “Vector Volume and CC control use separate EGs,” above, Vector CC control always acts as if Key Sync were Off.

On (checked): When Key Sync is **On**, the Vector Volume EG starts each time you press a key, and an independent EG runs for each note. This is the normal setting.

Off (unchecked): When Key Sync is **Off**, the Vector Volume EG starts from the phase determined by the first note in the phrase, so that the EGs for all notes being held are synchronized together.

Mode [Time, Tempo]

Time: When the Mode is set to **Time**, you can set the EG segment times in seconds or milliseconds.

Tempo: When the Mode is set to **Tempo**, the Vector EG will synchronize to the system tempo, as set by either the Tempo knob or MIDI Clock. Instead of using

seconds and milliseconds, you can specify the EG times as rhythmic values, using the Base Note and x (Multiply Base Note by...) parameters.

1-7b: Vector Envelope Loop

The Vector EG can loop between two points, and can continue to loop either for as long as you hold the note, or for a specified number of repeats. You can also turn the loop off completely, if you like.

Loop Type [0->3, 1->3, 2->3, 0<->3, 1<->3]

This selects the start and end points of the loop, and whether the loop is forwards only or forwards-backwards.

The first three selections, 0->3, 1->3, and 2->3, loop forwards only. For instance, when Loop Type is set to 1->3, the EG will play as follows: 0, 1, 2, 3, 1, 2, 3, 1, 2, 3 etc.

The last two selections, 0<->3 and 1<->3, are forwards-backwards. For instance, with the 1<->3 setting, the EG will play as follows: 0, 1, 2, 3, 2, 1, 2, 3 etc.

Loop Repeat [Off, 1...126, Inf]

Off: When this is set to Off, the EG will not loop at all.

1-126: The EG will loop the specified number of times, and then hold at point 3 until the note is released.

Inf: The EG will loop as long as the note is held, and then move to point 4 when the note is released.

1-7c: Vector Envelope

The Vector EG has a total of five points. Since the Vector EG can loop, the points are labeled differently from standard envelopes; instead of names like attack and decay, they are simply numbered 0-4.

Sustain and Release

When the EG is in the middle of a loop, there is no "sustain" point per se. However, if the EG has already completed the specified number of Loop Repeats, or if Loop Repeat is Off, it will sustain at Point 3 until release.

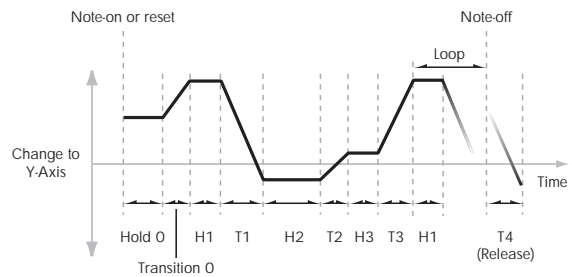
At release, the EG always moves to Point 4.

Hold and Transition times

The Hold Time sets how long the EG lingers at each point, and the Transition time sets how long it takes to go from the selected point to the next.

For instance, the graphic below shows the succession of Hold and Transition times when the Loop Type is set to 1->3. For clarity, only the Y axis positions are shown.

Vector EG times, Loop Type = 1->3

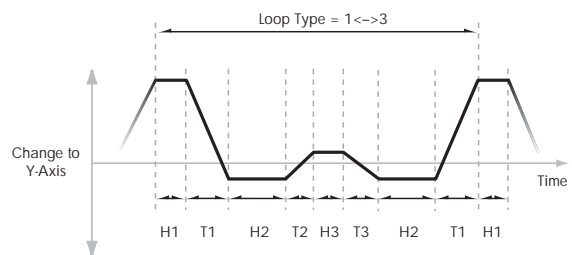


The transition from Point 3 into the loop always uses Point 3's Transition time, regardless of the Loop Type.

Points 0, 1, and 2's Transition times, however, work in reverse when moving backwards during a forwards-backwards loop. It's as if you were re-tracing the EG shape in reverse.

For instance, in the backwards section of a loop, moving from Point 2 to Point 1 uses Point 1's Transition time.

Forwards-Backwards Loop, Loop Type = 1<->3



VJS [Off, 0...4]

This horizontal row of radio buttons lets you edit the selected point's X-Y position using the Vector Joystick.

Just press the point's radio button, move the Vector Joystick to the desired location. When you're finished, press the Off radio button again.

When you are not editing the EG's X-Y positions, you should leave this set to Off, to avoid inadvertent changes to the EG.

Point 0

Position

In addition to editing the X and Y parameters with the standard data entry controls, you can also simply use the Vector Joystick to set the position, as described under "VJS," above.

X [-127...+127]

This sets the point's position on the X axis.

Y [-127...+127]

This sets the point's position on the Y axis.

Hold Time

This sets the length of time that the EG will stay on Point 0, before moving to Point 1. You can set the Hold Time in either seconds/milliseconds or rhythmic values, depending on the setting of the EG's Mode parameter.

Time [0ms...60sec]

This parameter lets you set the Hold Time in seconds and milliseconds. It applies only when the Mode is set to Time.

(Base Note) [Off, ♪ ... 〇]

This menu sets a basic rhythmic value for the **Hold Time**, relative to the system tempo. The values range from a 32nd note to a whole note, including triplets.

This parameter applies only when the **Mode** is set to **Tempo**.

x (Multiply Base Note by...) [01...32]

This multiplies the length of the **Base Note**. For instance, if the **Base Note** is set to a sixteenth note, and the multiplier is set to 3, the **Hold Time** will last for a dotted eighth note.

Transition

This sets the length of time that the EG takes to move from Point 0 to Point 1.

When the Loop Type is set to 0<->3, this also sets the time that it takes to move from Point 1 to Point 0 during the backwards section of the loop.

Time [0ms...60sec]

This parameter lets you set the Transition time in seconds and milliseconds. It applies only when the **Mode** is set to Time.

(Base Note) [♪ ... 〇]

This menu sets a basic rhythmic value for the **Transition Time**, relative to the system tempo. It applies only when the **Mode** is set to **Tempo**.

x (Multiply Base Note by...) [01...32]

This multiplies the length of the **Base Note**. For instance, if the **Base Note** is set to a sixteenth note, and the multiplier is set to 3, the EG will move from Point 0 to Point 1 over a dotted eighth note.

Points 1 and 2

Points 1 and 2 work exactly like Point 0, as described above.

Point 3

Point 3 also works much like Points 0–2, with two main differences:

Point 3 always uses its own **Loop** time when moving into the loop, regardless of the direction of the loop.

If **Loop Repeat** is set to Off, or if the Loop is set to 1–126 and has already played the specified number of times, then the EG will stay at Point 3 until the EG either goes into release, or is reset by KARMA.

Hold Time

This works just like the Hold Time for Point 0, as described under “Hold Time,” above.

Loop

This sets the length of time that it takes to move from Point 3 to the first Point in the loop. You can set this in either seconds/milliseconds or rhythmic values, depending on whether the **Mode** is set to Time or Tempo.

The **Time**, **Base Note**, and **Multiplier** parameters work just like those for Point 0, as described under “Transition,” above.

Point 4

Point 4 is the Vector EG’s release destination. Its time setting is different from those of the other Points. Instead of setting the time it takes to move from Point 4 to the next Point, it sets how long it takes to go from the previous Point to Point 4.

The EG moves to Point 4 as soon as it releases, regardless of where it was before the release. For instance, let’s say that the EG is in the middle of Point 2’s Hold Time at note-off. The EG will immediately begin to move to Point 4, without waiting for the Hold Time to complete.

Release

This sets the length of time that it takes to move to Point 4 after note-off. You can set this in either seconds/milliseconds or rhythmic values, depending on whether the **Mode** is set to Time or Tempo.

The **Time**, **Base Note**, and **Multiplier** parameters work just like those for Point 0, as described under “Transition,” above.

KARMA and Vector EG interaction

KARMA can start and re-start the Vector EG in various ways, as described below.

CC Control EG

When KARMA is **On**, it always starts and re-starts the CC Control EG, according to the KARMA trigger settings. This lets KARMA control sounds or effects in synchronization with the KARMA GE.

Volume Control EGs

When **Key Sync** is **Off**, and KARMA is **On**, KARMA will start and re-start the Volume Control EGs as well as the CC Control EG. This means that the resulting changes in oscillator volumes will be synchronized with the KARMA GE.

When **Key Sync** is **On**, KARMA does not affect Vector Volume Control. Each note will have its own, independent Volume Control EG, just as if KARMA was turned off.

Entering the EG’s release stage

Assuming that KARMA is **On**:

When the **KARMA LATCH** switch is **Off**, the KARMA-controlled Vector EG(s) will start to release when you remove your hand from the keyboard (and when KARMA is no longer receiving any input notes from other sources).

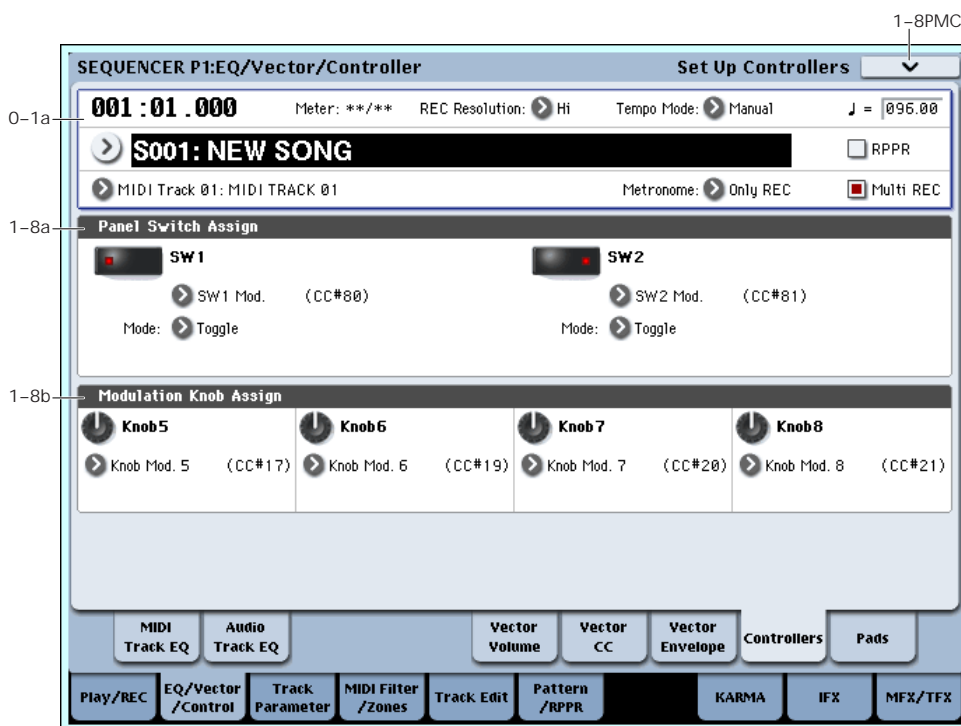
When the **KARMA LATCH** switch is **On**, the KARMA-controlled Vector EG(s) will start to release only when **KARMA Latch** is turned **Off** again.

▼ 1-7: Page Menu Commands

The number before each command shows its ENTER + number-key shortcut. For more information on these shortcuts, see “ENTER + 0-9: shortcuts for menu commands” on page 142.

- 0: **Memory Status.** For more information, see “Memory Status” on page 582.
- 1: **Exclusive Solo.** For more information, see “Exclusive Solo” on page 142.
- 2: **Rename Song.** For more information, see “Rename Song” on page 582.
- 3: **Delete Song.** For more information, see “Delete Song” on page 582.
- 4: **Copy From Song.** For more information, see “Copy From Song” on page 582.
- 5: **Load Template Song.** For more information, see “Load Template Song” on page 582.
- 6: **Save Template Song.** For more information, see “Save Template Song” on page 583.
- 7: **FF/REW Speed.** For more information, see “FF/REW Speed” on page 583
- 8: **Set Location** (for Locate Key.) For more information, see “Set Location (for Locate Key)” on page 583.
- 9: **GM Initialize.** For more information, see “GM Initialize” on page 584.
- 10: **Copy From Combination.** For more information, see “Copy from Combination” on page 584.
- 11: **Copy From Program.** For more information, see “Copy From Program” on page 584.
- 12: **Copy Vector Envelope.** For more information, see “Copy Vector Envelope” on page 148.

1-8: Set Up Controllers



Here you can set the Sequencer functions of the SW1 switch, SW2 switch, and the Realtime Modulation Knob 5-8. These settings are made independently for each song.

When you operate these switches and knobs during recording, the MIDI messages assigned to them will be recorded.

1-8a: Panel Switch Assign

Here you can assign the function of the SW1 and SW2 switches. For details on the functions that can be assigned, see “SW1/2 Assignments” on page 1033.

Since the assignable panel switch functions of the program assigned to each track are ignored, you can make new settings here.

SW1 [Off, ..., After Touch Lock]

Assigns a function to the SW1 switch. The on/off status can also be saved. When you change the assigned function, the status will be reset to off.

Mode [Toggle, Momentary]

Specifies the on/off action that occurs when you press the SW1 switch.

Toggle: The function will alternate between on and off each time you press the SW1 switch.

Momentary: The function will be on only while you continue holding down the SW1 switch.

SW2 [Off, ..., After Touch Lock]

Mode [Toggle, Momentary]

Assigns a function to the SW2 switch. The functions you can assign to the SW2 switch are the same as for the SW1 switch with the exception that SW1 Mod.:CC#80 is replaced by SW2 Mod.:CC#81.

1–8b: Modulation Knob Assign

Here you can assign the function of the realtime modulation knobs 5 through 8. Most of the functions that can be assigned are control changes. For more information, please see “Realtime Knobs 5–8 Assignments” on page 1034.

The functions you assign here are performed when you operate realtime modulation knobs 5 through 8.

Knob 5 [Off, ..., MIDI CC#119]

Knob 6 [Off, ..., MIDI CC#119]

Knob 7 [Off, ..., MIDI CC#119]

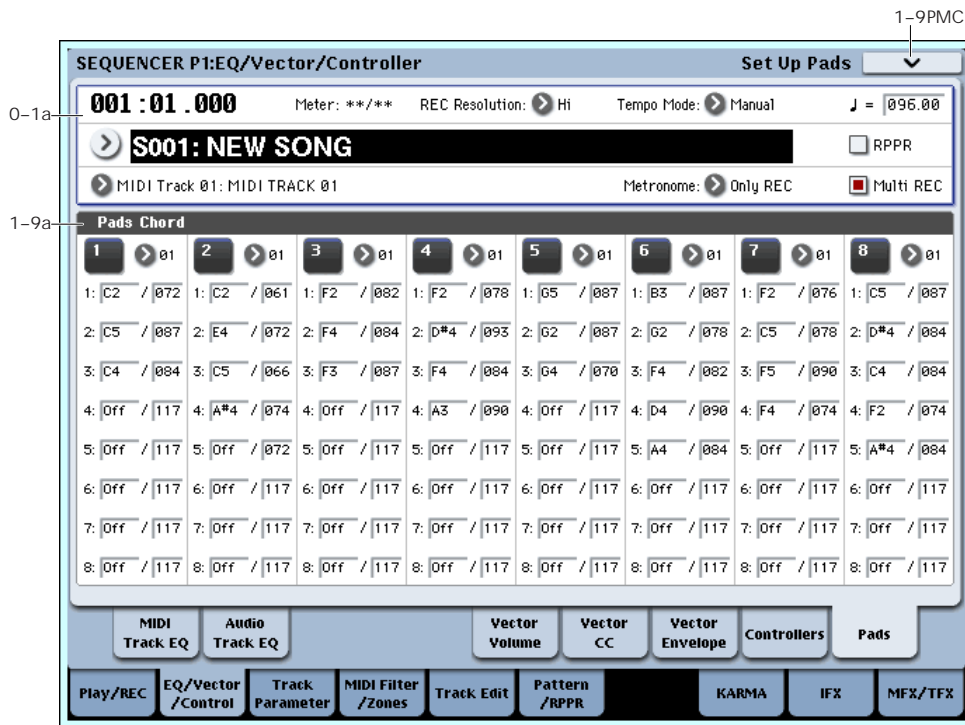
Knob 8 [Off, ..., MIDI CC#119]

▼ 1–8: Page Menu Commands

The number before each command shows its ENTER + number-key shortcut. For more information on these shortcuts, see “ENTER + 0-9: shortcuts for menu commands” on page 142.

- 0: **Memory Status.** For more information, see “Memory Status” on page 582.
- 1: **Exclusive Solo.** For more information, see “Exclusive Solo” on page 142.
- 2: **Rename Song.** For more information, see “Rename Song” on page 582.
- 3: **Delete Song.** For more information, see “Delete Song” on page 582.
- 4: **Copy From Song.** For more information, see “Copy From Song” on page 582.
- 5: **Load Template Song.** For more information, see “Load Template Song” on page 582.
- 6: **Save Template Song.** For more information, see “Save Template Song” on page 583.
- 7: **FF/REW Speed.** For more information, see “FF/REW Speed” on page 583
- 8: **Set Location** (for Locate Key.) For more information, see “Set Location (for Locate Key)” on page 583.
- 9: **GM Initialize.** For more information, see “GM Initialize” on page 584.
- 10: **Copy From Combination.** For more information, see “Copy from Combination” on page 584.
- 11: **Copy From Program.** For more information, see “Copy From Program” on page 584.

1-9: Set Up Pads



There are eight velocity-sensitive trigger pads below the LCD screen. These look like drum machine pads, and playing drum sounds is certainly one use for them.

However, they can also play up to eight-note chords on any sound—not just drums. The pads even remember the velocities of the individual notes within the chord, as well as the notes themselves. Finally, each Pad can be assigned to a different MIDI channel, if desired.

These settings are stored independently for each Song.

You can assign notes to the pads directly from the keyboard and front-panel controls, without using this page at all. Alternatively, you can enter notes and velocities using the parameters on this page.

Regardless of how the notes were first assigned, you can edit their values here.

For more information, including step-by-step instructions and usage tips, see “Drum & Chord Pads” on page 53 of the Operation Guide.

1-9a: Pad Chords

Pad 1

MIDI Channel [Ch01...Ch16, Tch]

This sets the pad’s MIDI output channel. You can set this to either a specific channel (1-16), or to follow the channel of the selected Track.

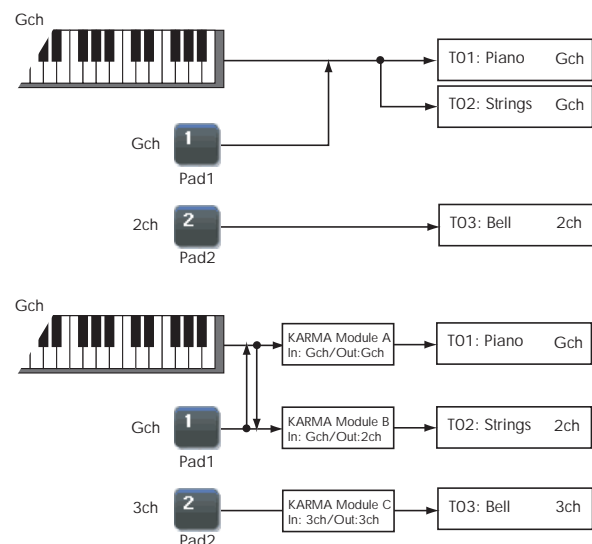
Ch01...Ch16: The pad will transmit on the selected MIDI channel. As shown in the diagram “Pads and MIDI Channel,” below, you can:

- Use this in conjunction with the Track **MIDI Channel** setting, to route a pad to a specific Track. For more information, see “MIDI Channel” on page 519.

- Use this with the KARMA Module **Input Channel** setting, to generate a phrase or other KARMA function when you play a specific pad. For more information, see “Input Channel” on page 431.

Tch: With this setting, the pads will follow the **MIDI channel** of the currently selected Track.

Pads and MIDI Channel



Notes 1-8 [Off, C-1...G9 / 001...127]

These parameters let you edit the 8 notes assigned to each pad, along with a separate velocity for each note. To play fewer than 8 notes, just set the unwanted notes to **Off**.

Off: Select this to disable the note.

C-1...G9: This sets the note number.

001...127: This sets the note's velocity value. For more information on pads and velocity, please see "Pad Mode: Fixed Velocity vs. Velocity Sensitive" on page 520.

Pad Mode: Fixed Velocity vs. Velocity Sensitive

Each pad stores a velocity level for each of its 8 notes. The **PAD MODE** button, to the right of the pads, controls whether or not the pads respond to how hard you play. Its setting is stored with each Program, Combi, and Song.

In **Fixed Velocity** mode, the pads always use their stored velocity settings, regardless of how hard you play.

In **Velocity Sensitive** mode, hitting the pad very strongly produces the preset velocities. When you play more softly, the preset velocities are scaled down accordingly, maintaining the balance between the notes in the chord.

Assigning notes and chords to pads

You can assign single notes and chords to the pads in three different ways.

Play the notes, and then press CHORD ASSIGN

1. Play a single note, or a chord of up to 8 notes.
2. Press the CHORD ASSIGN button.
3. Press the pad to which you'd like to assign the notes.

That's it! The notes are now assigned to the pad.

Press CHORD ASSIGN, and then play notes

This method lets you create a chord out of widely-spaced notes, even if you can't play all of the notes simultaneously.

1. Press the CHORD ASSIGN button.
2. Play a single note, or a chord of up to 8 notes.

You can play a single note, or a simple chord.

If you like, you can also play up to 8 notes as a legato phrase. As long as you take care that the notes overlap each other, the entire phrase will be recorded as a single chord. You can take as long as you like to play the phrase.

3. Press the pad to which you'd like to assign the notes.

After pressing the pad, you're done!

Edit notes and velocities using the LCD

You can edit the recorded notes and velocities using the on-screen parameters. If you like, you can also enter new notes this way. For more information, please see "Pad 1," above.

Copying and Merging Pads

Just as you can assign notes to a pad by playing them on the keyboard, you can press a pad to copy its assigned notes to another pad.

The method is similar to steps 1-3 above; press the pad that you want to copy, and then press the CHORD ASSIGN switch. Then press the copy-destination pad; the assignments will be copied.

You can also use this to combine the assignments of two or more pads, up to a maximum of eight notes. To do so, just press all of the "copy from" pads simultaneously, and then proceed as above.

For more detailed instructions, please see "Drum & Chord Pads" on page 53 of the Operation Guide.

Pad 2...8

These are the same as for Pad 1, as described above.

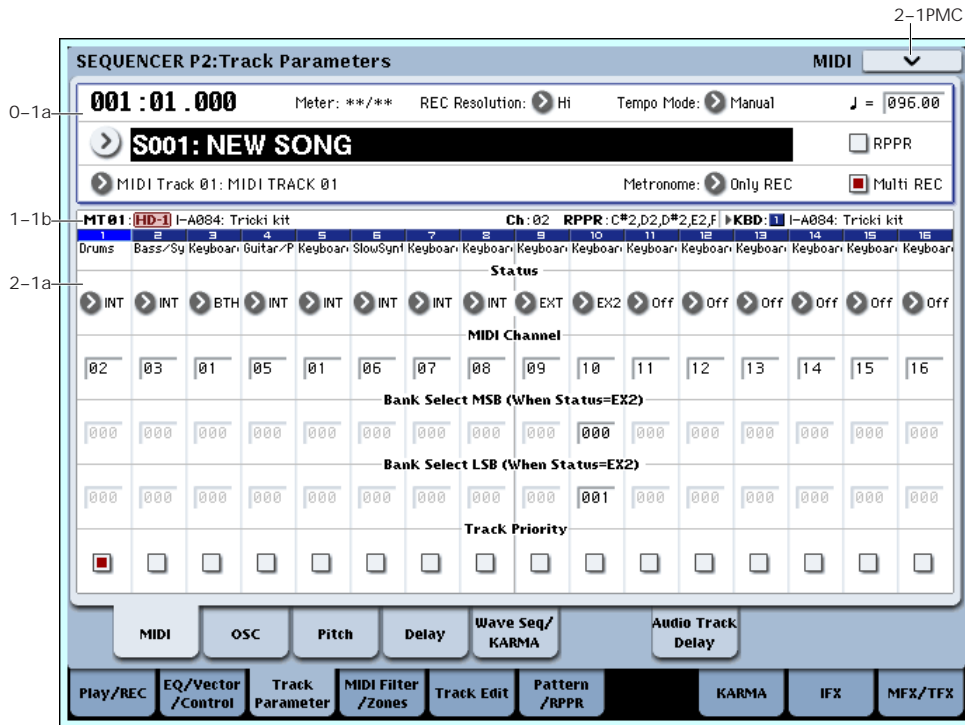
▼ 1-9: Page Menu Commands

The number before each command shows its ENTER + number-key shortcut. For more information on these shortcuts, see "ENTER + 0-9: shortcuts for menu commands" on page 142.

- **0: Memory Status.** For more information, see "Memory Status" on page 582.
- **1: Exclusive Solo.** For more information, see "Exclusive Solo" on page 142.
- **2: Rename Song.** For more information, see "Rename Song" on page 582.
- **3: Delete Song.** For more information, see "Delete Song" on page 582.
- **4: Copy From Song.** For more information, see "Copy From Song" on page 582.
- **5: Load Template Song.** For more information, see "Load Template Song" on page 582.
- **6: Save Template Song.** For more information, see "Save Template Song" on page 583.
- **7: FF/REW Speed.** For more information, see "FF/REW Speed" on page 583.
- **8: Set Location** (for Locate Key.) For more information, see "Set Location (for Locate Key)" on page 583.
- **9: GM Initialize.** For more information, see "GM Initialize" on page 584.
- **10: Copy From Combination.** For more information, see "Copy from Combination" on page 584.
- **11: Copy From Program.** For more information, see "Copy From Program" on page 584.
- **12: Copy Pad Setup.** For more information, see "Copy Pad Setup" on page 148.

Sequencer P2: Track Parameters

2-1: MIDI



Here you can make MIDI-related settings for each MIDI track.

2-1a: MIDI

Track 01 (Track Number)

Status [Off, INT, BTH, EXT, EX2]

This sets whether the Track controls the internal sounds, external MIDI devices, or both.

When controlling external MIDI devices, it also allows you to choose between using the internal Bank Select numbers (as set by the front-panel buttons), or using custom Bank Select settings to match the external device.

Off: Use this to disable the Track. With this setting, the Track's Program will not sound, and MIDI data will not be transmitted. Also, any EXi fixed resources used by the Program will be freed.

INT: When the musical data recorded in the MIDI track is played back, or when you use **Track Select** (0-1a) to select a MIDI track that is set to INT and play the keyboard and operate the controllers, the internal tone generator of the OASYS will sound, and MIDI data will not be transmitted to an external device.

BTH: The operation of both INT and EXT will be performed. When the musical data recorded in the MIDI track is played back, or when you select a MIDI track that is set to BTH and play the keyboard and operate the controllers, the internal tone generator of the OASYS will sound, and at the same time MIDI data will also be transmitted to an external device.

EXT: When the musical data recorded in the MIDI track is played back, or when you select a MIDI track that is set to EXT and play the keyboard and operate the controllers, MIDI data will be transmitted to an external device, but the internal tone generator of the OASYS will not sound.

When you select another song or return to the beginning of the song, the program change, volume, panpot, portamento, sends 1 and 2, post IFX pan, and post IFX sends 1 and 2 of each MIDI track set to EXT will be transmitted via MIDI.

EX2: This enables you to specify a particular MIDI Bank Select message for the Track, instead of automatically using the Bank of the selected OASYS Program. Use the parameters below, labeled **Bank Select MSB and LSB (When Status =EXT2)**, to set the Bank Select message as desired. In other respects this is the same as EXT, described above.

MIDI MIDI data is transmitted and received on the MIDI channel that is specified separately for MIDI track by "MIDI Channel."

Status	Keyboard, Sequencer, & MIDI In play Internal Sounds	Keyboard & Sequencer Transmit MIDI Out
OFF	No	No
INT	Yes	No
EXT	No	Yes (using the Bank Select message of the track's Program)

EX2	No	Yes (using the Bank Select message specified on the MIDI tab of the Track Param page)
BTH	Yes	Yes

MIDI Channel [01...16]

Specifies the MIDI channel that the MIDI track will use to transmit and receive musical data. The MIDI channel you specify here will be the receive channel when **Status** is INT, the transmit channel when it is EXT or EX2, and the receive/transmit channel when it is BTH. Tracks set to INT which have the same MIDI channel will sound and be controlled identically when they receive MIDI data or data from the sequencer tracks.

Bank Select MSB (When Status=EX2) [000...127]

Bank Select LSB (When Status=EX2) [000...127]

When **Status** is set to EX2, this sets the bank number that will be transmitted. When **Status** is other than EX2, this setting has no effect.

Track Priority [Off, On]

This specifies the voice priority for the MIDI track.

On (checked): MIDI tracks for which this is checked will be given priority. If a new note-on would exceed the available number of voices, a currently-sounding voice will normally be stopped ("stolen"), allowing the newly requested voice to be sounded. At this time, MIDI tracks whose "Track Priority" is checked are less likely to have a voice "stolen."

However, this setting will have little meaning if it is turned on for most or all tracks. It's a good idea to leave this unchecked for all tracks, and check it only for important tracks that would cause a conspicuous problem if notes were to drop out during the performance.

Track 02...16 (Track Number)

These are the MIDI-related settings for MIDI tracks 2 through 16. They are the same as for track 1. See "Track 01":.

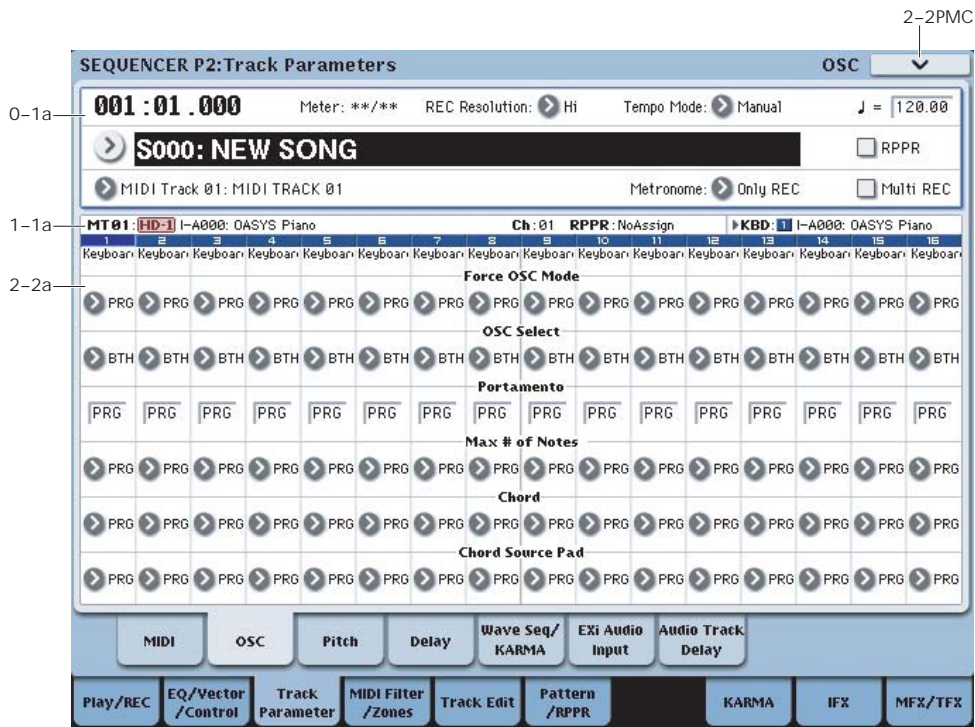
▼ 2-1: Page Menu Commands

The number before each command shows its ENTER + number-key shortcut. For more information on these shortcuts, see "ENTER + 0-9: shortcuts for menu commands" on page 142.

- 0: **Memory Status.** For more information, see "Memory Status" on page 582.
- 1: **Exclusive Solo.** For more information, see "Exclusive Solo" on page 142.
- 2: **Rename Song.** For more information, see "Rename Song" on page 582.
- 3: **Delete Song.** For more information, see "Delete Song" on page 582.
- 4: **Copy From Song.** For more information, see "Copy From Song" on page 582.

- 5: **Load Template Song.** For more information, see "Load Template Song" on page 582.
- 6: **Save Template Song.** For more information, see "Save Template Song" on page 583.
- 7: **FF/REW Speed.** For more information, see "FF/REW Speed" on page 583.
- 8: **Set Location** (for Locate Key.) For more information, see "Set Location (for Locate Key)" on page 583.
- 9: **GM Initialize.** For more information, see "GM Initialize" on page 584.
- 10: **Copy From Combination.** For more information, see "Copy from Combination" on page 584.
- 11: **Copy From Program.** For more information, see "Copy From Program" on page 584.

2-2: OSC



These parameters specify how each MIDI track will be sounded.

2-2a: OSC

Track 01 (Track Number)

Force OSC Mode [PRG, Poly, MN, LGT]

This lets you override the Program's stored Voice Assign Mode settings, if desired.

For more information, please see "Force OSC Mode" on page 416.

OSC Select [BTH, OS1, OS2]

Specifies whether the MIDI track's program will play OSC1/EXi1, OSC2/EXi2, or both.

For HD-1 programs whose **Oscillator Mode** (Program 1-1b) is Double, this setting lets you specify that only OSC1 or OSC2 will sound. For EXi programs which use two EXi instruments, this setting lets you specify that only EXi1 or EXi2 will sound. For more information, please see "OSC Select" on page 416.

Portamento [PRG, Off, 001...127]

Make portamento settings for each MIDI track. For more information, please see "Portamento" on page 416.

The portamento setting you make here will be used when the song is played or recorded from the beginning. If you change the setting while recording, it will be recorded as part of the musical data. (However if you set this to PRG, it will not be recorded.) You can change this setting during playback. However if you

come to any Portamento On/Off data or Portamento Time data that was recorded, the settings will change accordingly.

When the track whose **Status** (2-1a) is INT or BTH, MIDI control change CC#5 (Portamento Time) and CC#65 (Portamento Switch) can be received to control this and change the setting. (If the setting is PRG, CC#05 Portamento Time will not be received.)

When you switch songs or return to the beginning of the song, tracks whose **Status** is BTH, EXT, or EX2 will transmit this setting via MIDI. If this is Off, CC#65 with a value of 0 will be transmitted. If this is 001-127, a CC#65 of 127 and CC#05 of 1-127 will be transmitted.

If this is set to PRG, nothing will be transmitted.

This data is transmitted and received on the MIDI channel specified for each track by **MIDI Channel** (2-1a).

Max # of Notes [Dynamic, 1...16]

Dynamic is the default. With this setting, you can play as many notes as the system allows.

1-16 lets you limit the maximum number of notes played by the Track. Voices will still be allocated dynamically, up to this maximum number. You can use this to:

- Model the voice-leading of vintage synthesizers, such as the Polysix
- Control the resources required by the Track, so that more voices can play on other Tracks

Max # of Notes applies only when the Program's **Voice Assign Mode** is set to **Poly**, or when **Force Osc Mode** has been set to **Poly**. With **Mono**, it has no effect.

This setting does not limit the **Unison Number of Voices**. For instance, if **Max # of Notes** is set to 6, and **Unison Number of Voices** is set to 3, you can play up to 6 notes, each with 3 Unison voices.

In double Programs, the **Max # of Notes** applies equally to both OSC or EXi. For instance, if **Max # of Notes** is set to 4, you can play up to 4 notes on each OSC/EXi.

- Chord

Chord [PRG, Off, Bsc, Adv]

PRG uses the Program's setting. If the Program is set to **Off**, then the Chord SW has no effect.

Off disables the Chord function.

Bsc (Basic) re-creates the chord mode of the original Polysix. Each time you play a new chord, it will cut off the previous chord. This option ignores the Voice Assign settings.

Adv (Advanced) uses the Program's Voice Assign settings, as if each note in the chord was a transposed set of oscillators layered within the Program.

Poly, Poly Legato, Single Trigger, Mono, Mono Legato, Legato Offset, Mono Priority, and Mono and Poly Unison all apply.

You can achieve the same effect as **Bsc**, above, by setting **Chord** to **Advanced**, **Voice Assign** to **Mono**, **Priority** to **Last Note**, and **Legato** to **Off**.

For more information, see "Using Chord mode" on page 54 of the Operation Guide.

Source Pad [PRG, 1...8]

Chord mode uses the chords assigned to the Pads. This selects which of the Pads to use. You can also select chords using the Pads themselves; for more information, see "Using Chord mode" on page 54 of the Operation Guide.

PRG uses the notes of the chord stored in the Track's Program, instead of any of the chords in the Combi. This makes it easy to use Chord mode for sound-specific effects, such as octaves, stacked fifths, and so on. When set to **PRG**, the Track will not change chords in response to the pads.

Track 02... 16 (Track Number)

Here you can make OSC settings for MIDI tracks 2 through 16. These are the same as for track 1. See "Track 01:".

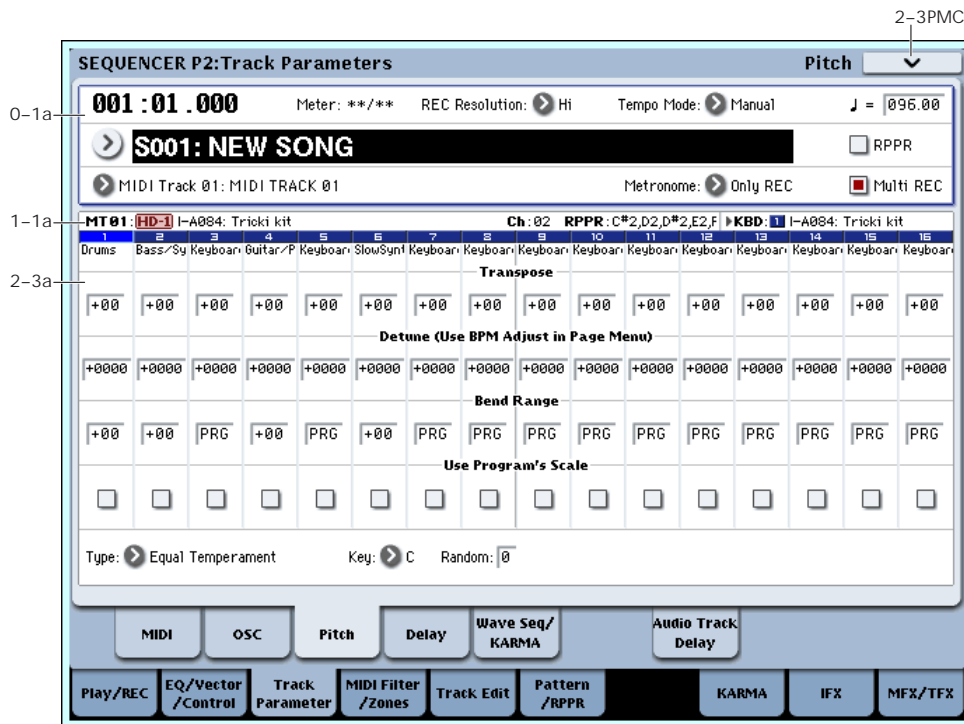
- 3: **Delete Song**. For more information, see "Delete Song" on page 582.
- 4: **Copy From Song**. For more information, see "Copy From Song" on page 582.
- 5: **Load Template Song**. For more information, see "Load Template Song" on page 582.
- 6: **Save Template Song**. For more information, see "Save Template Song" on page 583.
- 7: **FF/REW Speed**. For more information, see "FF/REW Speed" on page 583.
- 8: **Set Location** (for Locate Key.) For more information, see "Set Location (for Locate Key)" on page 583.
- 9: **GM Initialize**. For more information, see "GM Initialize" on page 584.
- 10: **Copy From Combination**. For more information, see "Copy from Combination" on page 584.
- 11: **Copy From Program**. For more information, see "Copy From Program" on page 584.

▼ 2-2: Page Menu Commands

The number before each command shows its ENTER + number-key shortcut. For more information on these shortcuts, see "ENTER + 0-9: shortcuts for menu commands" on page 142.

- 0: **Memory Status**. For more information, see "Memory Status" on page 582.
- 1: **Exclusive Solo**. For more information, see "Exclusive Solo" on page 142.
- 2: **Rename Song**. For more information, see "Rename Song" on page 582.

2-3: Pitch



Here you can make pitch-related settings for each MIDI track.

2-3a: Pitch

Track 01 (Track Number)

Transpose [-60...+00...+60]

Adjusts the pitch of each MIDI track in semitone steps. 12 units equal one octave.

Detune (BPM Adj. in Page Menu) [-1200...+0000... +1200]

Adjusts the pitch of each MIDI track in one-cent units. +0000: Normal pitch.

Note: You can also use the “Detune BPM Adjust” page menu command to automatically make a detune setting from a calculation in BPM units.

MIDI **Transpose** and **Detune** do not affect the notes transmitted via MIDI Out.

MIDI **Transpose** and **Detune** can be controlled via MIDI RPN messages received on the Track’s MIDI channel. The way that this works depends on whether or not the Track uses an HD-1 Drum Program.

If the Track does not use an HD-1 Drum Program—for example, if it uses a Single or Double HD-1 Program, or an EXi Program—then MIDI RPN Coarse Tune will control **Transpose**, and RPN Fine Tune will control **Detune**.

If the Track uses an HD-1 Drum Program, MIDI RPN Coarse Tune and Fine Tune will be combined to control **Detune**. The overall range is ±1 octave for coarse tune and fine tune together.

Bend Range [PRG, -24...+00...+24]

Specifies the amount of pitch change that will occur when the pitch bender is operated, in semitone units.

PRG: The pitch range specified by the program will be used.

-24...+24: This setting will be used regardless of the setting in the program.

MIDI As long as this set to something other than PRG, you can control the **Bend Range** using MIDI RPN Pitch Bend Change messages. (See KARMA “Transmit MIDI Filter,” “Pitch Bend” 7-2a)

Use Program’s Scale [Off, On]

MIDI track can use the scale that is specified by Scale (Program 1-1f).

On (checked): The scale specified by the program will be used.

Off (unchecked): The scale specified by Scale (2-3b) will be used.

Track 2... 16 (Track Number)

Here you can make pitch-related settings for MIDI tracks 2 through 16. The settings are the same as for track 1. See “Track 01”.

2-3b: Scale

Scale

Specifies the scale that the song will use. For more information, please see “1-1g: Scale” on page 37.

Type (Song’s Scale) [Equal Temperament...User Octave Scale15]

Selects the scale.

Key [C...B]

Selects the tonic key of the selected scale.

Random [0...7]

As this value is increased, an increasingly random deviation will be added to the pitch at each note-on.

MIDI If **Status** (2-1a) is INT, this setting will affect the pitch produced by the OASYS. If **Status** is EXT, this setting will affect the note number of the note messages transmitted via MIDI.

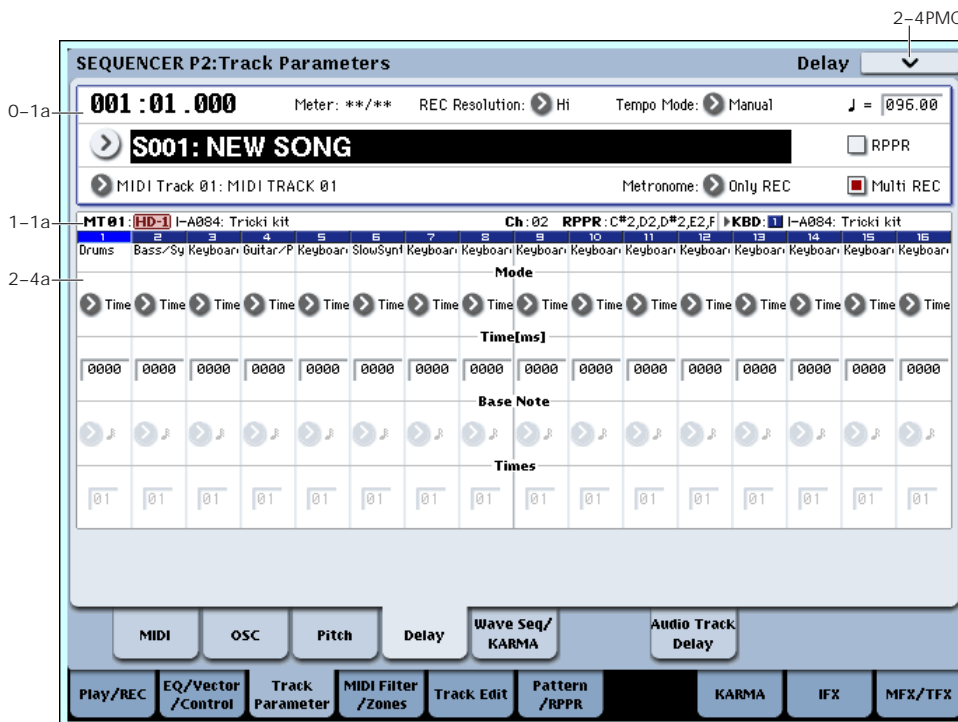
▼ 2-3: Page Menu Commands

The number before each command shows its ENTER + number-key shortcut. For more information on these shortcuts, see “ENTER + 0-9: shortcuts for menu commands” on page 142.

- 0: **Memory Status**. For more information, see “Memory Status” on page 582.

- 1: **Exclusive Solo**. For more information, see “Exclusive Solo” on page 142.
- 2: **Rename Song**. For more information, see “Rename Song” on page 582.
- 3: **Delete Song**. For more information, see “Delete Song” on page 582.
- 4: **Copy From Song**. For more information, see “Copy From Song” on page 582.
- 5: **Load Template Song**. For more information, see “Load Template Song” on page 582.
- 6: **Save Template Song**. For more information, see “Save Template Song” on page 583.
- 7: **FF/REW Speed**. For more information, see “FF/REW Speed” on page 583.
- 8: **Set Location** (for Locate Key.) For more information, see “Set Location (for Locate Key)” on page 583.
- 9: **GM Initialize**. For more information, see “GM Initialize” on page 584.
- 10: **Copy From Combination**. For more information, see “Copy from Combination” on page 584.
- 11: **Copy From Program**. For more information, see “Copy From Program” on page 584.
- 12: **Detune BPM Adjust**. For more information, see “Detune BPM Adjust” on page 593.

2-4: Delay



This specifies the time (delay) from when the MIDI track receives a note-on until the sound begins.

2-4a: Delay

Track 01 (Track Number)

Mode [Time, Tempo]

This selects whether the Track delay will be set in milliseconds, or in rhythmic units.

Time: Specify the delay time in units of milliseconds (ms = 1/1000th of a second).

Tempo: Specify the delay time in terms of a **Base Note** and **Times** relative to the system tempo. For example if **Base Note** = ♩, **Times** = 01, and **Tempo** = 60 BPM, the delay time will be equivalent to 1000 ms.

Time [ms] [0000...6000, KeyOff]

Specifies the time (delay time) from note-on until the MIDI track begins to produce sound, in units of ms (1/1000th of a second). This setting is available if "Mode" is set to Time.

KeyOff: The note will begin sounding at note-off. In this case, the sound will not die away if the sustain level of the program's amp EG is other than 0. This setting is used when creating harpsichord sounds.

Normally you will set this to 0000.

Base Note [♪ ... ♩]

Times [01...32]

This setting is available if "Mode" is set to Tempo. It specifies the time (delay time) from note-on until the MIDI track begins to produce sound, in terms of a note value relative to the "Tempo (♪)" (0-1a).

Use **Base Note** to specify the desired note value, and use **Times** to extend that note value by the specified multiple.

For example if you set **Base Note** to a quarter note (♪) and **Times** to 02, that MIDI track will sound with a delay of a half note (♩). Even if you change "Tempo (♪)" (0-1a), the delay time will always be a half note (♩). If you use these parameters to specify a delay of a half note (♩). In this case, a **Tempo** of 60.00 BPM will produce a 2000 ms delay, and a **Tempo** of 120.00 BPM will produce a 1000 ms delay.

Track 02... 16 (Track Number)

These are the delay time settings for MIDI tracks 2 through 16. They are the same as for track 1. See "Track 01":.

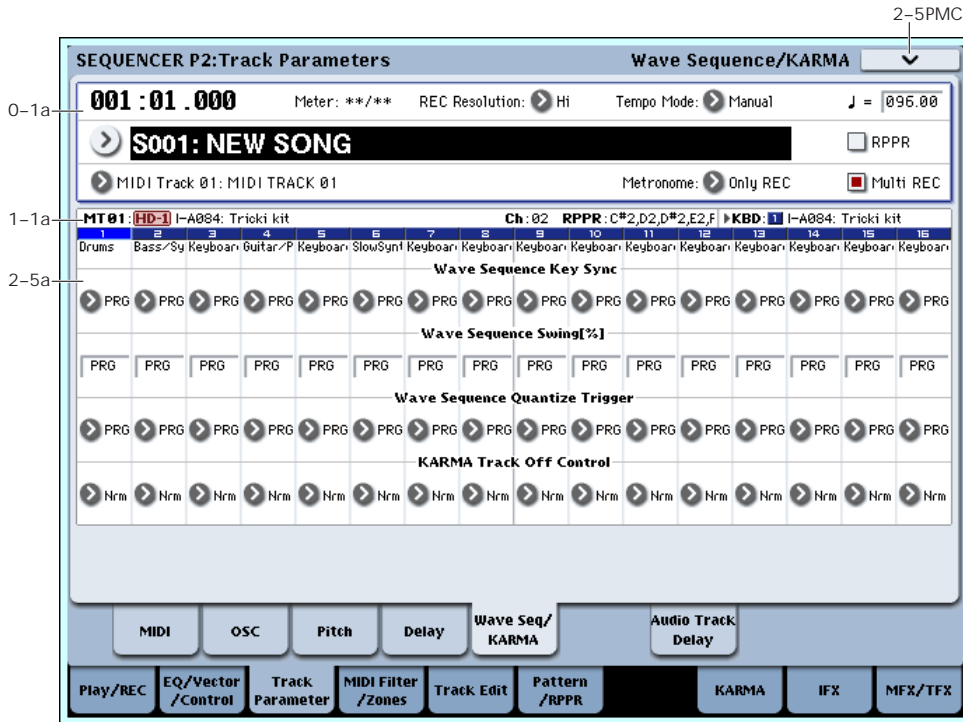
▼ 2-4: Page Menu Commands

The number before each command shows its ENTER + number-key shortcut. For more information on these shortcuts, see "ENTER + 0-9: shortcuts for menu commands" on page 142.

- 0: **Memory Status.** For more information, see "Memory Status" on page 582.
- 1: **Exclusive Solo.** For more information, see "Exclusive Solo" on page 142.
- 2: **Rename Song.** For more information, see "Rename Song" on page 582.

- 3: **Delete Song.** For more information, see "Delete Song" on page 582.
- 4: **Copy From Song.** For more information, see "Copy From Song" on page 582.
- 5: **Load Template Song.** For more information, see "Load Template Song" on page 582.
- 6: **Save Template Song.** For more information, see "Save Template Song" on page 583.
- 7: **FF/REW Speed.** For more information, see "FF/REW Speed" on page 583.
- 8: **Set Location (for Locate Key.)** For more information, see "Set Location (for Locate Key)" on page 583.
- 9: **GM Initialize.** For more information, see "GM Initialize" on page 584.
- 10: **Copy From Combination.** For more information, see "Copy from Combination" on page 584.
- 11: **Copy From Program.** For more information, see "Copy From Program" on page 584.

2-5: Wave Sequence/KARMA



Here you can make settings related to wave sequence and KARMA functionality for each MIDI track.

2-5a: Wave Sequence/KARMA

Track 01 (Track Number)

Wave Sequence Key Sync [PRG, Off, On]

Specifies the wave sequence **Key Sync** setting (Program 1-1e) of the program selected for the MIDI track. This setting is valid if the program uses a wave sequence.

PRG: The setting of the program is used.

Off: **Key Sync** is forced off. The wave sequence of each note will synchronize to the same step.

On: **Key Sync** is forced on. The wave sequence will start each time you press a key. If the wave sequences have differing steps or rates, they will proceed independently.

For more information, please see “Key Sync” on page 37.

Wave Sequence Swing% [PRG, -300....+300]

Specifies the wave sequence “Swing” setting (Program 1-1e) of the program selected for the MIDI track. This setting is valid if the program uses a wave sequence.

PRG: The setting of the program is used.

-300...+300: The Swing% specified here is used regardless of the program’s “Swing%” setting.

For more information, please see “Swing” on page 36.

Wave Sequence Quantize Trigger [PRG, Off, On]

This allows you to override the Program’s Wave Sequence “Quantize Trigger” setting (Program 1-1e). If you’re using multiple Programs with rhythmic Wave Sequences, you can use this to synchronize all of the Wave Sequences at note-on.

Note that Quantize Trigger applies only when the Wave Sequence’s **Mode** is set to Tempo. For more information, see “Mode” on page 722.

PRG: The setting of the program is used.

Off: “Quantize Trigger” is forced off. The wave sequence will trigger immediately after note-on.

On: “Quantize Trigger” is forced on. The wave sequence pattern will synchronize to eighth-note timing of the currently-sounding wave sequence; i.e., the trigger will be quantized.

For more information, please see “Quantize Trigger” on page 37.

KARMA Track Off Control [Normal, Track Off by KARMA Off, Track Off by KARMA On]

Nrm (Normal): The KARMA ON/OFF switch will not control whether the track will sound. Usually you will use the Normal setting.

by Off (Track Off by KARMA Off): The track will sound as usual when the KARMA ON/OFF switch is on.

The track will not sound when the KARMA ON/OFF switch is off.


Use this when you want a specific track of multiple tracks set to the same MIDI channel to be silent only when KARMA is off.

by On (OSC Off by KARMA On): The track will not sound when the KARMA ON/OFF switch is on. The track will sound as usual when the KARMA ON/OFF switch is off.

Use this when you are using a KARMA Module to control multiple tracks that are set to the same MIDI channel, and want a specific track to be silent only when the KARMA function is on.

For example you can use this to play a two-track layer from the keyboard when KARMA is off, and use one track to sound the phrase when KARMA is on.

If the **Status** (0-1b) of each track is INT, you can use the "Track On/Off Ctrl" setting to stop the oscillator of each track from sounding.

-  If you set "OSC On/Off Ctrl" to by Off or by On settings and operate the KARMA ON/OFF switch while real-time-recording a song, you must be aware of the following points.
 - In order to control this parameter during playback, operations of the KARMA ON/OFF switch must be recorded in real-time.
 - Set "KARMA ON/OFF" (Global 2-1b) to MIDI CC#14. If this is assigned to MIDI CC#14, operations of the KARMA ON/OFF switch can be recorded in real-time. (See "2-1b: MIDI CC# Assign – KARMA Controllers" on page 717)
 - Operations will also be recorded if you assign this key to MIDI CC#00-95, but in order to avoid confusion when receiving another CC#, you should use CC#14.
 - "KARMA ON/OFF" (Global 2-1b) will also be set to MIDI CC#14 if you execute the page menu command "Reset Controller MIDI Assign" with "To:" set to Default Setting. After executing, turn the assignment Off for other MIDI CC# Assign – KARMA Controllers that you do not need to record.

- 6: **Save Template Song.** For more information, see "Save Template Song" on page 583.
- 7: **FF/REW Speed.** For more information, see "FF/REW Speed" on page 583
- 8: **Set Location** (for Locate Key.) For more information, see "Set Location (for Locate Key)" on page 583.
- 9: **GM Initialize.** For more information, see "GM Initialize" on page 584.
- 10: **Copy From Combination.** For more information, see "Copy from Combination" on page 584.
- 11: **Copy From Program.** For more information, see "Copy From Program" on page 584.

Track 02... 16 (Track Number)

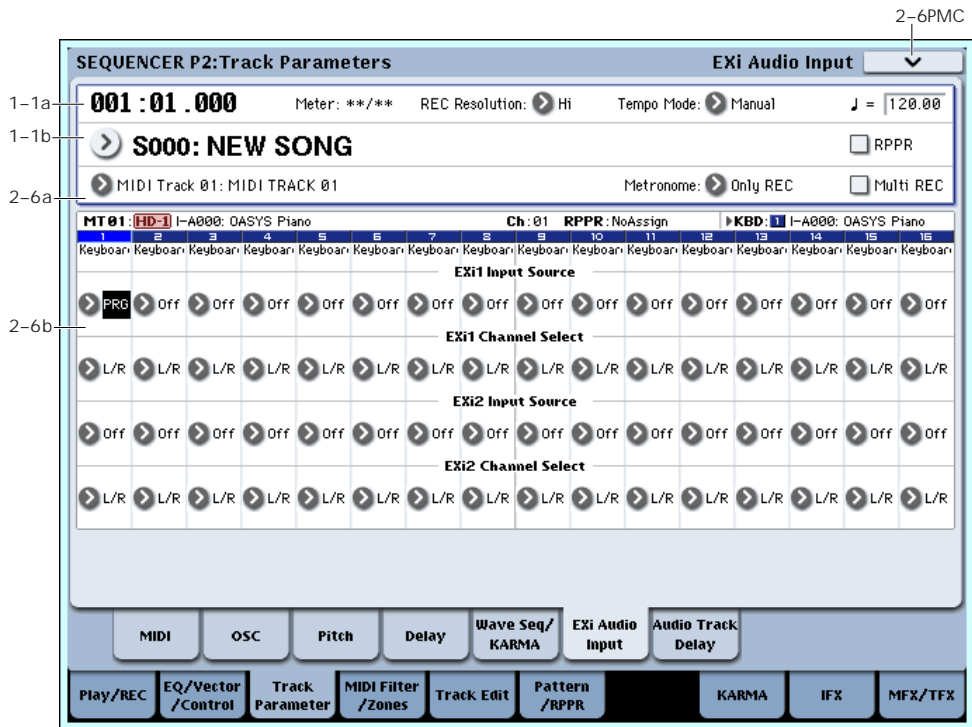
These are the wave sequence and KARMA-related settings for MIDI tracks 2 through 16. They are the same as for track 1. See "Track 01":.

▼ 2-5: Page Menu Commands

The number before each command shows its ENTER + number-key shortcut. For more information on these shortcuts, see "ENTER + 0-9: shortcuts for menu commands" on page 142.

- 0: **Memory Status.** For more information, see "Memory Status" on page 582.
- 1: **Exclusive Solo.** For more information, see "Exclusive Solo" on page 142.
- 2: **Rename Song.** For more information, see "Rename Song" on page 582.
- 3: **Delete Song.** For more information, see "Delete Song" on page 582.
- 4: **Copy From Song.** For more information, see "Copy From Song" on page 582.
- 5: **Load Template Song.** For more information, see "Load Template Song" on page 582.

2-6: EXi Audio Input



These parameters let you route audio into EXi instruments which support audio input, such as the STR-1. You can use this to create feedback loops, or to process live or recorded audio through the EXi's synthesis engine.

EXi which do not support audio input will ignore these settings.

For more information on using audio inputs with the STR-1, see "4-8c: Feedback" on page 261.

2-6a: EXi 1

Input Source [PRG, Off, Audio Input 1/2...3/4, S/P DIF Input L/R, L/R Output, Indiv. Output 1/2...7/8, REC 1/2, 3/4, FX Control 1, 2, IFX 1...12, MFX 1, 2, TFX 1, 2]

This selects the input source for EXi1. You can use this to create a feedback loop, if desired.

PRG uses the setting stored in the Program. You may find this convenient if you use Program Change messages to switch between two EXi Programs, and wish to have the input enabled for one, but disabled for the other. For more information, see "4-2: EXi Audio Input" on page 168.

Off disables the input.

Audio Input 1/2...3/4 and **S/P DIF Input L/R** use the live audio from the selected input.

L/R Output and **Indiv. Output 1/2...7/8** use the audio as it is heard from the selected output (like connecting a cable from the output back to the input).

REC 1/2...3/4 and **FX Control 1, 2** use the audio from the selected bus.

IFX 1...12, MFX 1, 2, and TFX 1, 2 use the output of the selected effect.

Channel Select [Stereo/L+R, Left, Right]

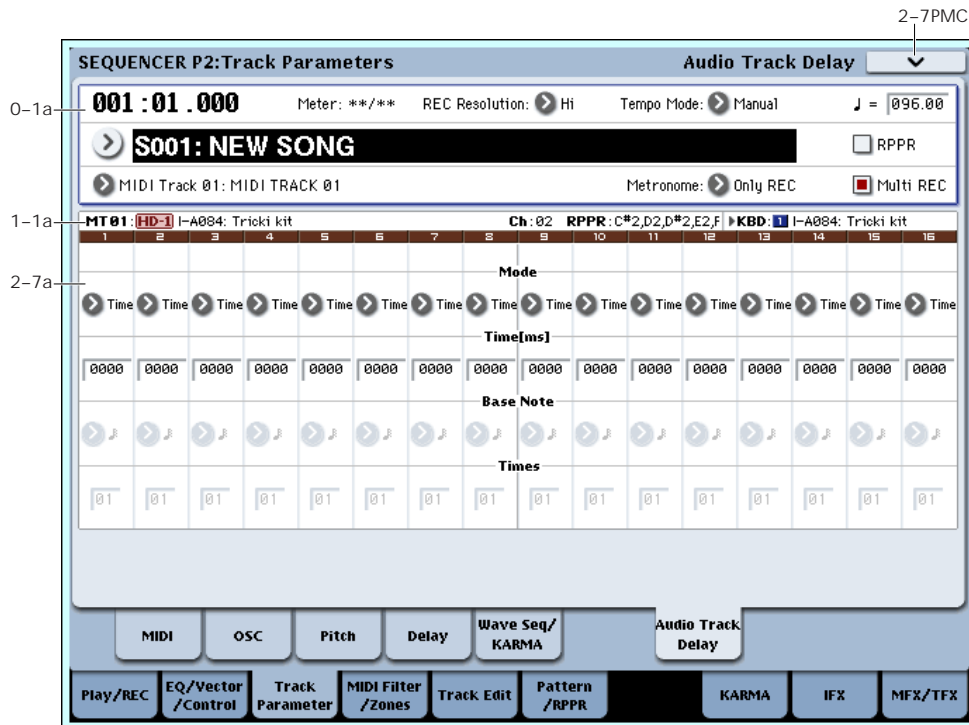
Stereo/L+R: This selection routes a stereo signal to EXi with stereo inputs, and an L+R summation to EXi with mono inputs.

Left, Right: This uses only a mono signal from the selected channel.

2-6b: EXi 2

EXi 2 has the same controls as EXi 1, above.

2-7: Audio Track Delay



Here you can specify a delay time by which the audio events of each audio track will be delayed relative to their “Location.”

2-7a: Delay

Track 01...16 (Track Number)

STEREO

This is shown if “Stereo Pair” is on.

Mode [Time, Tempo]

Time [ms] [0000...6000]

Base Note [♪, ♪, ♫, ♬, ♭, ♮, ♯, ♯, ♯, ♯, ♯, ♯, ♯, ♯, ♯, ♯]

Times [01...32]

For more information, please see “2-4a: Delay” on page 527.

- 4: **Copy From Song.** For more information, see “Copy From Song” on page 582.
- 5: **Load Template Song.** For more information, see “Load Template Song” on page 582.
- 6: **Save Template Song.** For more information, see “Save Template Song” on page 583.
- 7: **FF/REW Speed.** For more information, see “FF/REW Speed” on page 583
- 8: **Set Location** (for Locate Key.) For more information, see “Set Location (for Locate Key)” on page 583.
- 9: **GM Initialize.** For more information, see “GM Initialize” on page 584.
- 10: **Copy From Combination.** For more information, see “Copy from Combination” on page 584.
- 11: **Copy From Program.** For more information, see “Copy From Program” on page 584.

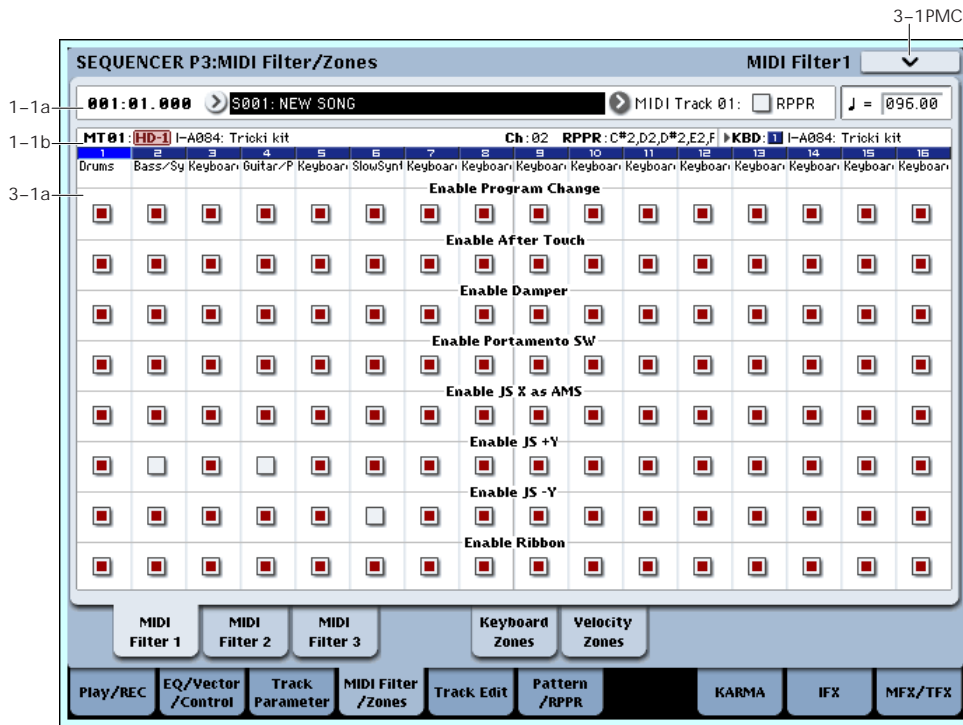
▼ 2-7: Page Menu Commands

The number before each command shows its ENTER + number-key shortcut. For more information on these shortcuts, see “ENTER + 0-9: shortcuts for menu commands” on page 142.

- 0: **Memory Status.** For more information, see “Memory Status” on page 582.
- 1: **Exclusive Solo.** For more information, see “Exclusive Solo” on page 142.
- 2: **Rename Song.** For more information, see “Rename Song” on page 582.
- 3: **Delete Song.** For more information, see “Delete Song” on page 582.

Sequencer P3: MIDI Filter/Zones

3-1: MIDI Filter 1



Here you can select whether or not to apply filtering to the MIDI data received by MIDI tracks 1–16. For example even if two tracks are receiving the same MIDI channel, one can be set to respond to damper pedal activity while the other does not.

- MIDI** These MIDI filter settings have no effect on the MIDI messages that have already been recorded.
- MIDI** These settings affect the MIDI messages that are transmitted when you adjust program, pan, volume, portamento and send 1/2 parameters of a track whose **Status** (2–1a) is set to BTH, EXT, or EX2.

On (checked): Reception of MIDI data is enabled. Tracks whose **Status** (2–1a) is INT or BTH will receive these types of MIDI messages on their respective channels. The type of effects that are checked will be applied to the program of each track when the OASYS's controllers are operated or when MIDI data is received. (The effect dynamic modulation function is not affected by these settings.)

Settings that regulate MIDI transmission/reception of the OASYS itself are made in MIDI Filter (Global 1–1c).

If the user-assignable controllers that can be filtered in the MIDI Filter 2 and 3 pages are set to MIDI control changes, filtering will be performed for these control changes. In this case, any control change filtering that is being performed in the MIDI Filter 1 and 2 pages will be given priority. Furthermore, if the same control change is assigned to multiple controllers for which there are filter settings in the MIDI Filter 2 and 3 pages, checking any one of these will enable that control change.

Off (unchecked): Reception of MIDI data is disabled.

Note: MIDI CC# = MIDI control change message numbers.

3-1a: MIDI Filter 1

Track 01 (Track Number)

Enable Program Change [Off, On]

Specifies whether or not MIDI program change messages will be received.

Enable After Touch [Off, On]

Specifies whether or not MIDI after touch messages will be received.

Enable Damper [Off, On]

Specifies whether or not MIDI CC#64 hold (damper pedal) messages will be received.

Enable Portamento SW [Off, On]

Specifies whether or not MIDI CC#65 portamento on/off messages will be received.

Enable JS X as AMS [Off, On]

Specifies whether or not MIDI pitch bend messages (the X axis of the OASYS's joystick) will be received to control the AMS effect assigned to JS X. (This is not a filter for MIDI pitch bend message reception.) For more information, please see "Alternate Modulation Sources (AMS)" on page 1019.

Enable JS+Y [Off, On]

Specifies whether or not MIDI CC#1 (the +Y axis of the OASYS's joystick, or a Modulation Knob Assign setting) will be received.

Enable JS-Y [Off, On]

Specifies whether or not MIDI CC#2 (the -Y axis of the OASYS's joystick, or a Modulation Knob Assign setting) will be received.

Enable Ribbon [Off, On]

Specifies whether or not MIDI CC#16 (the OASYS's ribbon controller, or specified as the assignment of a realtime modulation knob) will be received.

Track 02...16 (Track Number)

These are the MIDI Filter 1 settings for MIDI tracks 2 through 16. They are the same as for track 1. See "Track 01:".

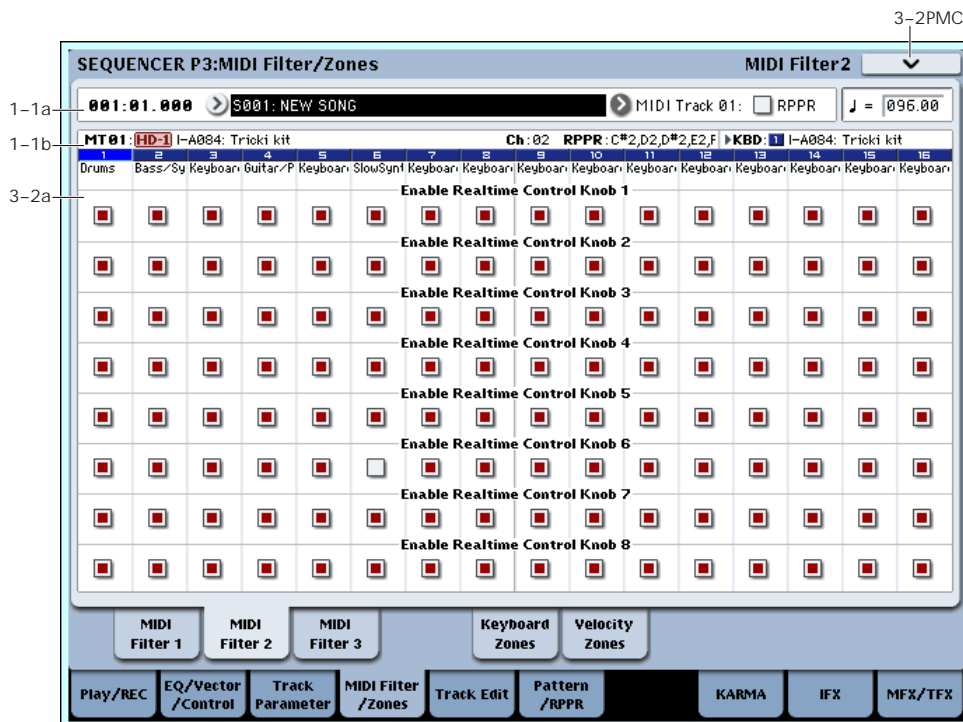
- 1: **Exclusive Solo**. For more information, see "Exclusive Solo" on page 142.
- 2: **Rename Song**. For more information, see "Rename Song" on page 582.
- 3: **Delete Song**. For more information, see "Delete Song" on page 582.
- 4: **Copy From Song**. For more information, see "Copy From Song" on page 582.
- 5: **Load Template Song**. For more information, see "Load Template Song" on page 582.
- 6: **Save Template Song**. For more information, see "Save Template Song" on page 583.
- 7: **FF/REW Speed**. For more information, see "FF/REW Speed" on page 583.
- 8: **Set Location** (for Locate Key.) For more information, see "Set Location (for Locate Key)" on page 583.
- 9: **GM Initialize**. For more information, see "GM Initialize" on page 584.
- 10: **Copy From Combination**. For more information, see "Copy from Combination" on page 584.
- 11: **Copy From Program**. For more information, see "Copy From Program" on page 584.

▼ **3-1: Page Menu Commands**

The number before each command shows its ENTER + number-key shortcut. For more information on these shortcuts, see "ENTER + 0-9: shortcuts for menu commands" on page 142.

- 0: **Memory Status**. For more information, see "Memory Status" on page 582.

3-2: MIDI Filter2



Here you can enable transmission for the REALTIME CONTROLS 1-8 knobs. The MIDI control messages of knobs 1-4 are fixed. The function of knobs 5-8 can be assigned in the Set Up Controllers page.

3-2a: MIDI Filter 2

Track 01 (Track Number)

Enable Realtime Control Knob 1 [Off, On]

Specifies whether Realtime Control knob 1 MIDI CC#74 (the OASYS's filter cutoff frequency) will be received.

Enable Realtime Control Knob 2 [Off, On]

Specifies whether or not Realtime Control knob 2 MIDI CC#71 (the OASYS's filter resonance) will be received.

Enable Realtime Control Knob 3 [Off, On]

Specifies whether or not Realtime Control knob 3 MIDI CC#79 (the OASYS's filter EG intensity) will be received.

Enable Realtime Control Knob 4 [Off, On]

Specifies whether or not Realtime Control knob 4 MIDI CC#72 (the OASYS's filter/amp EG release time) will be received.

Enable Realtime Control Knob 5 [Off, On]

Enable Realtime Control Knob 6 [Off, On]

Enable Realtime Control Knob 7 [Off, On]

Enable Realtime Control Knob 8 [Off, On]

These specify whether or not MIDI message will be received for Realtime Control knobs 5 through 8.

Track 02... 16 (Track Number)

These are the MIDI Filter 2 settings for MIDI tracks 2 through 16. They are the same as for track 1. See "Track 01:".

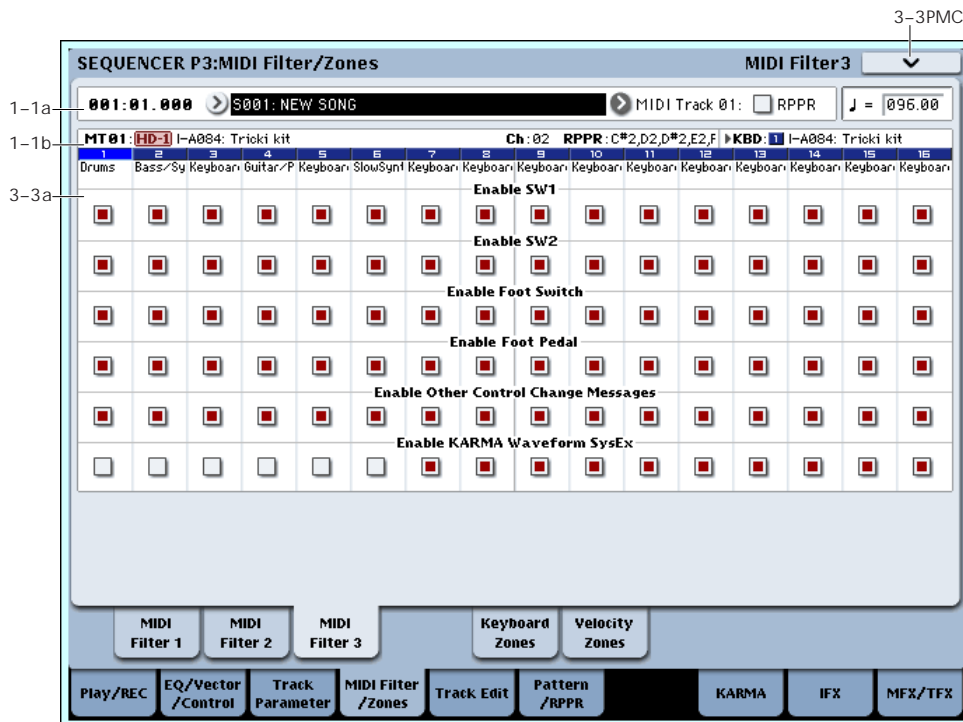
- 8: **Set Location** (for Locate Key.) For more information, see "Set Location (for Locate Key)" on page 583.
- 9: **GM Initialize**. For more information, see "GM Initialize" on page 584.
- 10: **Copy From Combination**. For more information, see "Copy from Combination" on page 584.
- 11: **Copy From Program**. For more information, see "Copy From Program" on page 584.

▼ 3-2: Page Menu Commands

The number before each command shows its ENTER + number-key shortcut. For more information on these shortcuts, see "ENTER + 0-9: shortcuts for menu commands" on page 142.

- 0: **Memory Status**. For more information, see "Memory Status" on page 582.
- 1: **Exclusive Solo**. For more information, see "Exclusive Solo" on page 142.
- 2: **Rename Song**. For more information, see "Rename Song" on page 582.
- 3: **Delete Song**. For more information, see "Delete Song" on page 582.
- 4: **Copy From Song**. For more information, see "Copy From Song" on page 582.
- 5: **Load Template Song**. For more information, see "Load Template Song" on page 582.
- 6: **Save Template Song**. For more information, see "Save Template Song" on page 583.
- 7: **FF/REW Speed**. For more information, see "FF/REW Speed" on page 583

3-3: MIDI Filter3



3-3a: MIDI Filter 3

Track 01 (Track Number)

Enable SW1 [Off, On]

Enable SW2 [Off, On]

Specifies whether or not the effect of the SW1 and SW2 switches will be received.

The function of these switches is specified in the Set Up Controllers page.

These settings are valid if these keys are assigned to SW1 Mod. (CC#80), SW2 Mod. (CC#81), or Portamento SW (CC#65).

Enable Foot Switch [Off, On]

Specifies whether or not the effect of the ASSIGNABLE SWITCH will be received. The function is assigned in Global P2- Controller page.

This filter setting is valid when a MIDI control change is assigned.

Enable Foot Pedal [Off, On]

Specifies whether or not the effect of the ASSIGNABLE PEDAL will be received. The function is assigned in Global P2- Controller page.

This filter setting is valid when a MIDI control change is assigned.

Enable Other Control Change Messages [Off, On]

Specifies whether or not MIDI control messages not covered in the preceding items MIDI Filter will be received.

Enable KARMA Waveform SysEx [Off, On]

This allows you to enable or disable the System Exclusive messages used by KARMA Wave Sequencing.

Track 02... 16 (Track Number)

These are the MIDI Filter 3 settings for MIDI tracks 2 through 16. They are the same as for track 1, as described above.

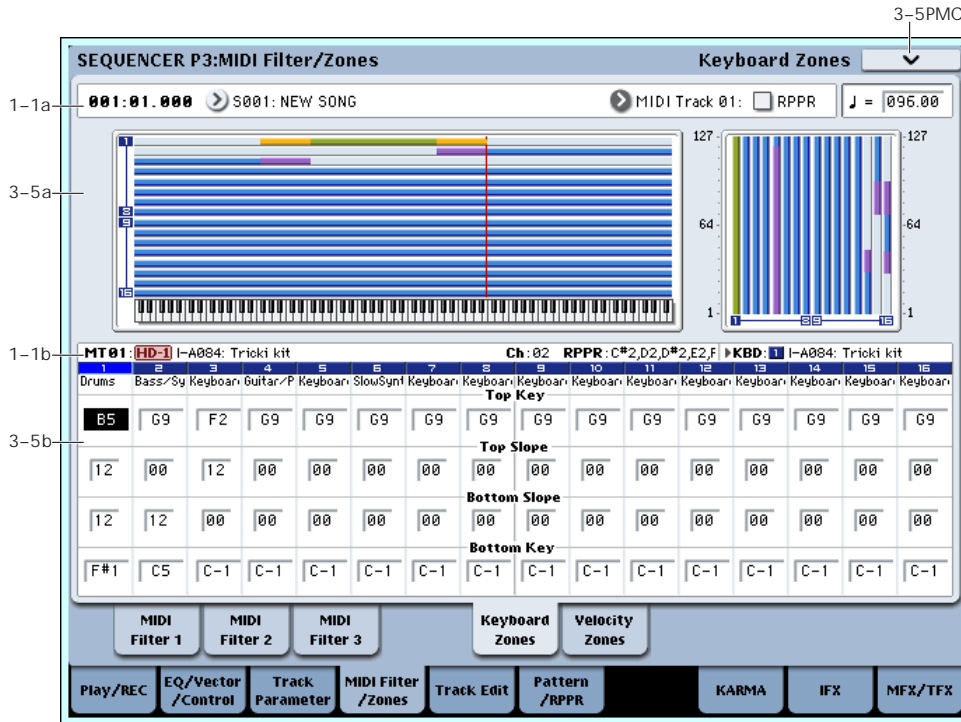
▼ 3-3: Page Menu Commands

The number before each command shows its ENTER + number-key shortcut. For more information on these shortcuts, see "ENTER + 0-9: shortcuts for menu commands" on page 142.

- 0: **Memory Status**. For more information, see "Memory Status" on page 582.
- 1: **Exclusive Solo**. For more information, see "Exclusive Solo" on page 142.
- 2: **Rename Song**. For more information, see "Rename Song" on page 582.
- 3: **Delete Song**. For more information, see "Delete Song" on page 582.
- 4: **Copy From Song**. For more information, see "Copy From Song" on page 582.
- 5: **Load Template Song**. For more information, see "Load Template Song" on page 582.
- 6: **Save Template Song**. For more information, see "Save Template Song" on page 583.
- 7: **FF/REW Speed**. For more information, see "FF/REW Speed" on page 583

- 8: **Set Location** (for Locate Key.) For more information, see “Set Location (for Locate Key)” on page 583.
- 9: **GM Initialize**. For more information, see “GM Initialize” on page 584.
- 10: **Copy From Combination**. For more information, see “Copy from Combination” on page 584.
- 11: **Copy From Program**. For more information, see “Copy From Program” on page 584.

3-5: Keyboard Zones



Here you can specify the key zones in which MIDI tracks 1-16 will sound.

The top/bottom key settings specify the zone in which MIDI tracks 1-16 will sound, and the top/bottom slope settings specify the key range over which the volume will change starting from the top/bottom key.

MIDI These settings do not affect MIDI transmission/reception. All note data that is received will be recorded into the internal sequencer, and all note data from the internal sequencer or from the keyboard will be transmitted.

3-5a: Zone Map

This area indicates the note and velocity ranges in which each MIDI tracks 1-16 will sound.

The LCD screen will display a line to indicate the range of notes and velocities that will sound, and will show the slope portion in different color.

3-5b: Keyboard Zones

Track 01 (Track Number)

Top Key [C-1...G9]

Specifies the top key (upper limit) of the notes that will sound each MIDI track.

Top Slope [00, 01, 02, 03, 04, 06, 08, 10, 12, 18, 24, 30, 36, 48, 60, 72]

Specifies the range of keys (12 is one octave) over which the volume will be reached starting from the top key.

0: The volume will be at the original level from the top key.

12: The volume will increase gradually as you play downward, and will reach the original volume one octave below the top key.

72: The volume will increase gradually as you play downward, and will reach the original volume six octaves below the top key.

Bottom Slope [00, 01, 02, 03, 04, 06, 08, 10, 12, 18, 24, 30, 36, 48, 60, 72]

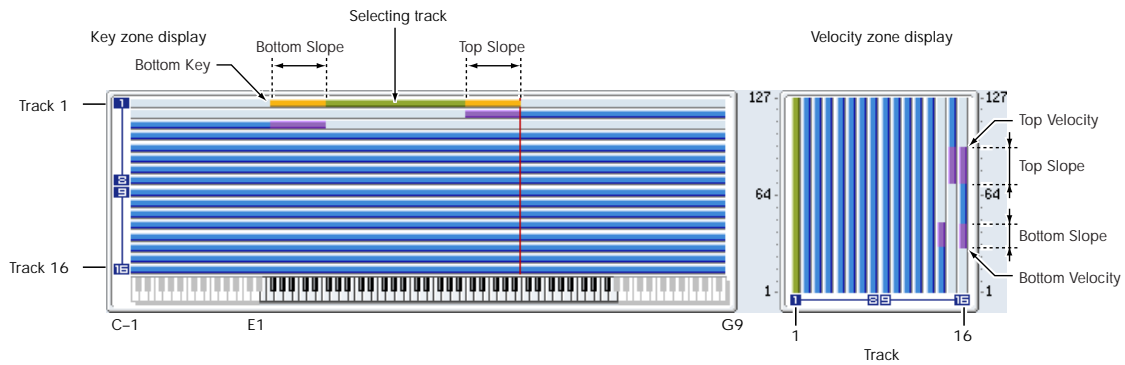
Specifies the range of keys (12 is one octave) over which the volume will be reached starting from the bottom key.

0: The volume will be at the original level from the bottom key.

12: The volume will increase gradually as you play upward, and will reach the original volume one octave above the bottom key.

72: The volume will increase gradually as you play upward, and will reach the original volume six octaves above the bottom key.

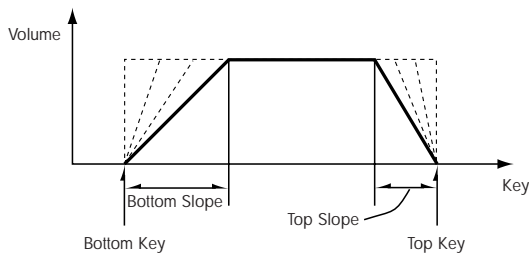
Zone Map



Bottom Key [C-1...G9]

Specifies the bottom key (lower limit) of the notes that will sound each MIDI track.

How volume will change according to keyboard location



Top Key and **Bottom Key** settings can also be input by holding down the ENTER switch and playing a note on the keyboard.

It is not possible to set the bottom key above the top key of the same track. Nor is it possible for the top and bottom slopes to overlap.

Track 02...16 (Track Number)

These are the key zone settings for MIDI tracks 2 through 16. They are the same as for track 1. See "Track 01".

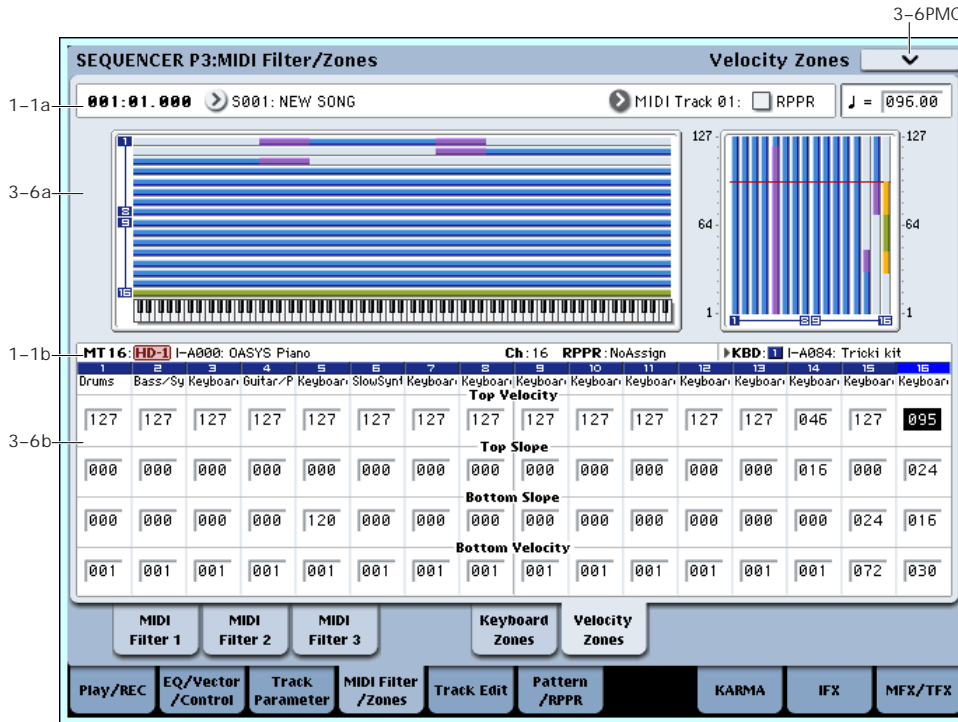
▼ **3-5: Page Menu Commands**

The number before each command shows its ENTER + number-key shortcut. For more information on these shortcuts, see "ENTER + 0-9: shortcuts for menu commands" on page 142.

- 0: **Memory Status.** For more information, see "Memory Status" on page 582.
- 1: **Exclusive Solo.** For more information, see "Exclusive Solo" on page 142.
- 2: **Rename Song.** For more information, see "Rename Song" on page 582.
- 3: **Delete Song.** For more information, see "Delete Song" on page 582.
- 4: **Copy From Song.** For more information, see "Copy From Song" on page 582.
- 5: **Load Template Song.** For more information, see "Load Template Song" on page 582.

- 6: **Save Template Song.** For more information, see "Save Template Song" on page 583.
- 7: **FF/REW Speed.** For more information, see "FF/REW Speed" on page 583
- 8: **Set Location (for Locate Key.)** For more information, see "Set Location (for Locate Key)" on page 583.
- 9: **GM Initialize.** For more information, see "GM Initialize" on page 584.
- 10: **Copy From Combination.** For more information, see "Copy from Combination" on page 584.
- 11: **Copy From Program.** For more information, see "Copy From Program" on page 584.

3-6: Velocity Zones



Here you can set the Top/Bottom Velocity parameters to specify the range of velocities that will be sounded by MIDI tracks 1-16, and Top/Bottom Slope specify the range over which the volume will be adjusted.

MIDI These settings do not affect MIDI transmission/reception. All note data that is received will be recorded into the internal sequencer, and all note data from the internal sequencer or from the keyboard will be transmitted.

⚠ It is not possible to set the bottom velocity greater than the top velocity for the same track. Nor can the top slope and the bottom slope overlap.

3-6a: Zone Map

This area indicates the note and velocity ranges in which each MIDI track will sound. For more information, please see “3-5a: Zone Map” on page 536.

3-6b: Velocity Zones

Track 01 (Track Number)

Top Velocity [1...127]

Specifies the maximum velocity value that will sound each track.

Top Slope [0...120]

Specifies the number of velocity steps over which the original volume will be reached, starting from the Top Velocity.

0: The volume will be at the original value from the top velocity.

120: The volume will decrease as the velocity approaches the top velocity.

Bottom Slope [0...120]

Specifies the number of velocity steps over which the original volume will be reached, starting from the Bottom Velocity.

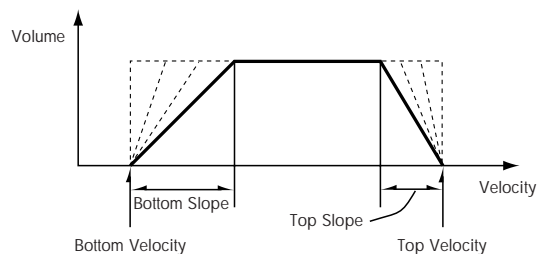
0: The volume will be at the original value from the bottom velocity.

120: The volume will decrease as the velocity approaches the bottom velocity.

Bottom Velocity [1...127]

Specifies the minimum velocity that will be sounded by each MIDI track 1-16.

How volume will change according to keyboard location



“Top Velocity” and “Bottom Velocity” settings can also be input by holding down the ENTER switch and playing a note on the keyboard.

Track 02... 16 (Track Number)

These are the velocity zone settings for MIDI tracks 2 through 16. They are the same as for track 1. See “Track 01”:

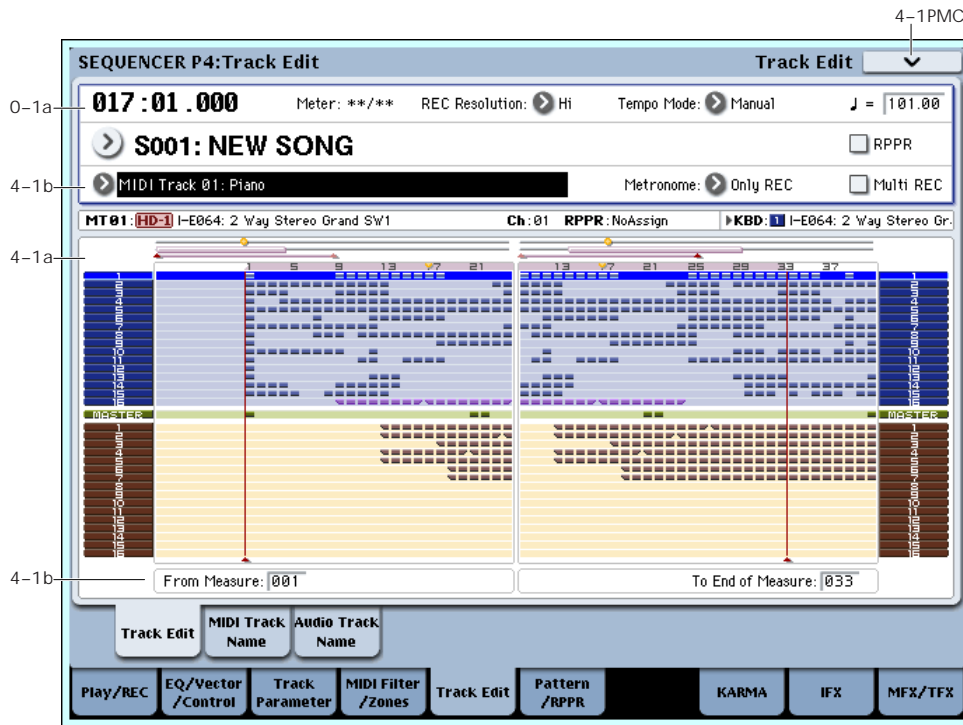
▼ 3–6: Page Menu Commands

The number before each command shows its ENTER + number-key shortcut. For more information on these shortcuts, see “ENTER + 0-9: shortcuts for menu commands” on page 142.

- **0: Memory Status.** For more information, see “Memory Status” on page 582.
- **1: Exclusive Solo.** For more information, see “Exclusive Solo” on page 142.
- **2: Rename Song.** For more information, see “Rename Song” on page 582.
- **3: Delete Song.** For more information, see “Delete Song” on page 582.
- **4: Copy From Song.** For more information, see “Copy From Song” on page 582.
- **5: Load Template Song.** For more information, see “Load Template Song” on page 582.
- **6: Save Template Song.** For more information, see “Save Template Song” on page 583.
- **7: FF/REW Speed.** For more information, see “FF/REW Speed” on page 583.
- **8: Set Location (for Locate Key.)** For more information, see “Set Location (for Locate Key)” on page 583.
- **9: GM Initialize.** For more information, see “GM Initialize” on page 584.
- **10: Copy From Combination.** For more information, see “Copy from Combination” on page 584.
- **11: Copy From Program.** For more information, see “Copy From Program” on page 584.

Sequencer P4: Track Edit

4-1: Track Edit



Here you can edit MIDI tracks, the master track, and audio tracks.

When editing a MIDI track, you can move, insert, and delete individual events of note or control change data, or copy, move, insert, and delete measures or tracks. You can also perform Step Recording in this page.

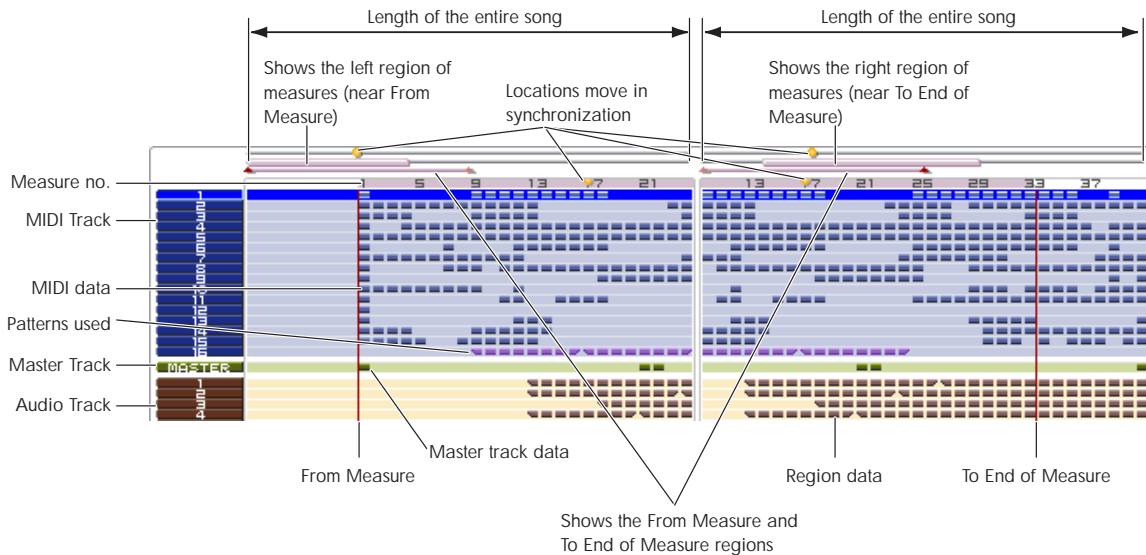
When editing the master track, you can edit the tempo and time signature data.

You can edit audio tracks by moving/inserting/deleting individual data events, or by copying/moving/inserting/deleting specified measures or tracks.

Note: To perform track editing (or step editing), use **Track Select** to select the track you want to edit, and use **From Measure** and **To End of Measure** parameters to specify the region that you want to edit. Then choose a command from the page menu, and execute the edit. For details on the specific commands, see “Sequencer: Page Menu Commands” on page 582.

4-1a: Track data Map

This area shows the presence or absence of performance data, and indicates the edit range, etc. The currently selected Track will be highlighted.



4-1b: Track Select, From Measure, To End of Measure

Track Select [MIDI Track01...MIDI Track16, Master Track, Audio Track01...Audio Track16]

Here you can select the track you want to edit (or use as the copy-source) or record.

If you want to perform an operation on all tracks, you don't need to specify a track here. Simply turn on **All Tracks** in the page menu command dialog box.

MIDI Track 01...16: Choose this if you want to edit a MIDI track.

Master Track: Choose this if you want to edit the master track.

Audio Track 01...16: Choose this if you want to edit an audio track.

If you select an audio track for which stereo pairing is enabled, and execute an edit, the same edit will also be applied to the other audio track of the pair. However, automation edits will affect only one audio track.

Note: The available page menu commands will differ depending on whether you select a MIDI Track 01–MIDI Track 16 or Master Track, or an Audio Track 01–Audio Track 16.

From Measure [001...999]

To End of Measure [001...999]

Specifies the range of measures that you wish to edit (or copy from) or step-record.

Use **From Measure** to specify the starting measure, and **To End of Measure** to specify the ending measure.

▼ 4-1: Page Menu Commands

The available commands will be different depending on whether the currently selected Track is MIDI or Audio, as shown below.

The number before each command shows its ENTER + number-key shortcut. For more information on these shortcuts, see "ENTER + 0-9: shortcuts for menu commands" on page 142.

MIDI Track Edit commands

- 0: **Memory Status.** For more information, see "Memory Status" on page 582.
- 1: **Exclusive Solo.** For more information, see "Exclusive Solo" on page 142.
- 2: **MIDI Step Recording.** For more information, see "MIDI Step Recording" on page 593.
- 3: **MIDI Event Edit.** For more information, see "MIDI Event Edit" on page 595.
- 4: **Set Song Length.** For more information, see "Set Song Length" on page 600.
- 5: **Erase Track.** For more information, see "Erase Track" on page 600.
- 6: **Copy Track.** For more information, see "Copy Track" on page 600.
- 7: **Bounce Track.** For more information, see "Bounce Track" on page 601.

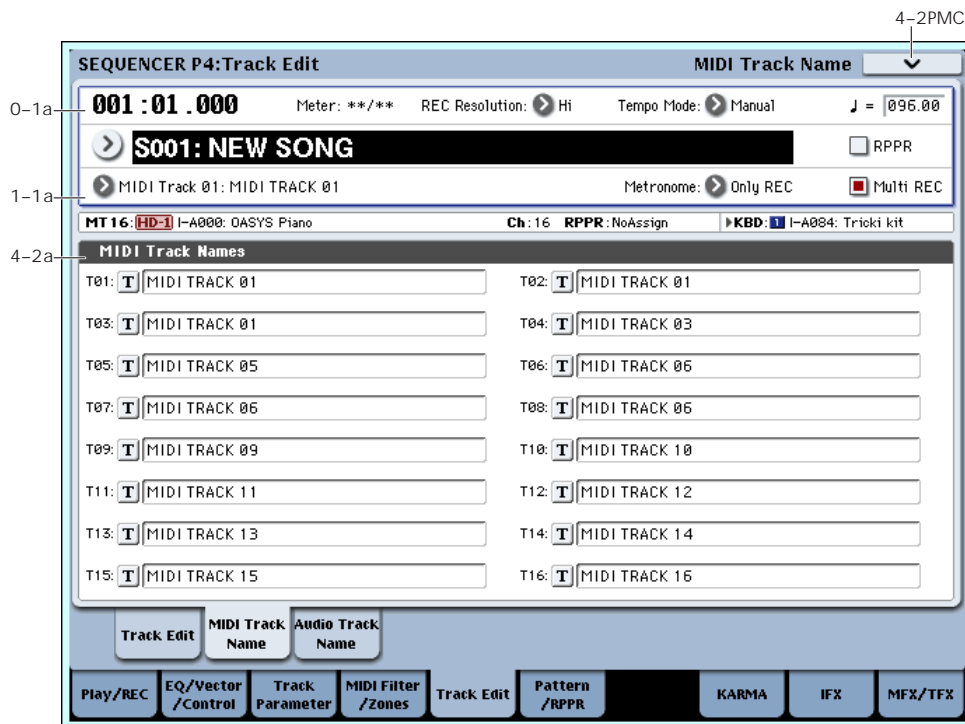
- 8: **Erase Measure.** For more information, see "Erase Measure" on page 601.
- 9: **Delete Measure.** For more information, see "Delete Measure" on page 602.
- 10: **Insert Measure.** For more information, see "Insert Measure" on page 603.
- 11: **Repeat Measure.** For more information, see "Repeat Measure" on page 604.
- 12: **Copy Measure.** For more information, see "Copy Measure" on page 604.
- 13: **Move Measure.** For more information, see "Move Measure" on page 605.
- 14: **Create Control Data.** For more information, see "Create Control Data" on page 605.
- 15: **Erase Control Data.** For more information, see "Erase Control Data" on page 606.
- 16: **Quantize.** For more information, see "Quantize" on page 606.
- 17: **Shift/Erase Note.** For more information, see "Shift/Erase Note" on page 607.
- 18: **Modify Velocity.** For more information, see "Modify Velocity" on page 608.
- 19: **FF/REW Speed.** For more information, see "FF/REW Speed" on page 583.
- 20: **Set Location** (for Locate Key.) For more information, see "Set Location (for Locate Key)" on page 583.

Audio Track Edit commands

- 0: **Memory Status.** For more information, see "Memory Status" on page 582.
- 1: **Exclusive Solo.** For more information, see "Exclusive Solo" on page 142.
- 2: **Audio Event Edit.** For more information, see "Audio Event Edit" on page 596.
- 3: **Audio Automation Edit.** For more information, see "Audio Automation Edit" on page 599.
- 4: **Set Song Length.** For more information, see "Set Song Length" on page 600.
- 5: **Erase Track.** For more information, see "Erase Track" on page 600.
- 6: **Copy Track.** For more information, see "Copy Track" on page 600.
- 7: -----
- 8: **Erase Measure.** For more information, see "Erase Measure" on page 601.
- 9: **Delete Measure.** For more information, see "Delete Measure" on page 602.
- 10: **Insert Measure.** For more information, see "Insert Measure" on page 603.
- 11: **Repeat Measure.** For more information, see "Repeat Measure" on page 604.
- 12: **Copy Measure.** For more information, see "Copy Measure" on page 604.
- 13: **Move Measure.** For more information, see "Move Measure" on page 605.

- 14: **Region Edit**. For more information, see “Region Edit” on page 609.
- 15: **Volume Ramp**. For more information, see “Volume Ramp” on page 610.
- 16: **Copy Song’s Tempo to Region**. For more information, see “Copy Song’s Tempo to Region” on page 611.
- 17: **Adjust Song’s Tempo to Region**. For more information, see “Adjust Song’s Tempo to Region” on page 611.
- 18: **Adjust Region to Song’s Tempo (Time Stretch)**. For more information, see “Adjust Region to Song’s Tempo (Time Stretch)” on page 612.
- 19: **FF/REW Speed**. For more information, see “FF/REW Speed” on page 583
- 20: **Set Location** (for Locate Key.) For more information, see “Set Location (for Locate Key)” on page 583.

4-2: MIDI Track Name



Here you can assign a name to each track.

4-2a: MIDI Track Names

T01...T16 [MIDI Track Name]

Here you can rename the MIDI tracks.

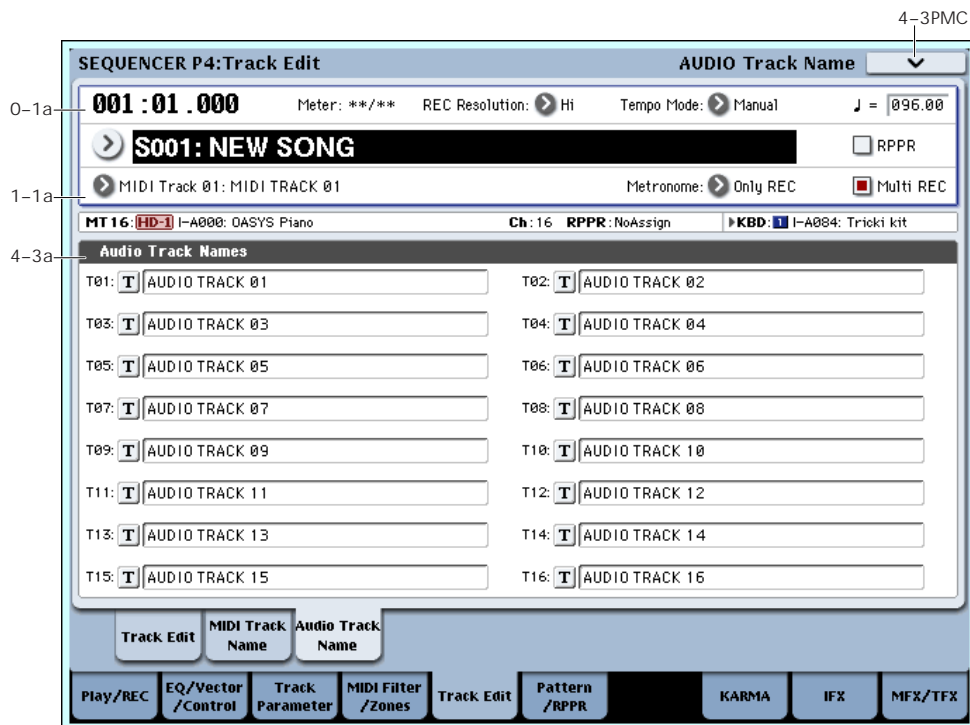
Press the text edit button to open the dialog box, and input the desired characters. You can enter up to 24 characters. For more information, see “Editing names” on page 172 of the Operation Guide.

▼ 4-2: Page Menu Commands

The available commands will be different depending on whether the currently selected Track is MIDI or Audio.

The commands are exactly the same as for the main Track Edit page; for more information, see “MIDI Track Edit commands” on page 541, and “Audio Track Edit commands” on page 541.

4-3: AUDIO Track Name



Here you can assign a name to each audio track.

4-3a: Audio Track Names

T01...T16 [Audio Track Name]

Here you can rename the audio tracks.

Press the text edit button to open the dialog box, and input the desired characters. You can input up to 24 characters. For more information, see “Editing names” on page 172 of the Operation Guide.

▼ 4-3: Page Menu Commands

The available commands will be different depending on whether the currently selected Track is MIDI or Audio.

The commands are exactly the same as for the main Track Edit page; for more information, see “MIDI Track Edit commands” on page 541, and “Audio Track Edit commands” on page 541.

Sequencer P5: Pattern/RPPR

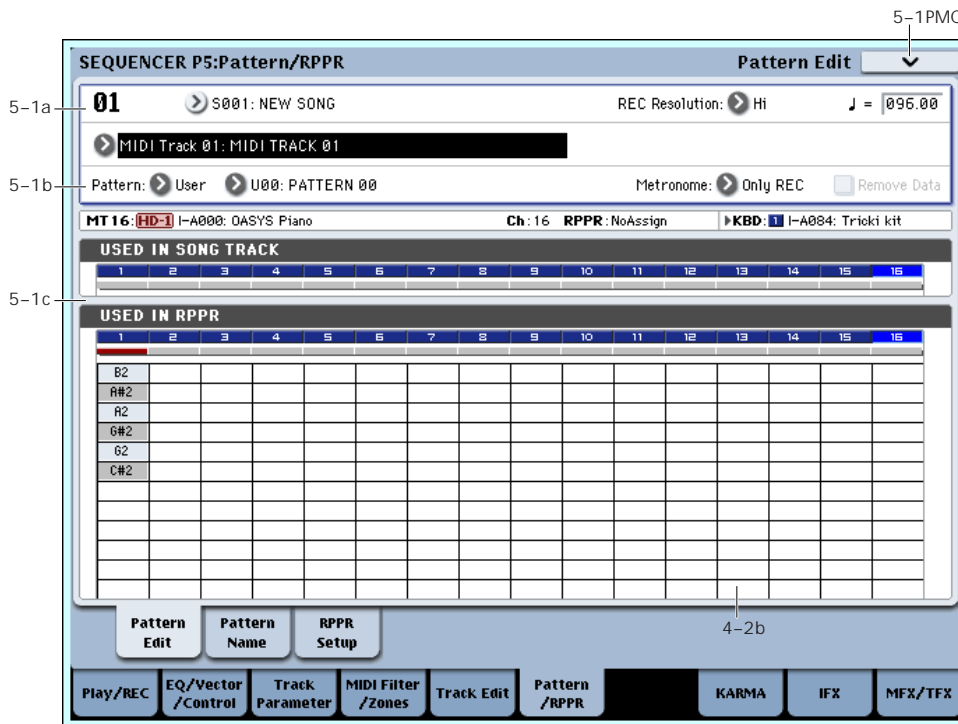
On the OASYS you can use preset patterns P00–155, and user patterns U00–99.

Preset patterns provide patterns that are suitable for drum tracks, and can be selected from any song.

One hundred user patterns are provided for each song; you can create and store your own patterns in these.

Normally, you will create a track of performance data by using the “Put To MIDI Track” or “Copy To MIDI Track” page menu commands to place patterns consisting of several measures into a track. You can also use the RPPR function, which lets you trigger patterns assigned to each key simply by pressing the desired key, and realtime-record the patterns that play back. (See the RPPR Setup page.)

5–1: Pattern Edit



Here you can record and edit patterns, and assign them to tracks of a song. The following types of pattern operations are available.

User patterns can be recorded in real-time (as well as recorded from performances generated by the KARMA function), step-recorded, or created using the Get From MIDI Track command or Copy Pattern command. You can also copy a preset pattern to a user pattern and edit it. (You can't directly edit a preset pattern.)

Preset patterns and user patterns can be placed in or copied into a track.

5–1a: Location, Resolution, Tempo, Song/Track Select

Location [01...99]

Displays the current measure location of the selected pattern.

Song Select [000...199: name]

Selects a song.

The user pattern will be created in the song you select.

Resolution [Hi, , , , , , ,]

Specifies how the timing of the data being recorded into the pattern will be corrected. For details, see “REC Resolution (Realtime REC Quantize Resolution)” on page 472.

Tempo [040.00...240.00, EXT]

Specifies the playback tempo of the pattern. For details, see “Tempo” on page 472.

Track Select [MIDI Track01...MIDI Track16, Master Track, Audio Track01...Audio Track16]

Selects the track that will be used to record/play the pattern data. The pattern data will be recorded/played using the settings of the track you select. The area at the right displays the program bank, number, and name for the selected track.

Settings of Master Track, Audio Track 01–16 will be ignored. The most recently selected MIDI Track 01–16 will be used.

5-1b: Pattern, Pattern Select, Metronome, Remove Data

How to record a user pattern

1. Use "Song Select" to select the song in which you want to create a user pattern.

2. Use Track Select to select the sound that you will record.

The pattern you record will sound according to your choice in Track Select.

3. Use Pattern Bank and Pattern Select to select User pattern and the desired pattern number.

4. Select the page menu command "Pattern Parameter," and in the dialog box, specify the number of measures and time signature of the pattern.

5. Check the tempo in "♪".

6. If you want to record in realtime, set "Resolution" to specify the resolution, and press the SEQUENCER REC/WRITE switch and then the START/STOP switch to begin recording.

When you finish recording to the end of the measures specified by "Pattern Parameter," you will return to the first measure, and can continue recording while adding more material. For details, see "Loop All Tracks" on page 485.

If you want to perform step recording, select the page menu command "Step Recording (Loop Type)" to open the dialog box, and record. For the procedure of step recording, see "MIDI Step Recording" on page 593 and "Step Recording (Loop Type)" on page 612.

7. After recording, use the page menu commands as desired to edit the pattern or the events in the pattern.

Pattern (Pattern Bank) [Preset, User]

Selects the type of pattern.

If Preset is selected, it will not be possible to record. You will be able to select and execute the "Copy Pattern," "Bounce Pattern," "Put To MIDI Track," and "Copy To MIDI Track" page menu commands.

Pattern Select [P000...149, U00...U99]

Selects a pattern. User patterns can be renamed in the P5- Pattern Name page.

Metronome [Only REC, REC & Play, Off]

Specifies whether the metronome will sound during recording or playback. For details, see "0-5d: Metronome Setup" on page 487.

Remove Data [Off, On]

On (checked): Unwanted performance data can be removed during pattern recording. The procedure is the same as explained in "Remove Data" of Loop All Tracks. For details, see "Remove Data" on page 485.

5-1c: USED IN SONG TRACK, USED IN RPPR

USED IN SONG TRACK

This area indicates the pattern usage status for the patterns selected for the track.

USED IN RPPR

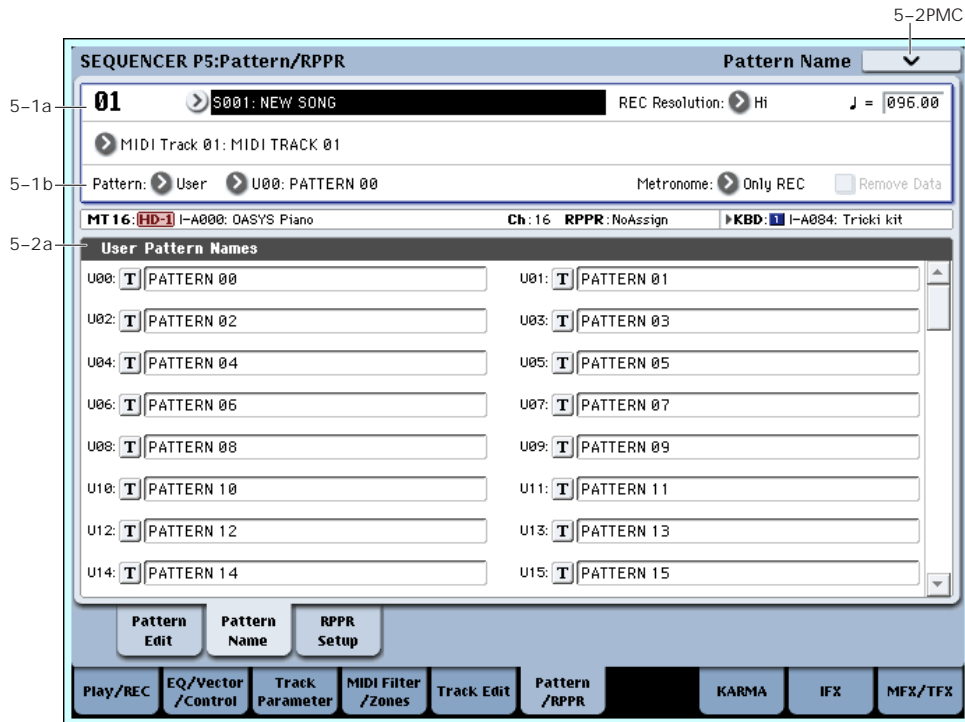
This area indicates the RPPR in which the selected pattern is used. The assigned key and the specified track are shown.

▼ 5-1: Page Menu Commands

The number before each command shows its ENTER + number-key shortcut. For more information on these shortcuts, see "ENTER + 0-9: shortcuts for menu commands" on page 142.

- 0: **Memory Status.** For more information, see "Memory Status" on page 582.
- 1: **Step Recording (Loop Type).** For more information, see "Step Recording (Loop Type)" on page 612.
- 2: **Event Edit.** For more information, see "Event Edit" on page 612.
- 3: **Pattern Parameter.** For more information, see "Pattern Parameter" on page 612.
- 4: **Erase Pattern.** For more information, see "Erase Pattern" on page 613.
- 5: **Copy Pattern.** For more information, see "Copy Pattern" on page 613.
- 6: **Bounce Pattern.** For more information, see "Bounce Pattern" on page 613.
- 7: **Get From MIDI Track.** For more information, see "Get From MIDI Track" on page 613.
- 8: **Put To MIDI Track.** For more information, see "Put To MIDI Track" on page 614.
- 9: **Copy To MIDI Track.** For more information, see "Copy To MIDI Track" on page 614.
- 10: **FF/REW Speed.** For more information, see "FF/REW Speed" on page 583.

5-2: Pattern Name



5-2a: User Pattern Names

Pattern name [U00...U99]

Here you can rename the pattern. Press the text edit button to open the dialog box, and input the name. You can enter up to 24 characters. For more information, see “Editing names” on page 172 of the Operation Guide.

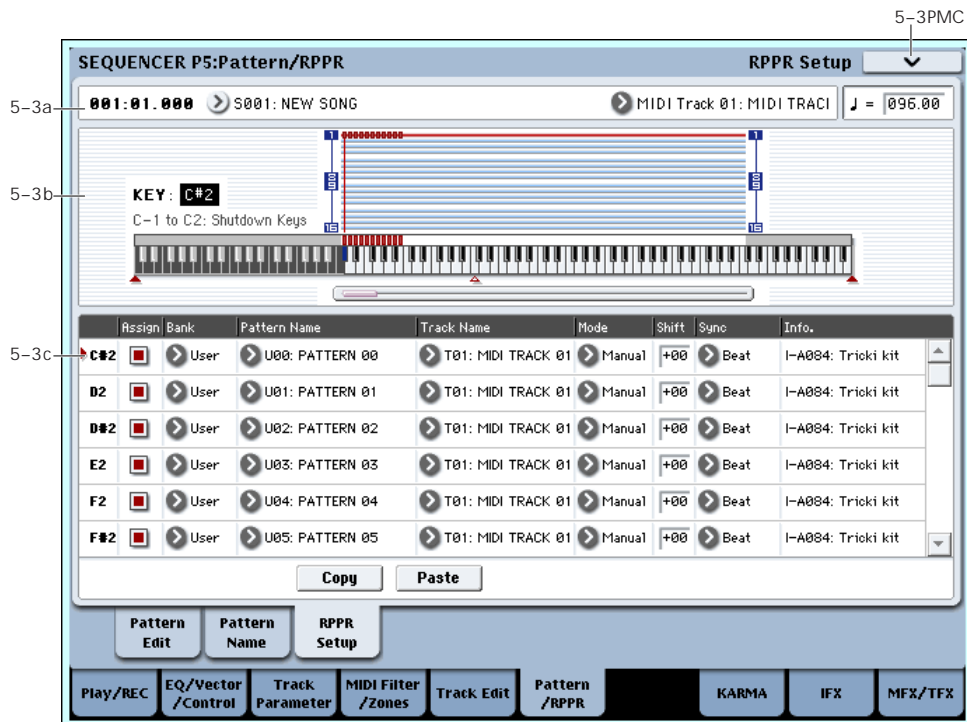
- 8: **Put To MIDI Track**. For more information, see “Put To MIDI Track” on page 614.
- 9: **Copy To MIDI Track**. For more information, see “Copy To MIDI Track” on page 614.
- 10: **FF/REW Speed**. For more information, see “FF/REW Speed” on page 583

▼ 5-2: Page Menu Commands

The number before each command shows its ENTER + number-key shortcut. For more information on these shortcuts, see “ENTER + 0-9: shortcuts for menu commands” on page 142.

- 0: **Memory Status**. For more information, see “Memory Status” on page 582.
- 1: **Step Recording (Loop Type)**. For more information, see “Step Recording (Loop Type)” on page 612.
- 2: **Event Edit**. For more information, see “Event Edit” on page 612.
- 3: **Pattern Parameter**. For more information, see “Pattern Parameter” on page 612.
- 4: **Erase Pattern**. For more information, see “Erase Pattern” on page 613.
- 5: **Copy Pattern**. For more information, see “Copy Pattern” on page 613.
- 6: **Bounce Pattern**. For more information, see “Bounce Pattern” on page 613.
- 7: **Get From MIDI Track**. For more information, see “Get From MIDI Track” on page 613.

5-3: RPPR Setup



Here you can make settings for the RPPR (Realtime Pattern Play/Recording) function. RPPR lets you assign patterns to individual keys, and then playback patterns simply by pressing individual notes on the keyboard. This performance can be recorded in real-time.

For each song, you can assign either a preset pattern or a user pattern to each of the 72 keys in the range C#2–C8. For each key, you can specify the pattern, track number, and how the pattern will be played.

- Keys used to play patterns via RPPR cannot be used for the KARMA function. If RPPR is on, keys to which a pattern is not assigned will play the program of the track that's selected in **Track Select**. In this case, the KARMA function will operate if KARMA Module A, B, C, or D is assigned to the track and turned on. Also, notes generated by the KARMA function will not trigger the RPPR function.

MIDI When Local Control is OFF ("Local Control On" Global 1-1a), the keyboard will not trigger RPPR pattern playback. Notes received at MIDI IN on the channel of the track currently selected by **Track Select** will trigger patterns. If you have recorded only the trigger notes on an external sequencer and wish to use the playback from the external sequencer to trigger RPPR patterns on OASYS, set Local Control OFF.

If you want the note data generated by RPPR to be recorded by the external sequencer, set Local Control ON, and turn off the echo back function of the external sequencer. See "Local Control On settings" on page 1056.

- In the RPPR Setup page, RPPR is turned on automatically. This will be the same result as when the RPPR check box (0-1a) in each page is checked.

5-3a: Song Select, Track Select, Tempo

Song Select [00...199: name]

Selects the desired song. The RPPR settings will be assigned to the song you select here.

Track Select [MIDI Track01...MIDI Track16, Master Track, Audio Track01...Audio Track16]

When you play a key that is not assigned to RPPR, it will sound using the settings of the track that's selected in **Track Select**. Use this to select the track that you want to play together with RPPR, or to audition a pattern before you assign it. The program bank, number, and name of the selected track is shown at the right.

Each RPPR pattern will begin playing when you press the assigned key, regardless of the **Track Select** setting. It will sound using the settings of the track selected in "Track Name."

- The Master Track and Audio Track 01-16 settings are ignored. The last-selected MIDI Track 01-16 will be used.

♪ (Tempo) [040.00...240.00, EXT]

Specifies the playback tempo of the patterns. (0-1a)

5-3b: KEY, Keyboard & Assigned graphics

KEY (Key Select) [C#2...C8]

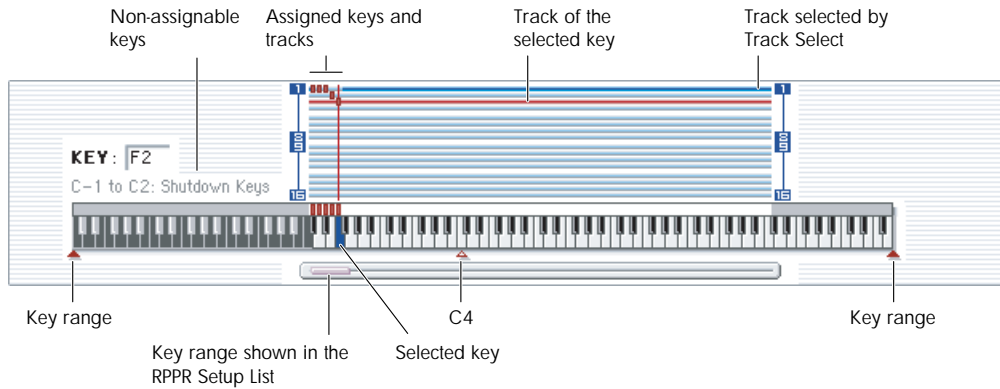
Specifies the key to which you want to assign an RPPR pattern.

The following parameters will apply to the key that you select here.

This can also be selected by holding down the ENTER switch and playing a note on the keyboard.

Keyboard & Assigned graphics

This shows the selected key, and the keys to which a pattern has been assigned by the RPPR function. See diagram below.



5-3c: RPPR Setup

Note [C#2...C8]

Assign [Off, On]

On (checked): When you playback the key specified by "KEY," the pattern selected in **Pattern** will be triggered.

Off (unchecked): That key will sound the currently selected track at the corresponding pitch, just as in normal Sequencer mode.

Pattern Bank [Preset, User]

Pattern [P000...149, U00...99]

Selects the RPPR pattern for the key selected in "KEY." If the selected user pattern contains no musical data, there will be no sound when you press that key.

Track [MIDI Track 01...MIDI Track16]

Selects the track that will be used for the RPPR pattern selected for the "KEY." When you play the key, the pattern will be played according to the settings of the track you select here. You can make track settings in the P0: Play/REC-P3: MIDI Filter pages.

When you record in realtime with the RPPN function turned on, the data will be recorded on the track you select here. For details, see "Using RPPR (Realtime Pattern Play/Record)" on page 117.

"Information" shows the bank, name, and number of the program that's selected for **Track**.

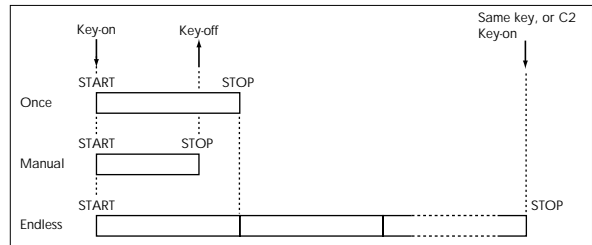
Mode [Once, Manual, Endless]

Specifies the way in which the pattern assigned to the specified "KEY" will be played.

Once: When you press the key, the complete pattern will playback once to the end and then stop.

Manual: The pattern will continue repeating as long as you continue holding the key, and will stop as soon as you release the key.

Endless: The pattern will continue repeating even after you release the key. To stop the pattern playback, press any note below C2, or press the same key once again.



Shift [-12...+12]

Adjusts the playback pitch of the pattern for the specified "KEY" in semitone steps over a range of ±1 octave.

With a setting of 0, the pattern will be played at its original pitch.

Sync [Off, Beat, Measure, SEQ]

Specifies the way in which the pattern playback will be synchronized when you press the specified "KEY."

Off: The pattern will begin playing at the moment you press the note.

Beat: The pattern will synchronize to the beats of the pattern that was started by the first key (i.e., the first note-on that occurs from a condition where no notes of the keyboard are pressed). This setting is suitable when you wish to play phrase patterns in unison.

Measure: The pattern will synchronize to the measures of the pattern that was started by the first key. This setting is suitable for rhythm, bass or drum patterns.

SEQ: The pattern will synchronize to the measures of the sequencer song.

Sync settings

Key 1 on Key 2 on Key 1 off

Song

Patterns 1 and 2 are set to Mode=Manual, and have Identical Sync settings

Sync: Off
Pattern 1
Pattern 2

Sync: Beat
Pattern 1
Pattern 2

Sync: Measure
Pattern 1
Pattern 2

Sync: SEQ
Pattern 1
Pattern 2

- When Beat or Measure are selected, pattern playback will begin when you press the first key. The second and subsequent patterns that are triggered from the keyboard will synchronize to the pattern that was started by the first key; with a setting of Beat they will synchronize in steps of a beat, and with a setting of Measure they will synchronize in steps of a measure.
- When SEQ is selected, the pattern will playback in synchronization with the measures of the sequencer song. The pattern will synchronize with the currently-playing song, so you must start the song before you play notes on the keyboard.
- Beat, Measure, and SEQ will cause the pattern to start immediately if you play the key within a thirty-second note of the timing of the respective beat or measure, but if you play the key later than this, the start of the pattern will be delayed by a beat.

Information

This area shows the bank, name, and number of the program that's selected for the track.

Stopping playback of a RPPR pattern

By pressing C2 (or any note lower than C2), all the patterns being played by RPPR will stop.

The patterns of keys whose "Sync" setting is Off will stop immediately, but the playback of other keys will stop at the beginning of the next beat or measure. Pattern playback of keys whose "Sync" setting is other than On can be stopped immediately by rapidly pressing C2 or any lower note twice in succession.

Copy

This copies the **Assign, Pattern Bank, Pattern, Track, Mode, Shift,** and **Sync** settings of the selected "KEY" into a copy buffer.

Paste

This pastes the settings from the copy buffer (obtained by "Copy") into the "KEY" of the selected parameter.

Example): Assigning preset patterns P00, P01, and P02 to "KEY"

Before you begin, assign a drum program such as MIDI track 1.

1. Check C#2 "Assign." Set Pattern Bank to Preset, set Pattern to P00, and set Track to MIDI Track 01.

With a C#2 parameter selected, press "Copy."

Assign	Bank	Pattern Name	Track Name
C#2	Preset	P00: Pop&Balad 1/Stc	T01: MIDI TRACK 01
D2	User	U00: PATTERN 00	T01: MIDI TRACK 01
D#2	User	U00: PATTERN 00	T01: MIDI TRACK 01
E2	User	U00: PATTERN 00	T01: MIDI TRACK 01
F2	User	U00: PATTERN 00	T01: MIDI TRACK 01
F#2	User	U00: PATTERN 00	T01: MIDI TRACK 01

Copy Paste

2. Select a D2 parameter, and press the Paste button.

The **Assign, Pattern Bank, Pattern, Track, Mode, Shift,** and **Sync** settings you made in step 1 will be copied automatically.

3. Change just the Pattern. Select Pattern, and press the Δ switch to select P01.

4. Select a D#2 parameter and press the Paste button.

The **Assign, Pattern Bank, Pattern, Track, Mode, Shift,** and **Sync** settings you made in step 1 will be copied automatically.

As you did in step 3, set **Pattern** to P02.

By using "Copy," "Paste" in this way, you can efficiently specify "Pattern (Pattern Bank)," **Pattern,** and **Track** settings for each "KEY" when creating RPPR data. This is particularly convenient when, as in the above example, the patterns that you want to assign to the keys are numbered consecutively (or are nearby each other), and use the same track.

▼ 5-3: Page Menu Commands

The number before each command shows its ENTER + number-key shortcut. For more information on these shortcuts, see "ENTER + 0-9: shortcuts for menu commands" on page 142.


- 0: **Memory Status.** For more information, see "Memory Status" on page 582.

Sequencer P7: KARMA

Here you can make settings for the KARMA functions used in Sequencer mode. Songs can use four KARMA Modules: A, B, C, and D).

In Sequencer mode, you can use the KARMA function on song tracks or for pattern real-time recording. The note-on/off and MIDI control data generated by the KARMA Modules can be recorded as events on a track or pattern. You can use the KARMA SCENES switches 1-8, KARMA SLIDERS 1-8 and KARMA SWITCHES 1-8.

When playing back a song or pattern, you can use the KARMA function in real-time on your keyboard playing, or in conjunction with real-time performance using the RPPR function


-  The data from the internal sequencer is not input to the KARMA Modules. Note data from the internal sequencer cannot be used as triggers to cause the KARMA function to generate phrases.

The state of the KARMA ON/OFF switch, KARMA SLIDERS 1-8, KARMA SWITCHES 1-8, LATCH and SCENES 1-8 switches, and the note settings/velocity of the Pad 1-8 can be saved independently for each song.

By using the page menu command “Copy KARMA Module,” you can easily copy the KARMA Module settings of a program or combination. Use this when you wish to use Sequencer mode to record the KARMA phrase or pattern of Program mode.


By using the page menu command “Copy From Combination,” you can copy the entire settings of a combination, and real-time record a performance that uses the KARMA function (Multi REC).

By using the Auto Song Setup function (see p.470) you can automatically transfer the settings of a program or combination into a song, and then begin recording immediately simply by pressing the START/STOP switch. If you come up with an inspired phrase or song idea while using the KARMA function in Program or Combi Mode, you can immediately convert your inspiration into a song. The Auto Song Setup function seamlessly takes you from playing a program or combination into creating a song.

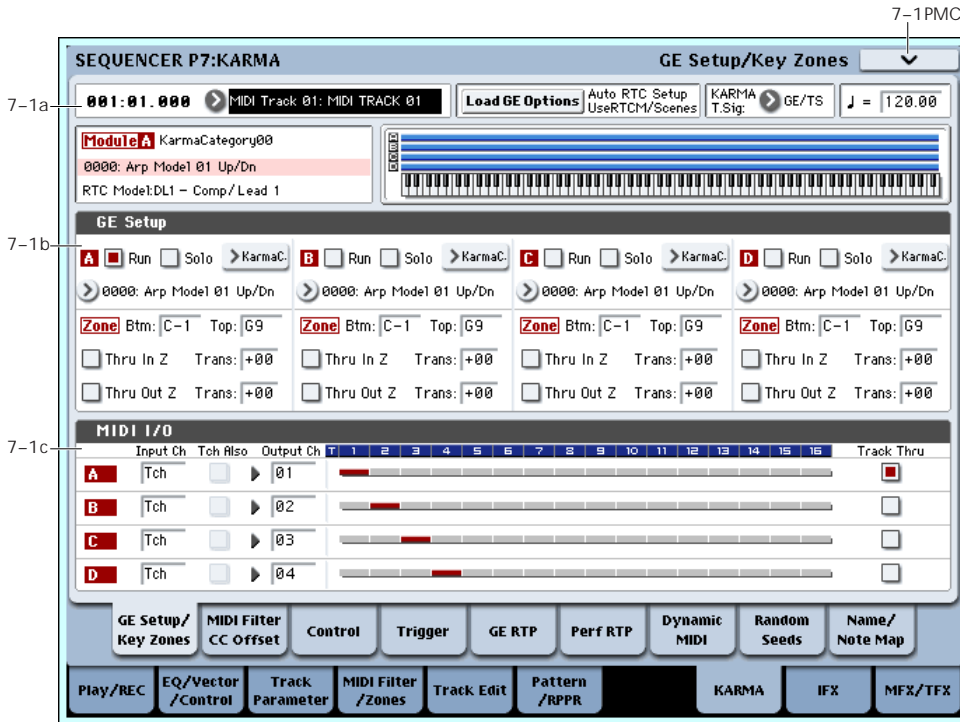
-  The tempo of the song and the KARMA function cannot be set independently.

If **MIDI Clock** (Global 1-1b) is set to Internal, you can use the start timing of the internal sequencer to synchronize the KARMA Module.

- If you press the START/STOP switch while the KARMA function is operating, the KARMA function will synchronize to the timing of the sequencer.
- If you then press the START/STOP switch again, the KARMA function will stop playing, as will the sequencer. If you wish to stop only the KARMA function, press the KARMA ON/OFF switch.

-  When **MIDI Clock** (Global 1-1a) is set to External, KARMA will play only when MIDI Clock messages are being received, and stop playing when the Clock messages stop. For more information, see “Synchronizing the KARMA function” on page 217 of the Operation Guide.

7-1: GE Setup/Key Zones



Here you can select the GE that will be used by each KARMA Module, and specify the Key Zone and MIDI Setup for the four KARMA Modules used by the Sequencer mode song.

7-1a: Location, Track Select, Load GE Options, KARMA T.Sig, Tempo

Location [001:01.000...999:16.191]

Track Select [MIDI Track01...MIDI Track16, Master Track, Audio Track01...Audio Track16]

♩ (Tempo) [040.00...240.00, EXT]

These parameters let you select the current Track, set the location of the sequence, and control the tempo. For more information, see "0-1a: Location, Song/Track Select" on page 471.

Load GE Options [Dialogue]

These options let you specify whether the values and assignments for the KARMA SLIDERS and SWITCHES will be set automatically, be initialized, or be preserved when you select a GE. For more information, see "Load GE Options" on page 7.

KARMA T. Sig (KARMA Time Signature)
[GE/TS, 1/4...16/4, 1/8...16/8, 1/16...16/16]

For more information, see "KARMA T.Sig (Time Signature)" on page 8.

Selected KARMA Module Info

GE Number & Name

RTC Model [List of RTC Models]

This displays information for the KARMA Module specified by the Module Control Setting.

For more information, see "Selected KARMA Module Info" on page 384.

Module Zone Display

The key zone settings of each of the four KARMA Modules are displayed as a solid blue line.

For more information, see "Module Zone Display" on page 102.

7-1b: GE Setup

GE

Run [Off, On]

Solo [Off, On]

GE Select [Preset 0000...2047, USER-A U-A000...U-A127, ..., USER-L U-L000...U-L127]

For more information, please see "0-6b: GE Select" on page 384.

GE Bank Select [Preset...USER-L]

GE Category Select [Arpeggio...Real-Time]

Key Zones

Specify the range of note data (the key zone) that will control each KARMA Module.

Btm (Key Zone Bottom) [C-1...G9]

Top (Key Zone Top) [C-1...G9]

Please see “Key Zones” on page 431.

Note: In Sequencer mode, MIDI data for each KARMA Module is transmitted and received on the “Input Channel” and “Output Channel” (7-1c) that you specify for each Module.

Transpose

Thru In Z (Thru In Zone) [Off, On]

Trans (Transpose In Zone) [-36...+36]

Thru Out Z (Thru Out Zone) [Off, On]

Trans (Transpose Out Zone) [-36...+36]

Please see “Key Zones” on page 431.

7-1c: MIDI I/O

Specifies the MIDI input/output channels for the four KARMA Modules used by a Sequencer mode song.

Note: These settings make it possible to use multiple KARMA Modules, and simultaneously play multiple tracks of different MIDI channels. If you wish to real-time record such a performance, use multi-track recording setup (Sequencer 0-1a: Multi REC).

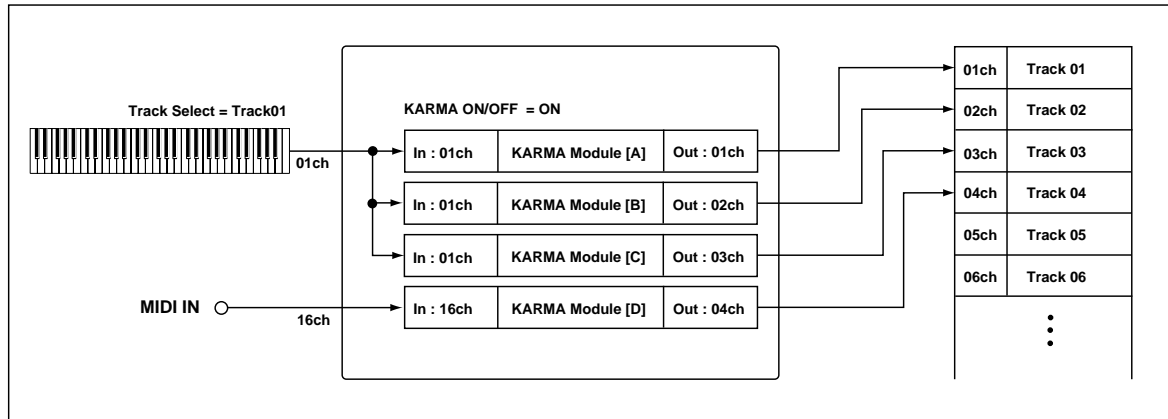
Input Channel [01...16, Tch]

Specifies the MIDI input channel for each KARMA Module.

MIDI data from the keyboard or from MIDI IN that matches the specified MIDI channel will be input to the KARMA Module. (See the diagram below, “KARMA-MIDI Input/Output Channel.”)

Tch: Automatically match the MIDI channel (Sequencer 2-1a) of the track selected by **Track Select** (Sequencer 0-1a).

KARMA - MIDI Input / Output Channel



Tch Also [Off, On]

This specifies whether the MIDI channel of the MIDI track selected in **Track Select** will be used for MIDI input in addition to the MIDI channel specified by “Input Channel.”

Off (unchecked): Only the MIDI channel specified by “Input Channel” will be used as the MIDI input channel for the KARMA Module.

On (checked): The MIDI channel specified by “Input Channel” and the MIDI channel of the MIDI track selected by **Track Select** will be used as the MIDI input channels for the KARMA Module.

If you check “Tch Also,” you will also be able to control the KARMA function from the keyboard (transmitted on the MIDI channel of the MIDI track selected by **Track Select**).

Note: If you’ve selected Master Track or Audio Track for **Track Select**, the MIDI channel of the MIDI track shown in “Selected Track Info:” will be used.

Not available if the Module’s “Input Channel” is Tch or the same MIDI channel as the MIDI track selected for **Track Select**.

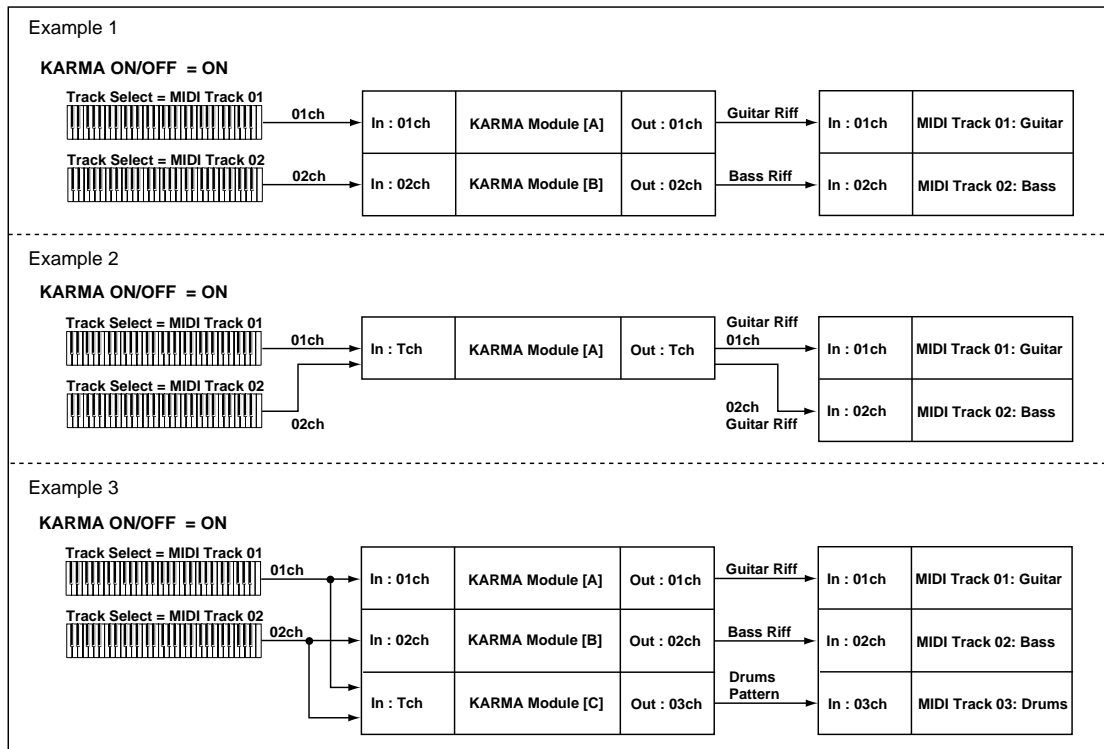
Output Channel [01...16, Tch]

Specifies the MIDI output channel for each KARMA Module.

The MIDI data from each KARMA Module will be transmitted on the MIDI output channel specified for that KARMA Module, and will be sounded by tracks with matching channels. For real-time recording, data will be recorded on tracks with matching channels. (See the diagram below, “KARMA-MIDI Input/Output Channel.”)

Tch: Automatically match the MIDI channel (Sequencer 2-1a) of the track selected by **Track Select** (Sequencer 0-1a).

Example 1



With the following settings, switching **Track Select** (the track you play) to change programs will also switch to a different KARMA Module at the same time, causing a different phrase to play. (See the diagram "Example 1," below.)

1. **Set MIDI Track 1 as follows.**
 "Program Select": a Guitar category program
 MIDI Channel: 01
2. **Set MIDI Track 2 as follows.**
 "Program Select": a Bass category program
 MIDI Channel: 02
3. **Set KARMA Module A as follows.**
 "GE Select": a riff of GE category Guitar
 "Input Channel": 01
 "Output Channel" 01
4. **Set KARMA Module B as follows.**
 "GE Select": a riff of GE category Bass
 "Input Channel": 02
 "Output Channel" 02
5. **In Track Select, select Track01, and play the keyboard.**
 (KARMA function on)
 The Guitar riff of KARMA Module A will be sounded by the Guitar type program.
6. **In Track Select, select Track02, and play the keyboard.**
 (KARMA function on)
 The Bass riff of KARMA Module B will be sounded by the Bass type program.

Example 2

With the following settings, switching **Track Select** (the track you play) to change programs will not switch to a different KARMA Module --- the same phrase will still be played. (See the diagram "Example 2," below.)

1. **Set MIDI Track 1 as follows.**
 "Program Select": a Guitar category program
 MIDI Channel: 01
2. **Set MIDI Track 2 as follows.**
 "Program Select": a Bass category program
 MIDI Channel: 02
3. **Set KARMA Module A as follows.**
 "GE Select": a riff of GE category Guitar
 "Input Channel": Tch
 "Output Channel" Tch
4. **In Track Select, select Track01, and play the keyboard.**
 The Guitar riff of KARMA Module A will be sounded by the Guitar type program.
5. **In Track Select, select Track02, and play the keyboard.**
 The Guitar riff of KARMA Module A will be sounded by the Bass type program.

Example 3

With the following settings, switching **Track Select** (the track you play) to change programs will also switch to a different KARMA Module at the same time, causing a different phrase to play. At this time, the rhythm track can be triggered and controlled from either track. (See the diagram "Example 3" at the bottom of previous page.)

1. **Set MIDI Track 1 as follows.**
 "Program Select": a Guitar category program

MIDI Channel: 01

2. Set MIDI Track 2 as follows.

“Program Select”: a Bass category program

MIDI Channel: 02

3. Set MIDI Track 3 as follows.

“Program Select”: a drum program (a Drums category program)

MIDI Channel: 03

4. Set KARMA Module A as follows.

“GE Select”: a riff of GE category Guitar

“Input Channel”: 01

“Output Channel” 01

5. Set KARMA Module B as follows.

“GE Select”: a riff of GE category Bass

“Input Channel”: 02

“Output Channel” 02

6. Set KARMA Module C as follows.

“GE Select”: a drum pattern (a pattern of GE category Drums)

“Input Channel”: Tch

“Output Channel” 03

7. In Track Select, select Track01, and play the keyboard.

(KARMA function on)

The Guitar riff of KARMA Module A will be sounded by the Guitar type program.

Simultaneously, the drum pattern of KARMA Module C will be sounded by the Drums program.

8. In Track Select, select Track02, and play the keyboard.

(KARMA function on)

The Bass riff of KARMA Module B will be sounded by the Bass type program.

Simultaneously, the drum pattern of KARMA Module C will be sounded by the Drums program.

Track Thru (when KARMA Off) [Off, On]

“Input Channel” and “Output Channel” settings are normally valid only when the KARMA ON/OFF switch is on.

As an exception, “Track Thru” specifies whether the MIDI data that passes through the KARMA Module will be sent (Thru) to the track when the KARMA ON/OFF switch is off.

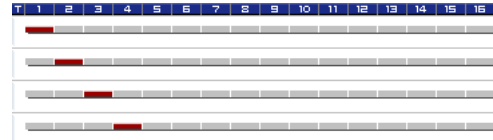
On (checked): MIDI data that passes through the KARMA Module will be sent on the “Output Channel” to the track when the KARMA ON/OFF switch is off.

Off (unchecked): MIDI data that passes through the KARMA Module will not be sent to the track when the KARMA ON/OFF switch is off.

For examples of using this setting, see “Timbre Thru (when KARMA Off)” on page 432.

Module – Track MIDI Display

This shows the MIDI tracks that will be sounded by each KARMA Module, according to the MIDI output channel settings of each KARMA Module and the MIDI channel of each track (Sequencer 2–1b: **MIDI Channel**).

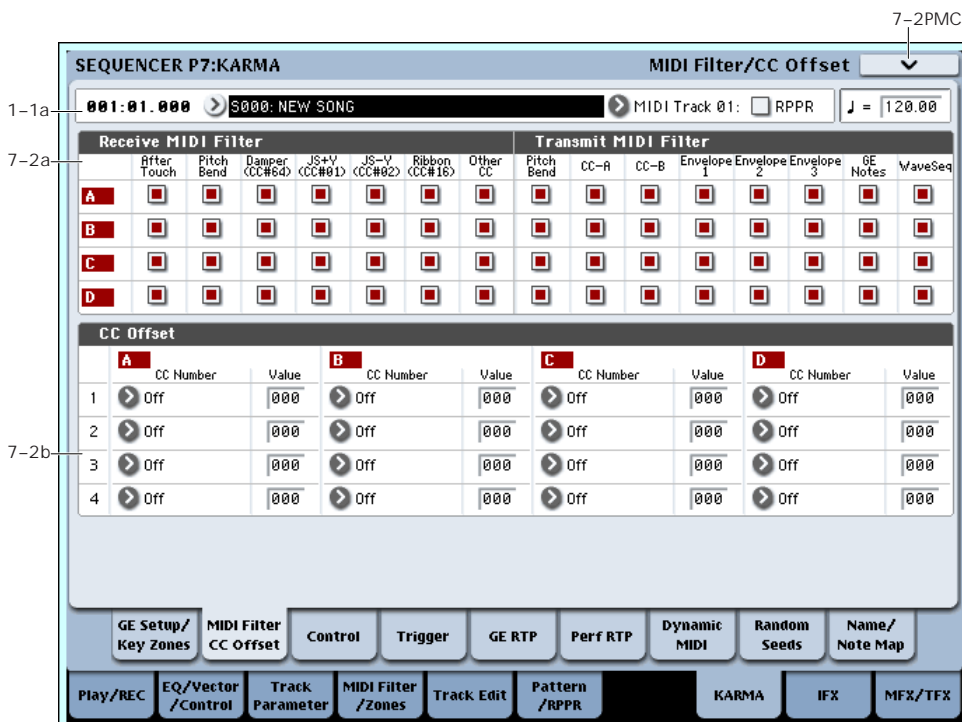


▼ 7–1: Page Menu Commands

The number before each command shows its ENTER + number-key shortcut. For more information on these shortcuts, see “ENTER + 0-9: shortcuts for menu commands” on page 142.

- 0: **Memory Status.** For more information, see “Memory Status” on page 582.
- 1: **Exclusive Solo.** For more information, see “Exclusive Solo” on page 142.
- 2: **Copy KARMA Module.** For more information, see “Copy KARMA Module” on page 464.
- 3: **Initialize KARMA Module.** For more information, see “Initialize KARMA Module” on page 465.
- 4: **Copy Scene.** For more information, see “Copy Scene” on page 465.
- 5: **Swap Scene.** For more information, see “Swap Scene” on page 465.
- 6: **Capture Random Seed.** For more information, see “Capture Random Seed” on page 465.
- 7: **FF/REW Speed.** For more information, see “FF/REW Speed” on page 583.
- 8: **Set Location (for Locate Key).** For more information, see “Set Location (for Locate Key)” on page 583.
- 9: **Copy From Program.** For more information, see “Copy From Program” on page 584.

7-2: MIDI Filter/CC Offset



7-2a: MIDI Filter

Receive MIDI Filter

After Touch	[Off, On]
Pitch Bend	[Off, On]
Damper (CC#64)	[Off, On]
JS+Y (CC#01)	[Off, On]
JS-Y (CC#02)	[Off, On]
Ribbon (CC#16)	[Off, On]
Other CC	[Off, On]

For more information, see "Receive MIDI Filter" on page 103.

Transmit MIDI Filter

Pitch Bend	[Off, On]
CC-A, CC-B	[Off, On]
Envelope 1, Envelope 2, Envelope 3	[Off, On]
GE Notes	[Off, On]
WaveSeq	[Off, On]

Please see "Transmit MIDI Filter" on page 104 and "Transmit MIDI Filter" on page 434.

7-2b: CC Offset

These settings specify the MIDI control change messages and values that are transmitted from each KARMA Module to the tone generator when you press the KARMA ON/OFF switch to turn on the KARMA function or when you select a song for which the KARMA function is turned on.

These messages will be transmitted on the "Output Channel" (Sequencer 7-1c) of the KARMA Module.

Note: If the GE also generates the same control change messages as those you specify here, the control change messages generated by the GE will be given priority.

1, 2, 3, 4

CC Number [Off, MIDI CC#00...CC#95]

Value [000...127]

For more information, see "7-2b: CC Offset" on page 434.

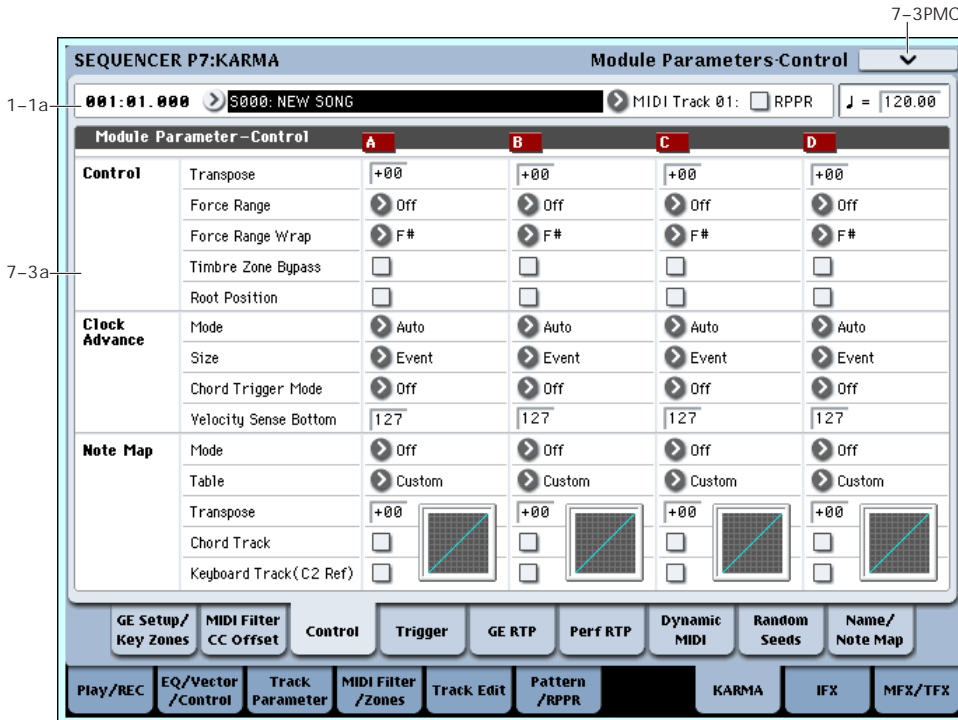
▼ 7-2: Page Menu Commands

The number before each command shows its ENTER + number-key shortcut. For more information on these shortcuts, see "ENTER + 0-9: shortcuts for menu commands" on page 142.

- 0: **Memory Status**. For more information, see "Memory Status" on page 582.
- 1: **Exclusive Solo**. For more information, see "Exclusive Solo" on page 142.
- 2: **Copy KARMA Module**. For more information, see "Copy KARMA Module" on page 464.

- 3: **Initialize KARMA Module.** For more information, see “Initialize KARMA Module” on page 465.
- 4: **Copy Scene.** For more information, see “Copy Scene” on page 465.
- 5: **Swap Scene.** For more information, see “Swap Scene” on page 465.
- 6: **Capture Random Seed.** For more information, see “Capture Random Seed” on page 465.
- 7: **FF/REW Speed.** For more information, see “FF/REW Speed” on page 583.
- 8: **Set Location (for Locate Key).** For more information, see “Set Location (for Locate Key)” on page 583.
- 9: **Copy From Program.** For more information, see “Copy From Program” on page 584.

7-3: Module Parameters-Control



Here you can set KARMA Module Control parameters. In Sequencer mode, four KARMA Modules (A, B, C, and D) can be used.

7-3a: Module Parameter-Control

Control

- Transpose [-36...+36]
- Force Range [Off, Lowest, Highest, C3-B3[1], C3-B3[2]]
- Force Range Wrap [C#...C]
- Timbre Zone Bypass [Off, On]
- Root Position [Off, On]

For more information, see “Control” on page 106 and “Control” on page 435.

Clock Advance

- Mode [Auto, Dyn, Auto+Dyn 1, Auto+Dyn2]
- Size [♪♪♪♪♪♪♪♪♪♪♪♪♪♪♪♪♪♪♪♪♪♪♪♪ Event]
- Chord Trigger Mode [Off, 1st, Chord1, Chord2, Chord3]
- Velocity Sense Bottom [001...127]

Please see “Clock Advance” on page 108.

Note Map

- Mode (Note Map Mode) [Off, On-Main, On-Rpt, On-All]
- Table (Note Map Table) [Custom, Gtable 1...Maj 7 -> oct]
- Transpose (Note Map Transpose) [-12...+12]
- Chord Track (Note Map Chord Track) [Off, On]
- Keyboard Track (C2 Ref)

(Note Map Keyboard Track) [Off, On]

Note Map Table Display

For more information, see “Note Map” on page 108.

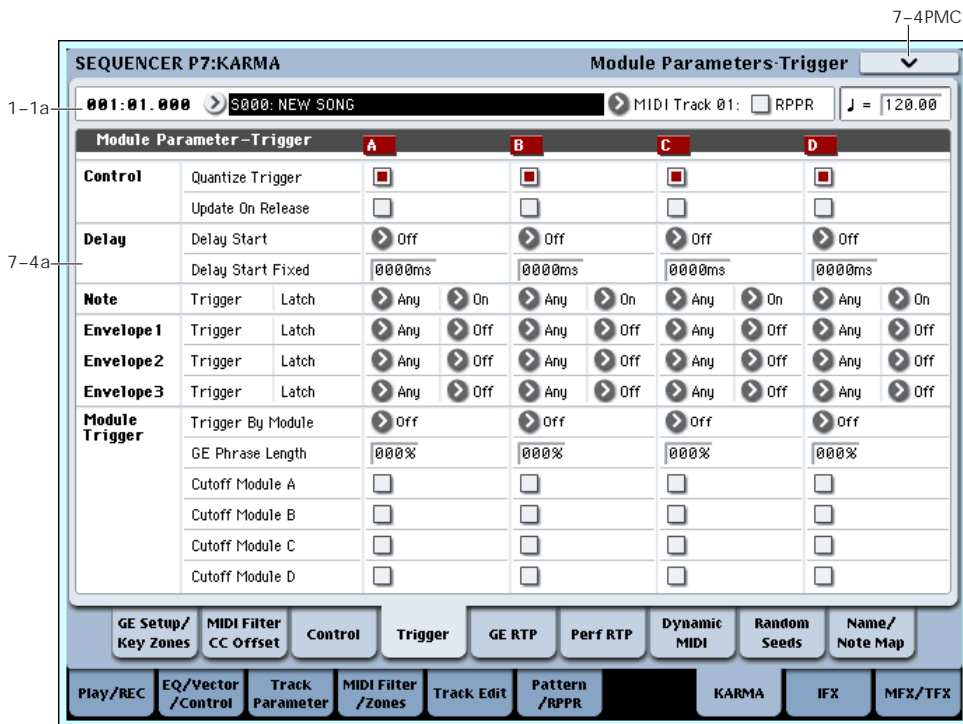
▼ 7-3: Page Menu Commands

The number before each command shows its ENTER + number-key shortcut. For more information on these shortcuts, see “ENTER + 0-9: shortcuts for menu commands” on page 142.

- 0: **Memory Status.** For more information, see “Memory Status” on page 582.
- 1: **Exclusive Solo.** For more information, see “Exclusive Solo” on page 142.
- 2: **Copy KARMA Module.** For more information, see “Copy KARMA Module” on page 464.

- 3: **Initialize KARMA Module.** For more information, see “Initialize KARMA Module” on page 465.
- 4: **Copy Scene.** For more information, see “Copy Scene” on page 465.
- 5: **Swap Scene.** For more information, see “Swap Scene” on page 465.
- 6: **Capture Random Seed.** For more information, see “Capture Random Seed” on page 465.
- 7: **FF/REW Speed.** For more information, see “FF/REW Speed” on page 583.
- 8: **Set Location (for Locate Key).** For more information, see “Set Location (for Locate Key)” on page 583.
- 9: **Copy From Program.** For more information, see “Copy From Program” on page 584.

7-4: Module Parameters-Trigger



Here you can specify the trigger parameters for each KARMA Module, and whether it will be latched.

7-4a: Module Parameter-Trigger

Control

Quantize Trigger [Off, On]

Quantize Window [♪...♪]

Update On Release [Off, On]

For more information, please see “Control” on page 110.

Delay

Delay Start [Off, Fixed, 64T ...4x1]

Delay Start Fixed [0000ms...5000ms]

For more information, please see “Delay” on page 111.

Note

Note Trigger [Any, AKR, 1st, Dyn]

Note Latch [Off, On]

For more information, please see “Note” on page 111 and “Note” on page 437.

Envelope 1, Envelope2, Envelope3

Envelope Trigger [Any, AKR, 1st, Dyn]

Envelope Latch [Off, Sus1, Rel1, Sus2, Rel2]

For more information, please see "Envelope1, Envelope2, Envelope3" on page 111.

Module Trigger

Trigger By Module [Off, A, B, C, D]

GE Phrase Length [000...100%]

Cutoff Module A, B, C, D [Off, On]

For more information, please see "Module Trigger" on page 437.

▼ 7-4: Page Menu Commands

The number before each command shows its ENTER + number-key shortcut. For more information on these shortcuts, see "ENTER + 0-9: shortcuts for menu commands" on page 142.

- 0: **Memory Status.** For more information, see "Memory Status" on page 582.
- 1: **Exclusive Solo.** For more information, see "Exclusive Solo" on page 142.
- 2: **Copy KARMA Module.** For more information, see "Copy KARMA Module" on page 464.
- 3: **Initialize KARMA Module.** For more information, see "Initialize KARMA Module" on page 465.
- 4: **Copy Scene.** For more information, see "Copy Scene" on page 465.
- 5: **Swap Scene.** For more information, see "Swap Scene" on page 465.
- 6: **Capture Random Seed.** For more information, see "Capture Random Seed" on page 465.
- 7: **FF/REW Speed.** For more information, see "FF/REW Speed" on page 583.
- 8: **Set Location (for Locate Key).** For more information, see "Set Location (for Locate Key)" on page 583.
- 9: **Copy From Program.** For more information, see "Copy From Program" on page 584.

7-5: GE Real-Time Parameters

No.	GE REAL-TIME PARAMETERS	MIN	MAX	VALUE	ASSIGN	POLARITY
01	Rhythm: Swing % 0~100,-200,+200	+0000	+0102	+0050	>---	>+
02	Rhythm: Template + Restore [1]	+0015	+0050	+0032	>---	>+
03	Duration: Duration Value [1]	-0300	+0300	+0000	>---	>+
04	Velocity: Scale [1]	+0000	+0400	+0200	>---	>+
05	Note Series: Replications	+0000	+0500	+0200	>---	>+
06	Note Series: Note Type	+0000	+0001	+0000	>---	>+
07	Note Series: Input Sort	+0000	+0001	+0000	>---	>+
08	Note Series: Inversion	-0001	+0002	+0000	>---	>+
09	Note Series: Interval	-0012	+0012	+0012	>---	>+
10	Note Series: Input Transpose	+0000	+0036	+0000	>---	>+
11	Note Series: Wrap Bottom	+0000	+0127	+0021	>---	>+
12	Index: Index Mode [1]	+0000	+0002	+0000	>---	>+
13	Repeat: Repetitions	+0000	+0008	+0004	>---	>+
14	Repeat: Selected Rhythms	+0003	+0005	+0005	>---	>+
15	Repeat: Transpose	-0024	+0024	+0000	>---	>+
16	Repeat: Initial Velocity	-0020	+0000	-0020	>---	>+

Here you can edit the Real-Time Parameters of the GE for each KARMA Module, A–D. In addition, you can assign GE Real-Time Parameters to the KARMA Real-Time Controls so that you can control the phrase or pattern in real-time while you play.

7-5a: GE No. & Name, GE RTC Select, Tempo

GE Number & Name

This indicates the number and name of the GE that is selected for each KARMA Module.

GE RTC Select [1-16, 17-32]

For more information, see “GE RTC Select” on page 113.

↓ **(Tempo)** [040.00...240.00, EXT]

For more information, see “Tempo” on page 5.

7-5b: GE Real-Time Parameters for Module Control = Master**GE PARAMETER** [Parameter Name]**MIN (Minimum Value)** [-5000...+5000]**MAX (Maximum Value)** [-5000...+5000]**VALUE** [-5000...+5000]**ASSIGN** [---, Slider1...8, Slider (SW)1...8, SW1...8, DynaMIDI1...8]**POLARITY** [+,-]

For more information, see “7-5b: GE Real-Time Parameters” on page 113 and “7-5b: GE Real-Time Parameters for Module Control = Master” on page 438.

Note: Normally, the “MIN,” “MAX,” “VALUE,” and “POLARITY” parameters of each module are specified in module A, B, C, and D. These parameter settings are possible if you specify “ASSIGN” in Master A, B, C, and D.

For example, if you want to use Slider1 to control the GE REALTIME PARAMETER No.1 of modules A, B, C, and D when Module Control is set to Master, you would set the Master, A, B, C, and D’s GE REALTIME PARAMETER No.01 “ASSIGN” to Slider1. If these are set to “ASSIGN,” you are able to edit the “MIN,” “MAX,” “VALUE,” and “POLARITY” parameters for Master, A, B, C, and D.

In this way, you can make GE realtime parameter settings independently of modules A, B, C, and D.

7-5c: GE Real-Time Parameters for Module Control = A, B, C, D (1-32)

For more information, see “7-5b: GE Real-Time Parameters” on page 113, and “7-5c: GE Real-Time Parameters for Module Control = A, B, C, D” on page 439.

7-5d: Scene Matrix

For more information, see “7-5d: Module Control Scene Matrix” on page 439.

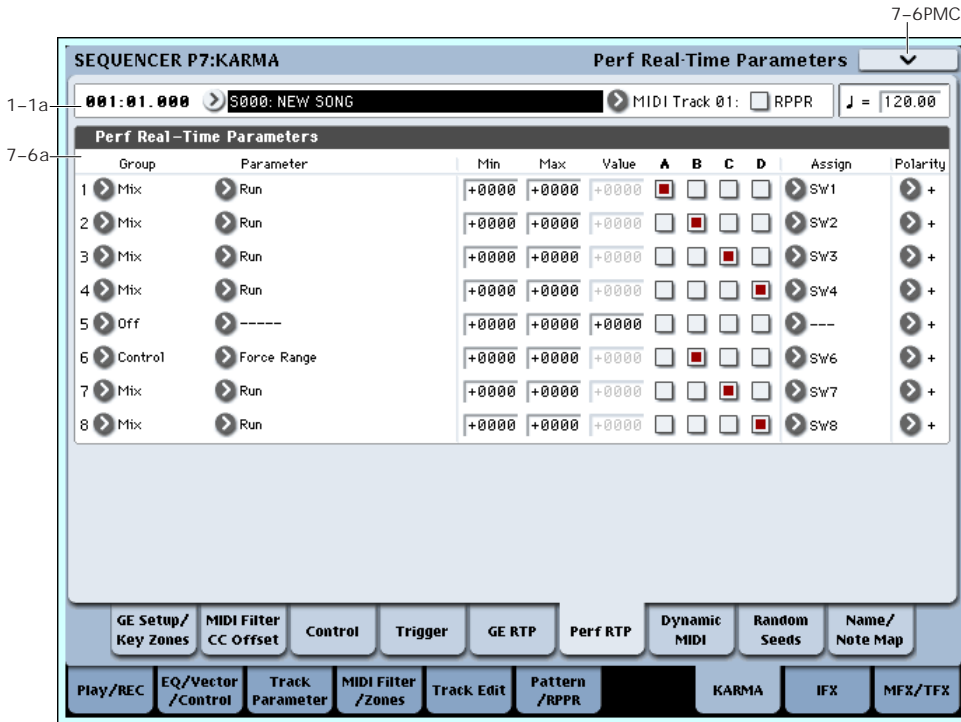
▼ 7-5: Page Menu Commands

The number before each command shows its ENTER + number-key shortcut. For more information on these shortcuts, see “ENTER + 0-9: shortcuts for menu commands” on page 142.

- 0: **Memory Status.** For more information, see “Memory Status” on page 582.
- 1: **Exclusive Solo.** For more information, see “Exclusive Solo” on page 142.

- 2: **Copy KARMA Module.** For more information, see “Copy KARMA Module” on page 464.
- 3: **Initialize KARMA Module.** For more information, see “Initialize KARMA Module” on page 465.
- 4: **Copy Scene.** For more information, see “Copy Scene” on page 465.
- 5: **Swap Scene.** For more information, see “Swap Scene” on page 465.
- 6: **Capture Random Seed.** For more information, see “Capture Random Seed” on page 465.
- 7: **FF/REW Speed.** For more information, see “FF/REW Speed” on page 583.
- 8: **Set Location (for Locate Key).** For more information, see “Set Location (for Locate Key)” on page 583.
- 9: **Copy From Program.** For more information, see “Copy From Program” on page 584.

7-6: Perf Real-Time Parameters



Here you can assign controllers to KARMA Performance Real-Time Parameters (Perf. RTP) outside of the GE Real-Time Parameters that control the internal settings of the GE. Examples include the KARMA Key Zone parameters (Combination 7-1b) and KARMA Control and Trigger parameters (Combination 7-3, 7-4).

For more information, please see “7-6a: Perf Real-Time Parameters (1...8)” on page 441.

7-6a: Perf Real-Time Parameters

1...8

Group [Off, PE, Mix, Control, Trigger, Key Zones, Random Seeds]

Parameter [---, Time Signature... Retrigger Each Time]

Min (Minimum Value) [-8192...+8191]

Max (Maximum Value) [-8192...+8191]

Value [-8192...+8191]

A/B/C/D [Off, On]

Assign [---, Slider1...8, Slider1...8(SW), SW1...8, DynaMIDI1...8]

Polarity [+ , -]

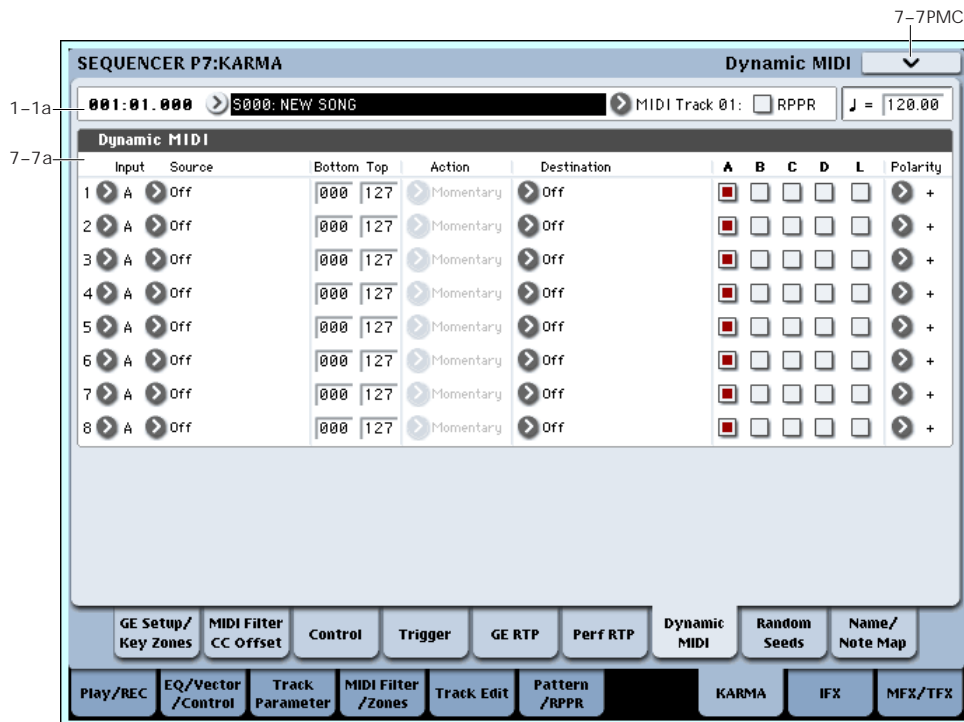
Please see “7-6b: Perf Real-Time Parameters” on page 116, and “7-6a: Perf Real-Time Parameters (1...8)” on page 441.

▼ 7-6: Page Menu Commands

The number before each command shows its ENTER + number-key shortcut. For more information on these shortcuts, see “ENTER + 0-9: shortcuts for menu commands” on page 142.

- 0: **Memory Status**. For more information, see “Memory Status” on page 582.
- 1: **Exclusive Solo**. For more information, see “Exclusive Solo” on page 142.
- 2: **Copy KARMA Module**. For more information, see “Copy KARMA Module” on page 464.
- 3: **Initialize KARMA Module**. For more information, see “Initialize KARMA Module” on page 465.
- 4: **Copy Scene**. For more information, see “Copy Scene” on page 465.
- 5: **Swap Scene**. For more information, see “Swap Scene” on page 465.
- 6: **Capture Random Seed**. For more information, see “Capture Random Seed” on page 465.
- 7: **FF/REW Speed**. For more information, see “FF/REW Speed” on page 583.
- 8: **Set Location (for Locate Key)**. For more information, see “Set Location (for Locate Key)” on page 583.
- 9: **Copy From Program**. For more information, see “Copy From Program” on page 584.

7-7: Dynamic MIDI



Dynamic MIDI is a function that lets you use this instrument's controllers and MIDI control messages to control specific KARMA functions.

For more information, please see "7-7b: Dynamic MIDI" on page 120 and p.443.

7-7a: Dynamic MIDI

Input (Input Module)	[A...D]
Source	[Off, JS+Y (CC#01)... Velocity Outside Zone]
Bottom (Range Bottom)	[000...127]
Top (Range Top)	[000...127]
Action (Range Action)	[Momentary, Toggle, Continuous]
Destination	[Off, RT Params Control...Buffer Latch]
A/B/C/D	[Off, On]
L (Last Triggered)	[Off, On]
Polarity (Dynamic MIDI Polarity)	[+, -, +/-, -/+]

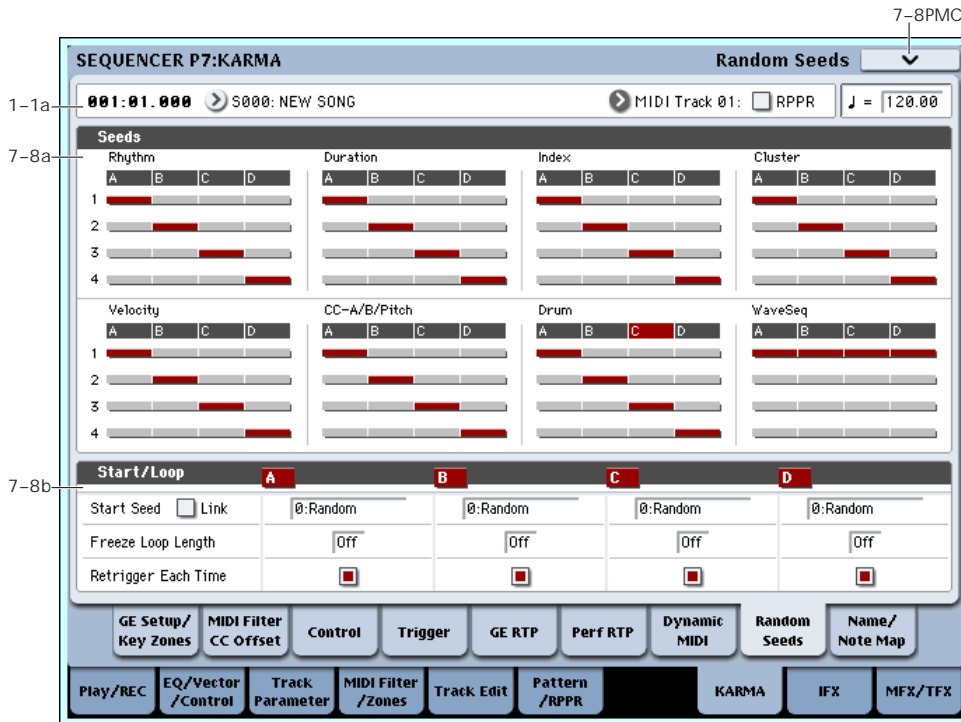
For more information, see "7-7b: Dynamic MIDI" on page 120 and p.443.

▼ 7-7: Page Menu Commands

The number before each command shows its ENTER + number-key shortcut. For more information on these shortcuts, see "ENTER + 0-9: shortcuts for menu commands" on page 142.

- 0: **Memory Status**. For more information, see "Memory Status" on page 582.
- 1: **Exclusive Solo**. For more information, see "Exclusive Solo" on page 142.
- 2: **Copy KARMA Module**. For more information, see "Copy KARMA Module" on page 464.
- 3: **Initialize KARMA Module**. For more information, see "Initialize KARMA Module" on page 465.
- 4: **Copy Scene**. For more information, see "Copy Scene" on page 465.
- 5: **Swap Scene**. For more information, see "Swap Scene" on page 465.
- 6: **Capture Random Seed**. For more information, see "Capture Random Seed" on page 465.
- 7: **FF/REW Speed**. For more information, see "FF/REW Speed" on page 583.
- 8: **Set Location (for Locate Key)**. For more information, see "Set Location (for Locate Key)" on page 583.
- 9: **Copy From Program**. For more information, see "Copy From Program" on page 584.

7-8: Random Seeds



The Random Seeds page allows you to control some of the randomizable characteristics of a Module's GE. Different Modules using the same GE can have various randomizable characteristics "linked" so that they share the same start seeds, generating phrases with the same characteristics.

7-8a: Seed

Rhythm, Duration, Index, Cluster, Velocity, CC-A/B, Drum, WaveSeq

A	[1, 2, 3, 4]
B	[1, 2, 3, 4]
C	[1, 2, 3, 4]
D	[1, 2, 3, 4]

Please see "7-8a: Seed" on page 444.

7-8b: Start/Loop

Start Seed [-2147483648...
0: Random...+2147483647]

Link [Off, On]

Please see "Link to Start Seed" on page 445.

Freeze Loop Length [Off, 01...32]

Retrigger Each Time [Off, On]

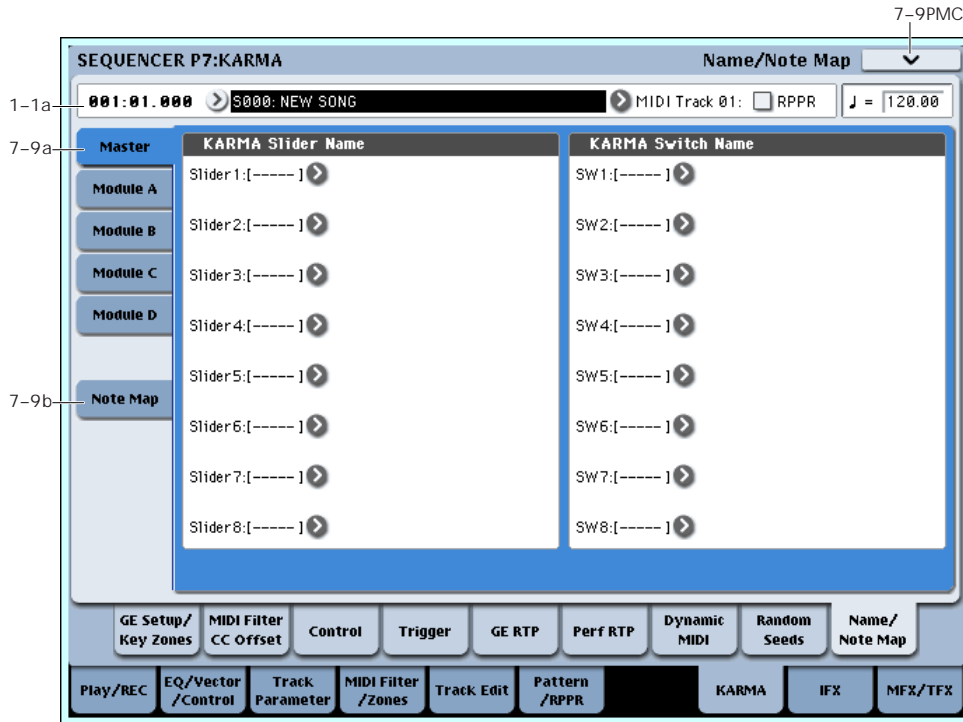
Please see "7-8b: Start" on page 122

▼ 7-8: Page Menu Commands

The number before each command shows its ENTER + number-key shortcut. For more information on these shortcuts, see "ENTER + 0-9: shortcuts for menu commands" on page 142.

- 0: **Memory Status**. For more information, see "Memory Status" on page 582.
- 1: **Exclusive Solo**. For more information, see "Exclusive Solo" on page 142.
- 2: **Copy KARMA Module**. For more information, see "Copy KARMA Module" on page 464.
- 3: **Initialize KARMA Module**. For more information, see "Initialize KARMA Module" on page 465.
- 4: **Copy Scene**. For more information, see "Copy Scene" on page 465.
- 5: **Swap Scene**. For more information, see "Swap Scene" on page 465.
- 6: **Capture Random Seed**. For more information, see "Capture Random Seed" on page 465.
- 7: **FF/REW Speed**. For more information, see "FF/REW Speed" on page 583.
- 8: **Set Location (for Locate Key)**. For more information, see "Set Location (for Locate Key)" on page 583.
- 9: **Copy From Program**. For more information, see "Copy From Program" on page 584.

7-9: Name/Note Map



Here you can assign the names for KARMA SLIDERS 1-8 and KARMA SWITCHES 1-8, view Global Note Map Tables, and edit the Custom Note Map Table stored with the Sequence.

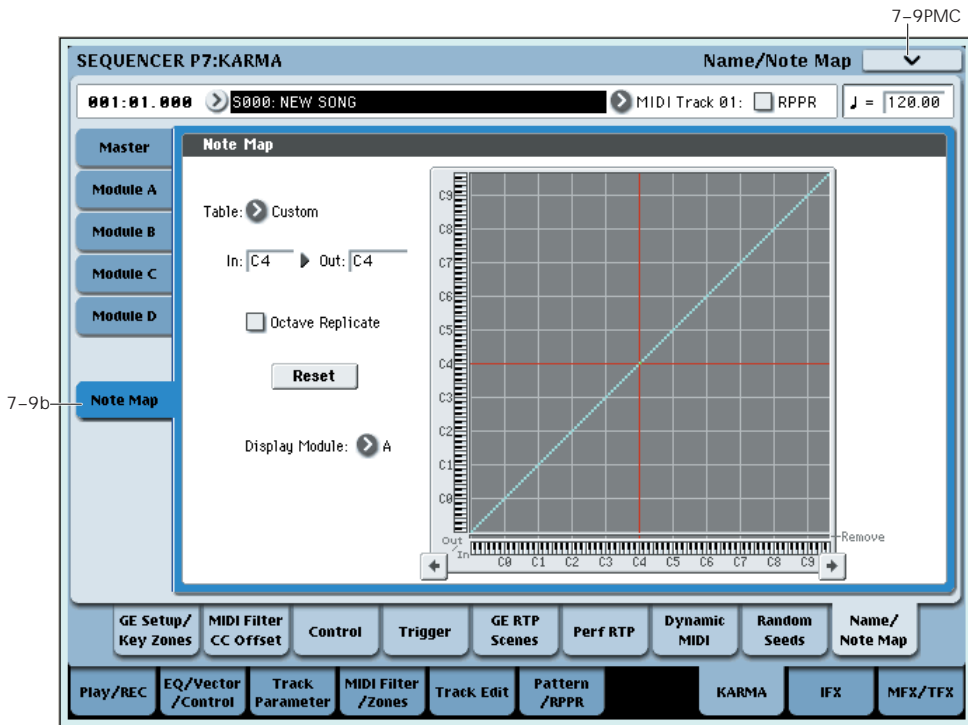
7-9a: Name

Master, Module A...D

Each Module Control layer has its own set of names for each of the KARMA SLIDERS and SWITCHES. For more information, see "7-9b: Module A" on page 125.

Slider 1...8 [000 (no name)...
571 Waveform Select [16]

Switch 1...8 [000 (no name)...
571 Waveform Select [16]



7-9b: Note Map (Custom)

Table	[Custom, Global 1...64]
In (Note In)	[C-1...G9]
Out (Note Out)	[Remove, C-1...G9]
Octave Replicate	[Off, On]
Reset	[button]

Please see "7-9c: Note Map" on page 125.

Display Module

Here you can select the KARMA module that you want to edit, and view the Note Map Table.

- 6: **Capture Random Seed.** For more information, see "Capture Random Seed" on page 465.
- 7: **Auto Assign KARMA RTC Name.** For more information, see "Auto Assign KARMA RTC Name" on page 465.
- 8: **FF/REW Speed.** For more information, see "FF/REW Speed" on page 583.
- 9: **Set Location (for Locate Key).** For more information, see "Set Location (for Locate Key)" on page 583.
- 10: **Copy From Program.** For more information, see "Copy From Program" on page 584.
- 11: **Copy Note Map.** For more information, see "Copy Note Map" on page 143.

▼ 7-9: Page Menu Commands

The number before each command shows its ENTER + number-key shortcut. For more information on these shortcuts, see "ENTER + 0-9: shortcuts for menu commands" on page 142.

- 0: **Memory Status.** For more information, see "Memory Status" on page 582.
- 1: **Exclusive Solo.** For more information, see "Exclusive Solo" on page 142.
- 2: **Copy KARMA Module.** For more information, see "Copy KARMA Module" on page 464.
- 3: **Initialize KARMA Module.** For more information, see "Initialize KARMA Module" on page 465.
- 4: **Copy Scene.** For more information, see "Copy Scene" on page 465.
- 5: **Swap Scene.** For more information, see "Swap Scene" on page 465.

Sequencer P8: Insert Effect

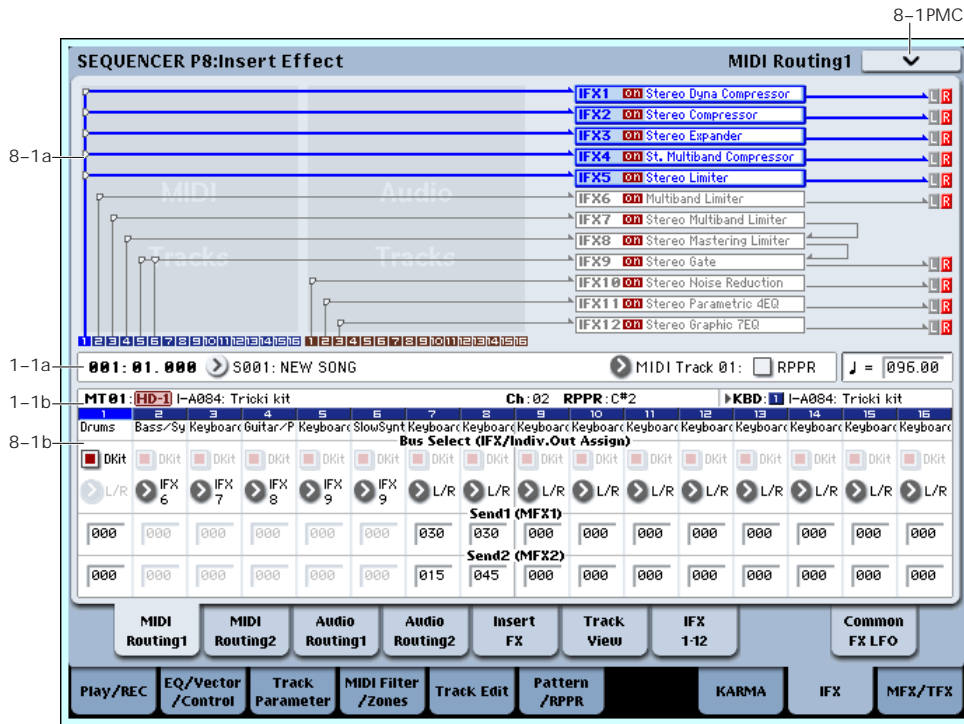
You can also specify the bus routing for the program used by each MIDI track 1-16 and audio track 1-16. For instance, you can:

- Send the output of a track to an insert effect
- Route a sound to an insert effect

- Make detailed settings for insert effects
- Make common LFO settings for effects

For details on Insert Effects, see “Effect Guide” on page 787.

8-1: MIDI Routing1



Specifies the bus to which the program oscillator(s) used by each MIDI track 1-16 will be sent. You can also set the send levels to the master effects from this page.

8-1a: Routing Map

This area shows the insert effect routing, the name of the assigned effect, the on/off status, chaining, and the output bus that follows the insert effect. The type of insert effect, the on/off status, and the chain settings can be edited in the P8- Insert FX page.

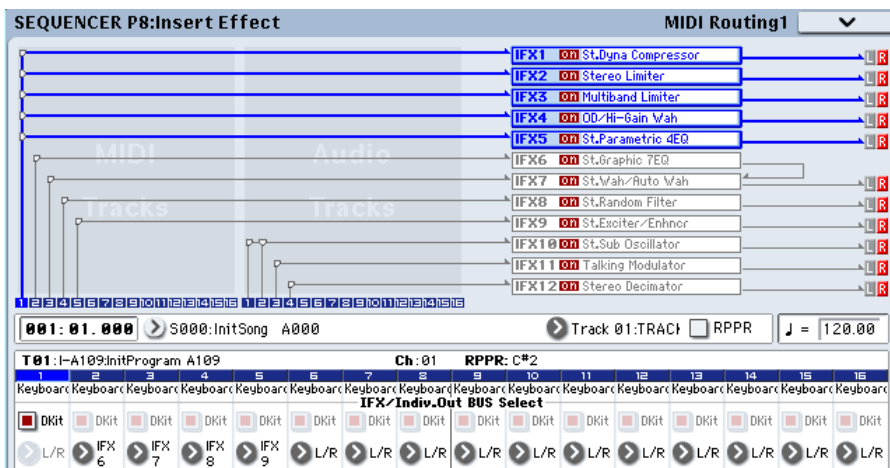
8-1b: MIDI Routing1

Track 01 (Track Number)

Bus Select (IFX/Indiv. Out Assign) Dkit [Off, On]

You can select this only if the specified program is a drum program (Oscillator Mode Drums).

This parameter can also be edited from the P8- MIDI Routing 2 page.



On (checked): The **Bus Select**, **FX Control Bus**, **Send1**, and **Send2** settings for each key of the selected drum kit will be used. Check this setting if you want to apply an individual insert effect to each drum instrument, or to send individual drum instruments to AUDIO OUTPUT (INDIVIDUAL).

Tip: In most preloaded drumkits, the drum instruments have the same **Bus Select** settings according to their type, as follows.

Snares → IFX1

Kicks → IFX2

Toms → IFX3

Cymbals → IFX4

Percussion etc. → IFX5

If you want to edit these routings, use the “Drum Kit IFX Patch” page menu command. For details, see “Drum Kit IFX Patch” on page 466.

Off (unchecked): The **Bus Select**, **FX Control Bus**, and **Send 1/2** settings will be used. All drum instruments will be sent to the specified bus.

Bus Select (IFX/Indiv.Out Assign) [L/R, IFX1...12, 1...8, 1/2...7/8, Off]

This specifies the output bus for the track’s program oscillator. This parameter can also be edited from the P8– MIDI Routing 2 page.

L/R: Output to the L/R bus.

IFX1...12: Output to the IFX1–12 buses.

1...8: The track will be output in mono from the corresponding AUDIO OUTPUT (INDIVIDUAL).

1/2...7/8: The track will be output in stereo according to its pan setting from the corresponding AUDIO OUTPUT (INDIVIDUAL) pairs 1/2, 3/4, 5/6, or 7/8.

Off: The track will not be output from the L/R bus, IFX1–12 buses, or Individual 1–8 buses. Choose the Off setting if you want the program oscillator output of the track to be connected in series to a master effect. Use **Send1 (to MFX1)** and **Send2 (to MFX2)** to specify the send levels.

Tip: You can create a wide variety of routings by using each track’s **Bus Select** and the **Chain to** and **Chain** settings (8–5a) that follow the insert effect.

Send1 (MFX1) [000...127]

Send2 (MFX2) [000...127]

For each track, these parameters set the send level to master effects 1 and 2. These settings are valid when **Bus Select** is set to L/R or Off. When IFX 1–12 are selected, the send levels to master effects 1 and 2 are set by the **Send1** and **Send2** parameters of the Insert FX page, after the sound has passed through IFX1–12.

If **Bus Select** is set to 1...8 or 1/2...7/8, these settings are ignored.

The Send 1 and 2 setting you specify here are used when playing-back or recording from the beginning of the song. If you modify these settings during recording, your changes will be recorded as performance data; the send amounts will change accordingly during playback. You can also modify

these settings during playback. However if Send 1 and 2 data has been recorded, the settings will change according to the recorded data.

Note: You can use the control surface to control Send1 and Send2. These can also be controlled from the mixer section of the front panel, or from the P0– Control Surface page of the LCD screen. The procedure given below describes how to make these settings from the front panel.

1. Press the **CONTROL ASSIGN MIXER TIMBRE/TRACK** switch to select either tracks 1–8 or 9–16.
2. Press the **MIXER KNOBS** switch to select **CHANNEL STRIP**.
3. Use the **MIXER SELECT 1/9–8/16** switches to select the track whose send levels you want to adjust.
4. Use **MIX CHANNEL STRIP “FX SEND 1” (knob 7)** and **“FX SEND 2” (knob 8)** to control the send levels.

If **Bus Select (IFX/Indiv. Out Assign)** is set to L/R or Off, this will control “Send1 (MFX1)”–“Send2 (MFX2).” If **Bus Select (IFX/Indiv. Out Assign)** is set to IFX1–12, this will control **Send1** and **Send2** (P8– Insert FX page).

MIDI If **Status (2–1a)** is either INT or BTH, CC#93 and #91 can be received to control send 1 and 2 respectively and change their settings. When you switch songs or return to the beginning of a song, tracks whose **Status** is EXT, EX2 or BTH will transmit these settings via MIDI. This data will be transmitted on the MIDI channel of each track as set by **MIDI Channel (2–1a)**. The actual send level is determined by multiplying the value of these parameters with the send level settings of the oscillator(s) of the program used by the track (**Send1** and “Send2,” Program 8–1d).

Track 02... 16 (Track Number)

These settings specify the program oscillator output bus and master effect send levels for MIDI tracks 2 through 16. They are the same as for track 1. See “Track 01”:

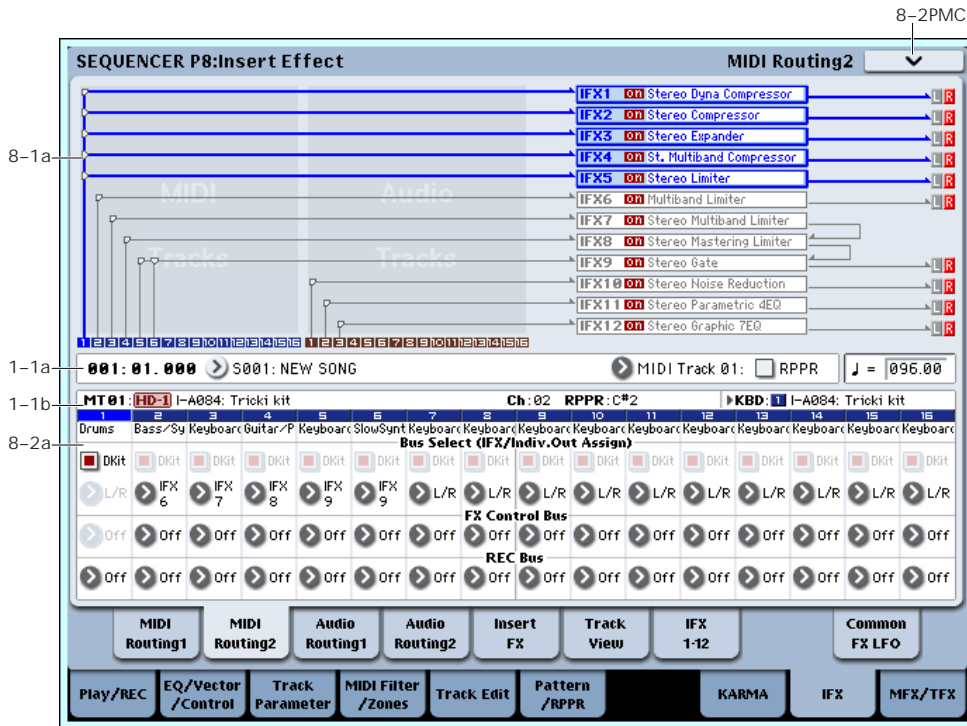
▼ 8–1: Page Menu Commands

The number before each command shows its ENTER + number-key shortcut. For more information on these shortcuts, see “ENTER + 0-9: shortcuts for menu commands” on page 142.

- **0: Memory Status.** For more information, see “Memory Status” on page 582.
- **1: Exclusive Solo.** For more information, see “Exclusive Solo” on page 142.
- **2: Copy Insert Effect.** For more information, see “Copy Insert Effect” on page 153.
- **3: Swap Insert Effect.** For more information, see “Swap Insert Effect” on page 154.
- **4: Drum Kit IFX Patch.** For more information, see “Drum Kit IFX Patch” on page 466.

- 5: **Put Effect Setting To Track.** For more information, see “Put Effect Setting to Track” on page 615.
- 6: **FF/REW Speed.** For more information, see “FF/REW Speed” on page 583.
- 7: **Set Location** (for Locate Key.) For more information, see “Set Location (for Locate Key)” on page 583.

8-2: MIDI Routing2



Here you can specify the program oscillator output bus, effect control bus, and REC bus for each MIDI track 1 through 16.

8-2a: MIDI Routing2

Track 01 (Track Number)

Bus Select (IFX/Indiv. Out Assign) Dkit [Off, On]

You can select this only if the specified program is a drum program (**Oscillator Mode Drums**). These settings can also be made in the **Insert Effect-Routing1**. For more information, please see “Bus Select (IFX/Indiv. Out Assign) Dkit” on page 565.

Bus Select (IFX/Indiv. Out Assign) [L/R, IFX1...12, 1...8, 1/2...7/8, Off]

For each track, these parameters specify the bus to which the program oscillator(s) will be sent. The current settings can also be viewed in the **Routing Map**. This parameter can also be edited from the **P8-MIDI Routing1** page. For more information, please see “Bus Select (IFX/Indiv. Out Assign)” on page 566.

FX Control Bus [Off, 1, 2]

Sends the output of the track to an FX Control bus (two-channel stereo FX Ctrl 1 or 2).

Use the FX Control buses when you want a separate sound to control the audio input of an effect. You can use two FX Control buses (each is a two-channel stereo bus) to control effects in various ways.

For more information, please see “FX Control Buses” on page 790.

REC Bus (All OSCs to) [Off, 1, 2, 3, 4, 1/2, 3/4]

These settings send the output of the track to the REC buses (four mono channels: 1, 2, 3, 4).

The REC buses are dedicated internal buses for recording, used for sampling in the various modes or for recording audio tracks in Sequencer mode. In Sequencer mode, you can use these buses to record audio tracks onto the hard disk, or to sample.

You will normally use audio track recording to record external audio signals such as guitar or vocal that are input from the Audio Input jacks, but you can also record the playback of MIDI tracks or your performance using the keyboard or KARMA function. Use **REC Bus** to send the desired tracks to the REC buses, and select REC1-4 (REC 1/2, 3/4) as the **REC Source** (0-2a) so that the signals sent to the REC buses can be recorded.

You can also resample (mix-down) the song playback onto the hard disk to create a stereo WAVE file, or sample external audio sources from the Audio Inputs into RAM (the In-Track Sampling function). Use the **REC Bus** setting to send the desired tracks or audio

inputs to the REC buses for sampling or resampling, and set **Source Bus** (P0– Audio Input/Sampling 0–8c) to REC1/2 or 3/4 so that these signals can be sampled.

Off: The signal will not be sent to a REC bus. Normally you will leave this off.

1, 2, 3, 4: The output of the track will be sent to the corresponding REC bus. The **Pan** setting (0–1b) of each track will be ignored, and the signal will be sent in monaural.

1/2, 3/4: The output of the track will be sent in stereo to the corresponding pair of REC buses. The signal is sent in stereo to REC buses 1/2 or 3/4 according to the **Pan** setting (0–1b) of each track.

Track 02... 16 (Track Number)

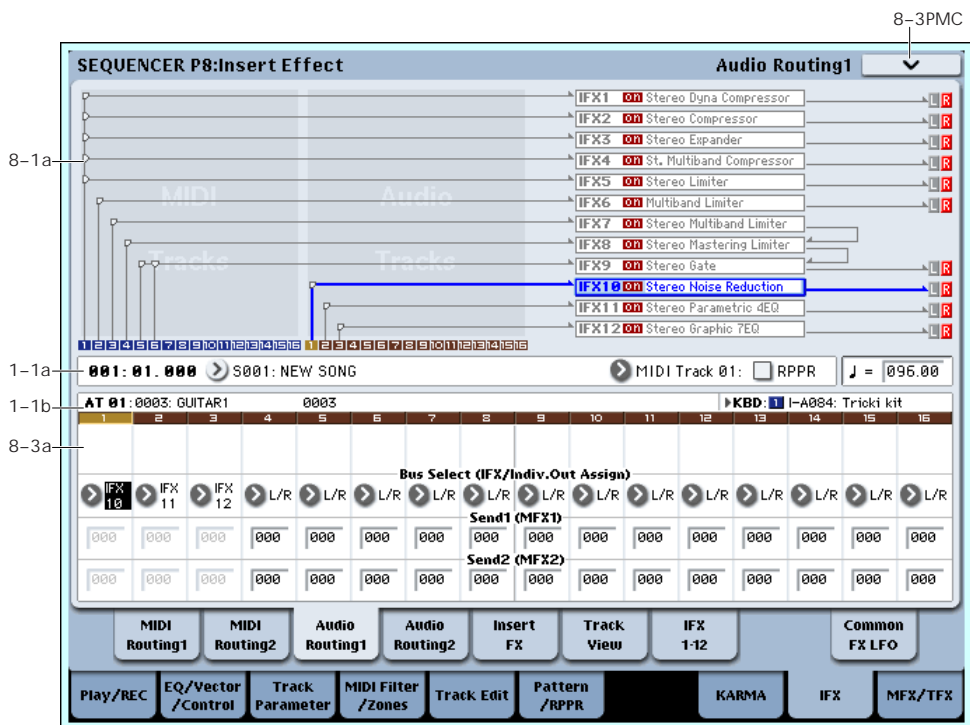
These settings specify the program oscillator output bus, effect control bus, and REC bus used by MIDI tracks 2 through 16. These are the same as for track 1. See “Track 01”.

▼ 8–2: Page Menu Commands

The number before each command shows its ENTER + number-key shortcut. For more information on these shortcuts, see “ENTER + 0-9: shortcuts for menu commands” on page 142.

- **0: Memory Status.** For more information, see “Memory Status” on page 582.
- **1: Exclusive Solo.** For more information, see “Exclusive Solo” on page 142.
- **2: Copy Insert Effect.** For more information, see “Copy Insert Effect” on page 153.
- **3: Swap Insert Effect.** For more information, see “Swap Insert Effect” on page 154.
- **4: Drum Kit IFX Patch.** For more information, see “Drum Kit IFX Patch” on page 466.
- **5: Put Effect Setting To Track.** For more information, see “Put Effect Setting to Track” on page 615.
- **6: FF/REW Speed.** For more information, see “FF/REW Speed” on page 583.
- **7: Set Location (for Locate Key.)** For more information, see “Set Location (for Locate Key)” on page 583.

8–3: Audio Routing 1



Here you can specify the buses for the outputs of audio tracks 1–16. You can also adjust the send amounts to the master effects.

Audio tracks 1–16 can be processed by the insert effects, master effects, and total effects, and routed to the desired buses, in the same way as for MIDI tracks 1–16.

8–3a: Audio Routing 1

Track 01 (Track Number)

STEREO

This is shown if “Stereo Pair” is on.

Bus Select (IFX/Indiv. Out Assign) [L/R, IFX1...12, 1...8, 1/2...7/8, Off]

This specifies the bus for the audio track. The current settings can also be viewed in the Routing Map. This parameter can also be edited from the P8– Audio Routing 2 page.

For more information, please see “Bus Select (IFX/Indiv.Out Assign)” on page 566.

Send1 (MFX1) [000...127]**Send2 (MFX2) [000...127]**

For each audio track, these parameters set the send level to master effects 1 and 2. These settings are valid when **Bus Select (IFX/Indiv. Out Assign)** is set to L/R or Off. When IFX 1–12 are selected, the send levels to master effects 1 and 2 are set by the **Send1** and **Send2** parameters of the Insert FX page, after the sound has passed through IFX1–12.

If **Bus Select** is set to 1...8 or 1/2...7/8, these settings are ignored.

The Send 1 and 2 setting you specify here are used when playing-back or recording from the beginning of the song. If you modify these settings during recording, your changes will be recorded as automation event; the send amounts will change accordingly during playback. You can also modify these settings during playback. However if Send 1 and 2 data has been recorded, the settings will change according to the recorded data.

Note: You can use the control surface to control Send1 and Send2. These can also be controlled from the mixer section of the front panel, or from the P0– Control Surface page of the LCD screen. The procedure given below describes how to make these settings from the front panel.

1. Press the **CONTROL ASSIGN MIXER AUDIO** switch to select either tracks 1–8 or 9–16.
2. Press the **MIXER KNOBS** switch to select **CHANNEL STRIP**.
3. Use the **MIXER SELECT 1/9–8/16** switches to select the track whose send levels you want to adjust.
4. Use **MIX CHANNEL STRIP “FX SEND 1”** (knob 7) and **“FX SEND 2”** (knob 8) to control the send levels.

If **Bus Select (IFX/Indiv. Out Assign)** is set to L/R or Off, this will control “Send1 (MFX1)”–“Send2 (MFX2).” If **Bus Select (IFX/Indiv. Out Assign)** is set to IFX1–12, this will control **Send1** and **Send2** (P8– Insert FX page).

Track 02...16 (Track Number)

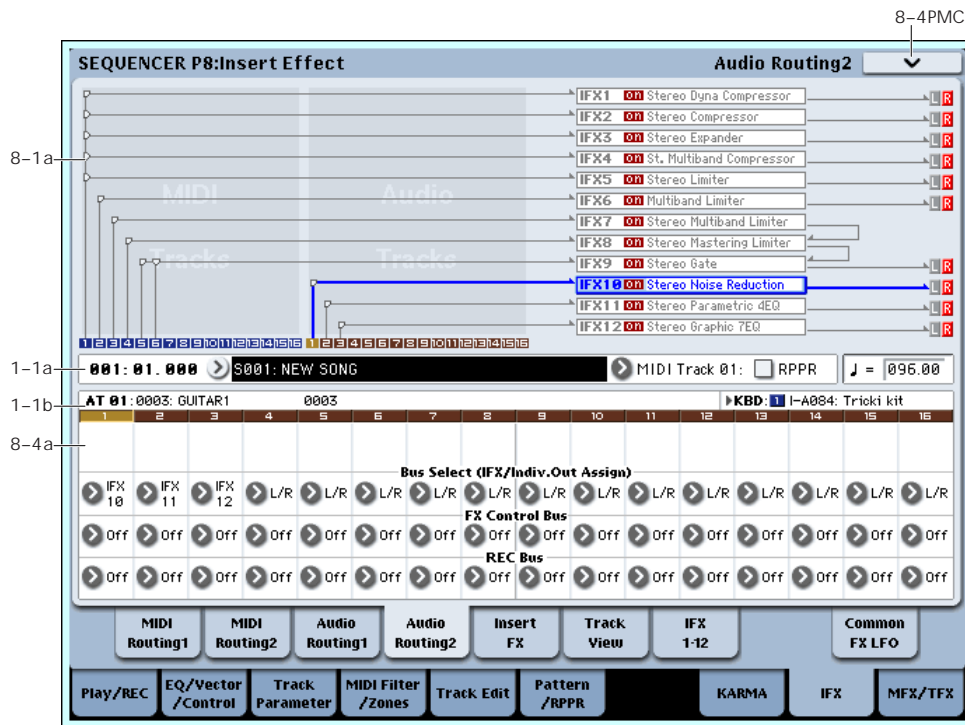
Here you can specify the output bus and master effect send amount for each audio track 2 through 16. These are the same as for track 1. See “Track 01”:

- 0: **Memory Status**. For more information, see “Memory Status” on page 582.
- 1: **Exclusive Solo**. For more information, see “Exclusive Solo” on page 142.
- 2: **Copy Insert Effect**. For more information, see “Copy Insert Effect” on page 153.
- 3: **Swap Insert Effect**. For more information, see “Swap Insert Effect” on page 154.
- 4: **Stereo Pair**. For more information, see “Stereo Pair” on page 585.
- 5: **Put Effect Setting To Track**. For more information, see “Put Effect Setting to Track” on page 615.
- 6: **FF/REW Speed**. For more information, see “FF/REW Speed” on page 583.
- 7: **Set Location** (for Locate Key.) For more information, see “Set Location (for Locate Key)” on page 583.

▼ 8-3: Page Menu Commands

The number before each command shows its ENTER + number-key shortcut. For more information on these shortcuts, see “ENTER + 0-9: shortcuts for menu commands” on page 142.

8-4: Audio Routing2



Here you can specify the buses, effect control bus, and REC bus for the outputs of audio tracks 1-16.

8-4a: Audio Routing2

Track 01 (Track Number)

STEREO

This is shown if "Stereo Pair" is on.

Bus Select (IFX/Indiv.Out Assign)

[L/R, IFX1...12, 1...8, 1/2...7/8, Off]

This specifies the bus for the audio track. The current settings can also be viewed in the Routing Map. This parameter can also be edited from the P8- Audio Routing 1 page. For more information, please see "Bus Select (IFX/Indiv.Out Assign)" on page 566.

FX Control Bus

[Off, 1, 2]

Sends the output of the audio track to an FX Control bus (two-channel stereo FX Ctrl 1 or 2).

For more information, please see "FX Control Bus" on page 567. For examples, see "FX Control Buses" on page 790.

REC Bus

[Off, 1, 2, 3, 4, 1/2, 3/4]

These settings send the output of the audio track to the REC buses (four mono channels: 1, 2, 3, 4). For more information, please see "REC Bus (All OSCs to)" on page 567.

Track 02... 16 (Track Number)

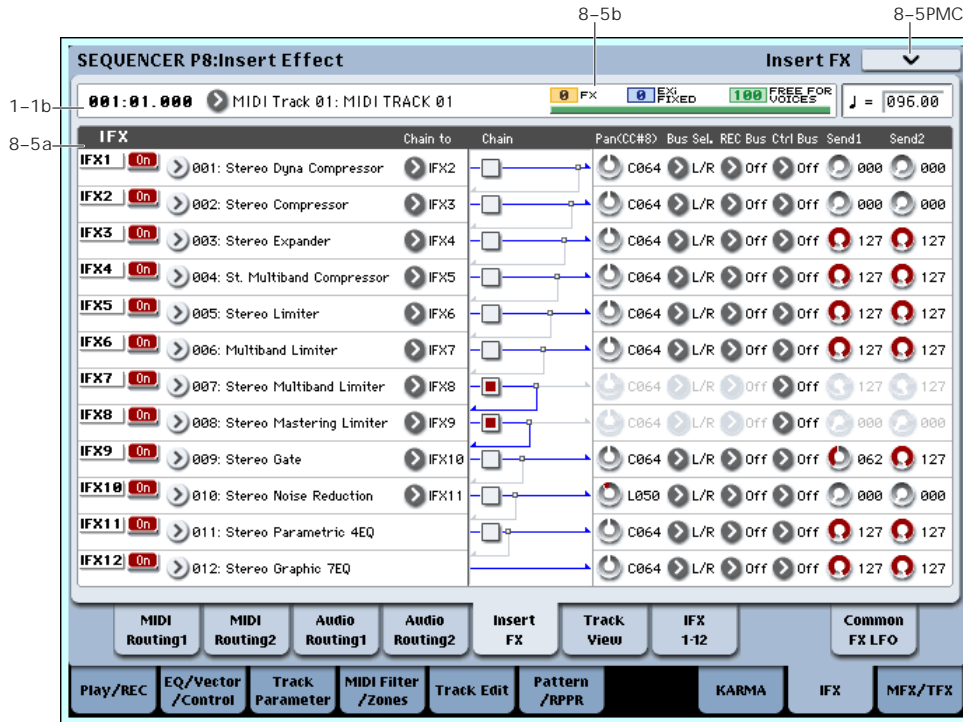
Here you can specify the output bus, effect control bus, and REC bus for audio tracks 2 through 16. These are the same as for track 1. See "Track 01"::

▼ 8-4: Page Menu Commands

The number before each command shows its ENTER + number-key shortcut. For more information on these shortcuts, see "ENTER + 0-9: shortcuts for menu commands" on page 142.

- 0: **Memory Status**. For more information, see "Memory Status" on page 582.
- 1: **Exclusive Solo**. For more information, see "Exclusive Solo" on page 142.
- 2: **Copy Insert Effect**. For more information, see "Copy Insert Effect" on page 153.
- 3: **Swap Insert Effect**. For more information, see "Swap Insert Effect" on page 154.
- 4: **Stereo Pair**. For more information, see "Stereo Pair" on page 585.
- 5: **Put Effect Setting To Track**. For more information, see "Put Effect Setting to Track" on page 615.
- 6: **FF/REW Speed**. For more information, see "FF/REW Speed" on page 583.
- 7: **Set Location** (for Locate Key.) For more information, see "Set Location (for Locate Key)" on page 583.

8-5: Insert FX



8-5a: IFX

Here you can choose the type of each insert effect 1 through 12, its on/off status, chaining, and adjust the post-IFX mixer settings. For insert effects, the direct sound (Dry) is always stereo-in and out. The input/output configuration of the effect sound (Wet) depends on the effect type. For descriptions of the individual effects, please see “Effect Guide,” beginning on page 787.

The following parameters are the same as in Program mode. For details, see “8-5b: IFX” on page 131.

However, unlike in Program mode, insert effect dynamic modulation (Dmod) and the post-IFX **Pan (CC#8)**, **Send1**, and **Send2** are controlled on the MIDI channel specified by “Ch” (8-7a). The control changes used are the same as in Program mode.

The pan (CC#8), send 1 and 2 settings you make here will be used when the song is played or recorded from the beginning. If you change the settings while recording a MIDI track, the changes will be recorded as part of the musical data, and the settings will change when the data is played back. You can also change these settings during playback. However if pan (CC#8), send 1, or 2 data has been recorded, the settings will change accordingly.

MIDI If **Status** (2-1a) is either INT or BTH, CC#8, CC#93, and CC#91 can be received to control the pan following the insert effect, send 1, or send 2 respectively, and change their settings. When you switch songs or return to the beginning of the song, tracks whose **Status** is BTH, EXT, or EX2 will

transmit these settings via MIDI. This data will be transmitted on the MIDI channels specified in the IFX 1-12 pages (8-7).

IFX1

IFX1	[000...185]
IFX1 On/Off	[Off, On]
Chain to	[IFX2...IFX12]
Chain	[Off, On]
Pan(CC#8) (Post IFX PanCC#8)	[L000...C064...R127]
Bus Sel. (Bus Select)	[L/R, 1...8, 1/2...7/8, Off]
Ctrl Bus (FX Control Bus)	[Off, 1, 2]
REC Bus	[Off, 1, 2, 3, 4, 1/2, 3/4]
Send1	[000...127]
Send2	[000...127]

Note: You can use the control surface to control Send 1 and 2. For more information, please see “Send1 (MF/TFX)” on page 450.

IFX2...12

These parameters specify the type of each insert effect, its on/off status, chaining, and post-IFX mixer settings. With the exception of **Chain to** and **Chain**, the parameters are the same as for IFX1. For more information, please see “IFX1” on page 131.

IFX2: Chain to	[IFX3...IFX12]
IFX3: Chain to	[IFX4...IFX12]
IFX4: Chain to	[IFX5...IFX12]
IFX5: Chain to	[IFX6...IFX12]
IFX6: Chain to	[IFX7...IFX12]
IFX7: Chain to	[IFX8...IFX12]
IFX8: Chain to	[IFX9...IFX12]
IFX9: Chain to	[IFX10...IFX12]
IFX10: Chain to	[IFX11...IFX12]
IFX11: Chain to	[(IFX12)]

8-5b: Effect/EXi Fixed Resource Meter

FX

EXi FIXED

FREE FOR VOICES

The number of voices you can play is affected by how effects and EXi are being used. This meter shows the resource allocation as an approximate percentage (%) of the total processing power.

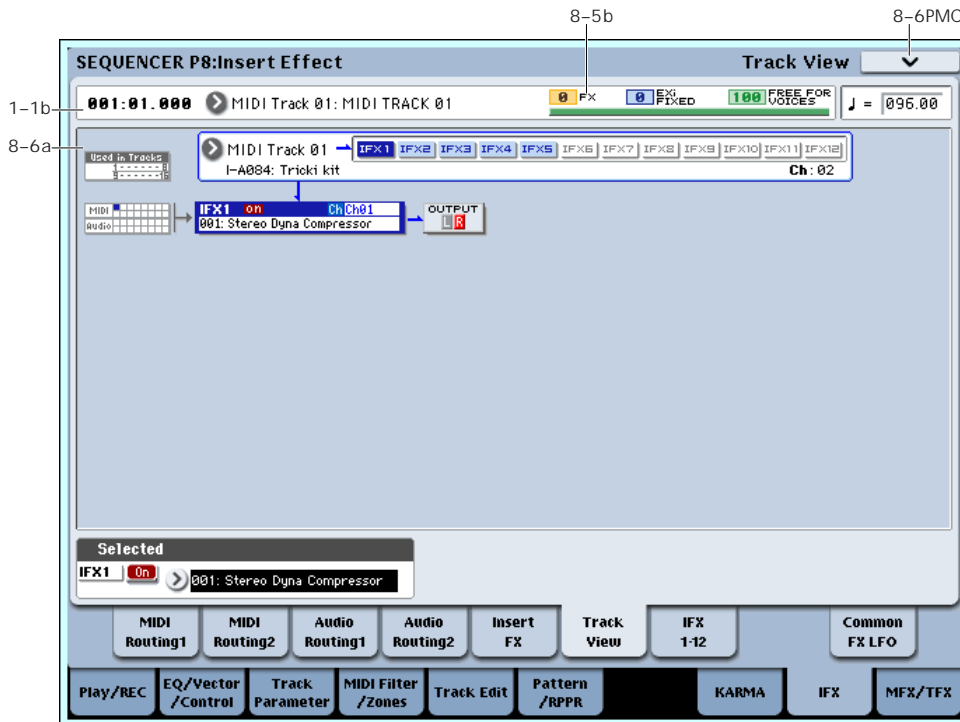
For more information, see "CX-3 & STR-1: Limitations on EXi fixed resources" on page 382, and "About effects resources" on page 787.

▼ 8-5: Page Menu Commands

The number before each command shows its ENTER + number-key shortcut. For more information on these shortcuts, see "ENTER + 0-9: shortcuts for menu commands" on page 142.

- 0: **Memory Status.** For more information, see "Memory Status" on page 582.
- 1: **Exclusive Solo.** For more information, see "Exclusive Solo" on page 142.
- 2: **Copy Insert Effect.** For more information, see "Copy Insert Effect" on page 153.
- 3: **Swap Insert Effect.** For more information, see "Swap Insert Effect" on page 154.
- 4: **Insert IFX Slot.** For more information, see "Insert IFX Slot" on page 615.
- 5: **Cut IFX Slot.** For more information, see "Cut IFX Slot" on page 615.
- 6: **Clean Up IFX Routings.** For more information, see "Clean Up IFX Routings" on page 615.
- 7: **Put Effect Setting To Track.** For more information, see "Put Effect Setting to Track" on page 615.
- 8: **FF/REW Speed.** For more information, see "FF/REW Speed" on page 583.
- 9: **Set Location** (for Locate Key.) For more information, see "Set Location (for Locate Key)" on page 583.

8-6: Track View



8-6a: Track View

Here you can view the track output and insert effect

routing.

Used in Tracks

The upper and lower rows of boxes with eight boxes in each row indicate the timbre that is being sent to the corresponding insert effect.

- The eight upper boxes correspond to MIDI tracks 1-8, and the eight lower boxes correspond to MIDI tracks 9-16.)
- The eight upper boxes correspond to audio tracks 1-8, and the eight lower boxes correspond to audio tracks 9-16.)

Track Select

[Timbre 01...Timbre 16]

Here you can select the MIDI tracks 1-16 and audio tracks 1-16 that will be shown in the Track View screen.

The screen shows the insert effect(s) used by the selected track.

Slot

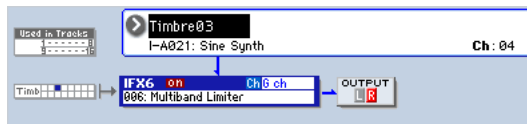
[IFX1...IFX12]

This indicates the slot number, effect type, effect on/off status, and control channel for the chained insert effects.

The selected slot is shown in dark blue. In the "Selected" area below, you can specify the "Effect Type" and "On/Off" status of the selected effect slot. This is also the effect slot that will be affected by the page menu commands "Insert IFX Slot" and "Cut IFX Slot."

When you move from this page to the P8- IFX1-12 page, the IFX you selected here will be selected.

For example, if you select Track 03, only the insert effects used by track 3 will be shown.



"OUTPUT" indicates the Bus Select settings that follow the insert effect. This tells you the output destination to which the audio signal will be sent.

8-6b: Selected

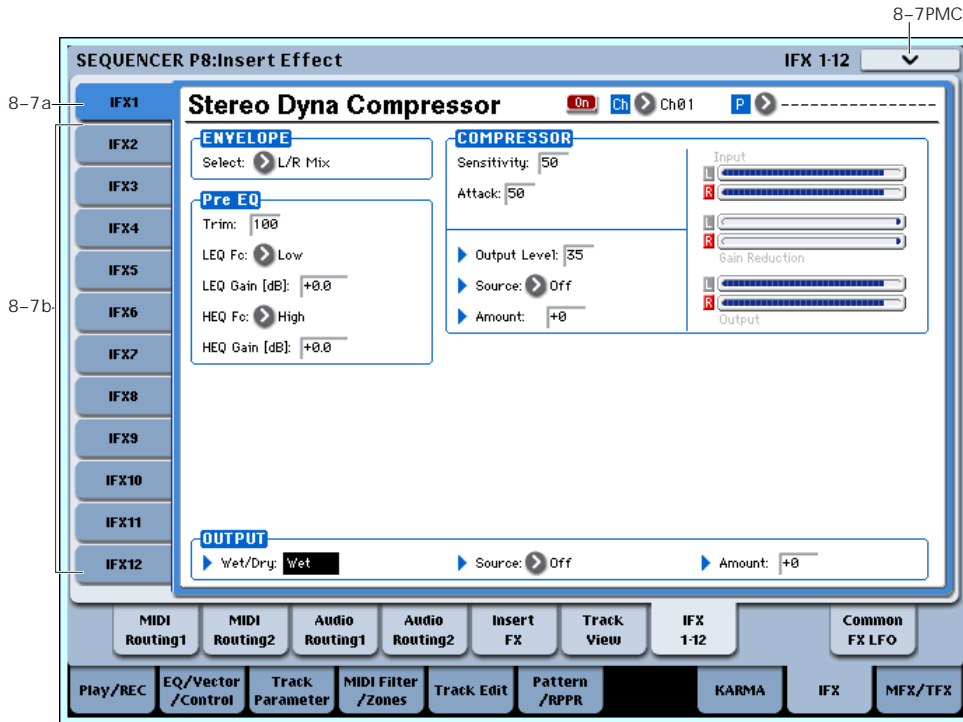
Here you can specify the "Effect Type" and "On/Off" status of the insert effect slot selected by Track Select. ("8-6a: Track View," above)

▼ 8-6: Page Menu Commands

The number before each command shows its ENTER + number-key shortcut. For more information on these shortcuts, see "ENTER + 0-9: shortcuts for menu commands" on page 142.

- 0: **Memory Status.** For more information, see "Memory Status" on page 582.
- 1: **Exclusive Solo.** For more information, see "Exclusive Solo" on page 142.
- 2: **Copy Insert Effect.** For more information, see "Copy Insert Effect" on page 153.
- 3: **Swap Insert Effect.** For more information, see "Swap Insert Effect" on page 154.
- 4: **Insert IFX Slot.** For more information, see "Insert IFX Slot" on page 615.
- 5: **Cut IFX Slot.** For more information, see "Cut IFX Slot" on page 615.
- 6: **Clean Up IFX Routings.** For more information, see "Clean Up IFX Routings" on page 615.
- 7: **Put Effect Setting To Track.** For more information, see "Put Effect Setting to Track" on page 615.
- 8: **FF/REW Speed.** For more information, see "FF/REW Speed" on page 583.
- 9: **Set Location (for Locate Key.)** For more information, see "Set Location (for Locate Key)" on page 583.

8-7: IFX 1-12



This page lets you edit the detailed parameters of the twelve insert effects. Use the tabs at left to select IFX1 through IFX12.

To select different effects types, use the Insert FX or Track View pages. For more information, see “8-5: Insert FX” on page 571 and “8-6: Track View” on page 572.

Effects Modulation: Dmod

Most effects have one or more parameters which can be modulated in realtime. In the OASYS, this is called Dynamic Modulation, or Dmod for short.

For a complete list of Dmod sources, see “Dynamic Modulation Source List” on page 1030.

MIDI You can use different MIDI channels to control Dmod for each effect, if desired, as selected by the **Ch (Control Channel)** parameter.

8-7a: IFX1

Here you can edit the effect parameters of the insert effect you selected in the P8- Insert FX page. Use the tabs at left to select IFX1 through IFX12.

IFX1 On/Off [Off, On]

Off

On

Turns the insert effect on/off. This is linked with the on/off setting in the P8- Insert FX page.

Ch (Control Channel) [Ch01...16, All Routed]

Ch G ch

This parameter specifies the MIDI channel that will be used to control effect dynamic modulation (Dmod), pan following the insert effect (CC#8), Send 1, and Send 2.

The channel number of the MIDI track routed through this IFX will be followed by a “*” displayed at the right of Ch01-16. If two or tracks with different MIDI channel settings are routed through the same IFX, this parameter specifies which of these channels will be used to control the effect.

Note: If you want to control an IFX to which an audio track is routed, use a MIDI track whose channel matches the “Ch (Control Channel)” of the effect you want to control.

All Routed: The channel of any MIDI track routed through this effect can be used to control the effect. (Channels of each routed track will be indicated by “*”).

Drum Kits and the MIDI Control Channel

If a Timbre is using a Drum Kit, and the Timbre’s **Bus Select (IFX/Indiv. Out Assign) DKit** (8-1b) is enabled, this affects the MIDI Control Channel as well. In this case, the Timbre’s MIDI channel will be used to control any effect whose **Ch** is set to All Routed, regardless of the **Bus Select** (Global 5-3b) settings or the settings of the **DrumKit IFX Patch** page menu command.

P (Effect Preset) [P00, P01... 15, U00... 15, -----]

P

Effect Presets let you easily store and recall all of the settings for an individual effect. You can store up to 16 user presets for each effect type, in addition to 15 re-writable factory presets.

The same presets appear in all of the modes (Program, Combi, Sequence, and Sampling), and sets of presets can be saved to and loaded from disk.

Note that edits to effects parameters are automatically stored with the Song—you don't need to store them as an Effect Preset. Presets just make it easier to re-use your favorite settings.

For instance, you can save an Effect Preset while working on a particular Song, and then later use the same Effect Preset in a different Program, Combi, or Song.

P00: Initial Set: These are the default settings that are recalled when you select an effect type in the Insert FX page. You can't save your own settings here.

P01...P15: These contain preset data that Korg plans to provide in the future. We recommend that you store your settings in U00-U15.

U00...U15: These are areas in which you can store your own settings.

-----: This shows that no Effect Preset has been selected. You'll see this if you've just selected an effect, written a program, or selected a new Song. Selecting this setting from the menu will not have any effect.

Note: Songs save the effects parameter settings, but they don't save the number of the selected Effect Preset. If you select an Effect Preset, save the Song to disk, and then re-load the Song, the Effect Preset setting will revert to "-----."

For more details, see "Using Effect Presets" on page 135.

IFX1 Parameters

Here you can set the effect parameters of the insert effect you chose in the P8- Insert FX page.

For more details, please see "Insert Effects (IFX1...IFX12)" on page 794.

8-7b: IFX2...12

Here you can set the effect parameters of the insert effects selected in the Insert FX page.

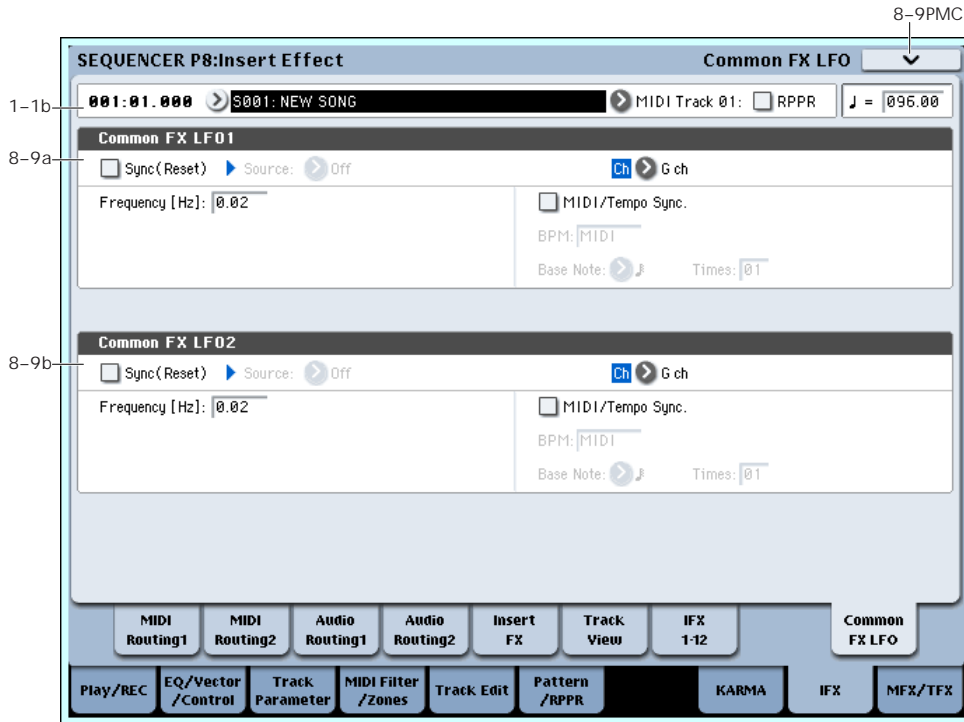
The parameters for IFX2 through IFX12 are the same as for IFX1. For more information, please see "8-7a: IFX1" on page 574.

▼ 8-7: Page Menu Commands

The number before each command shows its ENTER + number-key shortcut. For more information on these shortcuts, see "ENTER + 0-9: shortcuts for menu commands" on page 142.

- 0: **Memory Status.** For more information, see "Memory Status" on page 582.
- 1: **Exclusive Solo.** For more information, see "Exclusive Solo" on page 142.
- 2: **Copy Insert Effect.** For more information, see "Copy Insert Effect" on page 153.
- 3: **Swap Insert Effect.** For more information, see "Swap Insert Effect" on page 154.
- 4: **Write FX Preset.** For more information, see "Write FX Preset" on page 158.
- 5: **Put Effect Setting To Track.** For more information, see "Put Effect Setting to Track" on page 615.
- 6: **FF/REW Speed.** For more information, see "FF/REW Speed" on page 583.
- 7: **Set Location (for Locate Key.)** For more information, see "Set Location (for Locate Key)" on page 583.

8–9: Common FX LFO



The two Common FX LFOs allow you to synchronize LFO-based modulation for multiple effects, such as phasers, flangers, filters, and so on.

The Common LFOs control only the frequency, MIDI synchronization, and reset options; each individual effect still has its own settings for the LFO waveform and phase.

Within the individual effects, you can choose whether to use one of the Common LFOs, or to use the individual effect's frequency, sync, and/or reset settings instead. This is done via the effect's **LFO Type** parameter; select **Individual** to use the effect's settings, or **Common 1** or **2** to use the Common LFOs.

8–9a: Common FX LFO1

Ch (Control Channel) [Ch01...Ch16, Gch]

Specifies the MIDI channel that will control dynamic modulation (Dmod) for Common LFO 1 and 2.

G ch: The global **MIDI channel** (Global 1–1a) will be used for control. This is the default setting.

Sync (Reset) [Off, On]
Source (Dmod Source) [List of Dmod Sources]
Frequency [0.02...20.00 (Hz)]
MIDI/Tempo Sync [Off, On]
BPM [MIDI, 40.00...240.00]
Base Note [♪, ♪, ♫, ♪, ♫, ♪, ♫, ♪, ♫, ♪, ♫]
Times [01...32]

These parameters are the same as in Program mode. For more information, please see "8–9a: Common FX LFO1" on page 136.

8–9b: Common FX LFO2

These parameters are the same as for Common FX LFO1. For more information, please see "8–9a: Common FX LFO1," above.

▼ 8–9: Page Menu Commands

The number before each command shows its ENTER + number-key shortcut. For more information on these shortcuts, see "ENTER + 0-9: shortcuts for menu commands" on page 142.

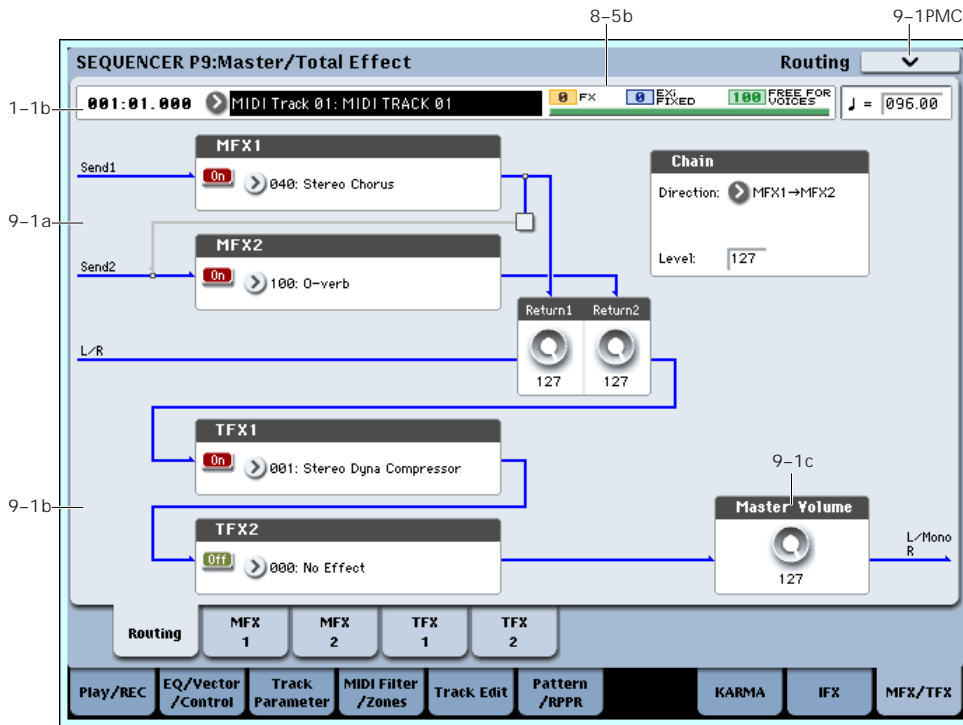
- 0: **Memory Status**. For more information, see "Memory Status" on page 582.
- 1: **Exclusive Solo**. For more information, see "Exclusive Solo" on page 142.
- 2: **Copy Insert Effect**. For more information, see "Copy Insert Effect" on page 153.

- 3: **Swap Insert Effect**. For more information, see “Swap Insert Effect” on page 154.
- 4: **Put Effect Setting To Track**. For more information, see “Put Effect Setting to Track” on page 615.
- 5: **FF/REW Speed**. For more information, see “FF/REW Speed” on page 583.
- 6: **Set Location** (for Locate Key.) For more information, see “Set Location (for Locate Key)” on page 583.

Sequencer P9: Master/Total Effect

Here you can make settings for the master effects and total effects. For more information, please see “Effect Guide” on page 787.

9-1: Routing



Here you can specify the type of master effects and total effects, and turn them on/off.

The master effects are sent to the L/R bus. The total effects are inserted into the L/R bus.

These parameters are the same as in Program mode. For more information, please see “9-1: Routing” on page 138.

9-1a: MFX1, 2**MFX1:**

MFX1 [000...185]

MFX1 On/Off [Off, On]

Return 1 [000...127]

MFX2:

MFX2 [000...185]

MFX2 On/Off [Off, On]

Return 2 [000...127]

Chain:

Chain On/Off [Off, On]

Chain Direction [MFX1→MFX2, MFX2→MFX1]

Chain Level [000...127]

9-1b: TFX1, 2**TFX1:**

TFX1 [000...185]

TFX1 On/Off [Off, On]

TFX2:

TFX2 [000...185]

TFX2 On/Off [Off, On]

9-1c: Master Volume

Master Volume [000...127]

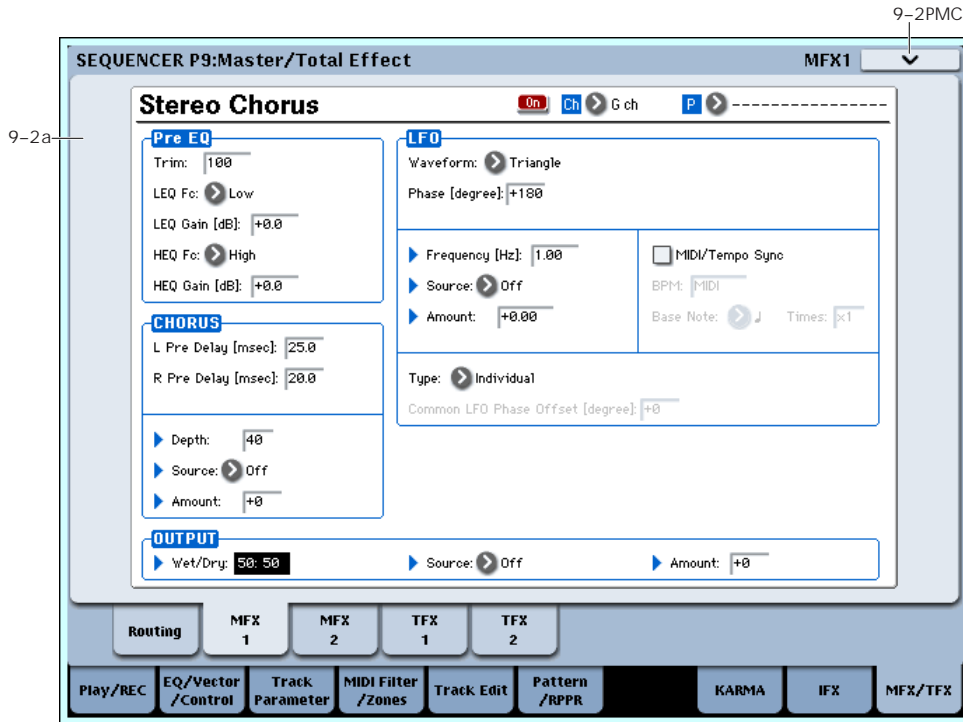
▼ 9-1: Page Menu Commands

The number before each command shows its ENTER + number-key shortcut. For more information on these shortcuts, see "ENTER + 0-9: shortcuts for menu commands" on page 142.

- 0: **Memory Status**. For more information, see "Memory Status" on page 582.
- 1: **Exclusive Solo**. For more information, see "Exclusive Solo" on page 142.
- 2: **Copy MFX/TFX**. For more information, see "Copy MFX/TFX" on page 157.
- 3: **Swap MFX/TFX**. For more information, see "Swap MFX/TFX" on page 158.
- 4: **Put Effect Setting To Track**. For more information, see "Put Effect Setting to Track" on page 615.
- 5: **FF/REW Speed**. For more information, see "FF/REW Speed" on page 583.

- 6: **Set Location** (for Locate Key.) For more information, see "Set Location (for Locate Key)" on page 583.

9-2: MFX1



Here you can edit the parameters of the effect you selected for MFX1 in the P9- Routing page.

Effects Modulation: Dmod

Most effects have one or more parameters which can be modulated in realtime. In the OASYS, this is called Dynamic Modulation, or Dmod for short.

For a complete list of Dmod sources, see "Dynamic Modulation Source List" on page 1030.

MIDI You can use different MIDI channels to control Dmod for each effect, if desired, as selected by the **Ch (Control Channel)** parameter.

9-2a: MFX1

MFX1 On/Off [Off, On]

This turns master effect 1 on/off. This is linked with the on/off setting in the P9- Master/Total Effect - Routing page.

Ch (Control Channel) [Ch01...16, G ch]



Specifies the MIDI channel that will control dynamic modulation (Dmod) for the master effect.

Ch01...Ch16: The specified MIDI channel will be used for control.

G ch: The global **MIDI Channel** (Global 1-1a) will be used for control. Normally you will use the G ch setting.

P (Effect Preset) [P00, P01...15, U00...15, -----]

This lets you select presets for the current effect. For more information, please see "P (Effect Preset)" on page 574.

MFX1 Parameters

Here you can set the effect parameters of the effect you chose in the P9-Routing page.

For details on the individual effects, please see the "Effect Guide" on page 787.

▼ 9-2: Page Menu Commands

The number before each command shows its ENTER + number-key shortcut. For more information on these shortcuts, see "ENTER + 0-9: shortcuts for menu commands" on page 142.

- 0: **Memory Status.** For more information, see "Memory Status" on page 582.
- 1: **Exclusive Solo.** For more information, see "Exclusive Solo" on page 142.
- 2: **Copy MFX/TFX.** For more information, see "Copy MFX/TFX" on page 157.
- 3: **Swap MFX/TFX.** For more information, see "Swap MFX/TFX" on page 158.
- 4: **Write FX Preset.** For more information, see "Write FX Preset" on page 158.
- 5: **Put Effect Setting To Track.** For more information, see "Put Effect Setting to Track" on page 615.
- 6: **FF/REW Speed.** For more information, see "FF/REW Speed" on page 583.

- 7: **Set Location** (for Locate Key.) For more information, see “Set Location (for Locate Key)” on page 583.
-

9-3: MFX2

9-4: TFX1

9-5: TFX2

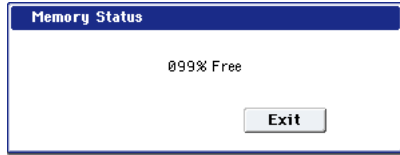
These pages let you edit the parameters of Master Effect 2 and Total Effects 1 and 2. To select different effects types, use the P9- Routing page.

The parameters of MFX2, TFX1, and TFX2 are the same as for MFX1. For more information, please see “9-2: MFX1” on page 580.

Sequencer: Page Menu Commands

Memory Status

If you select “Memory Status,” the remaining amount of sequencer memory will be displayed.

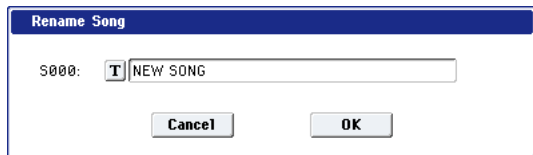


Exclusive Solo

This specifies how the Solo function will operate. Each time you select “Exclusive Solo,” the setting will alternate between multiple solo and exclusive solo. For details, see “Exclusive Solo” on page 142.

Rename Song

Here you can rename the selected song. You can enter a name of up to 24 characters. For more information, see “Editing names” on page 172 of the Operation Guide.



Delete Song

This command deletes the currently selected song.

1. Select “Delete Song” to open the dialog box.



2. If you wish to execute the Delete Song command, press the OK button. To cancel, press the Cancel button.

When you execute, the performance data and settings of the currently selected song will be deleted.

WAVE files and their regions will not be deleted. If you want to delete this data, use the “Delete Unused WAV Files” (Disk u) menu command.

Copy From Song

This command copies all of the setting data and musical data from the specified song to the currently selected song.

1. Select “Copy From Song” to open the dialog box.



2. In “From,” specify the copy source song number.
3. Select the data that you wish to copy.

All: will copy all setting data and musical data (track events and audio events, etc.).

Without Track/Pattern Events: will copy only the setting data of songs, except for Play Loop and RPPR data.

4. To execute the Copy Song operation, press the OK button. To cancel, press the Cancel button.

Be aware that if you execute “All,” all setting data and musical data of the currently selected song will be erased and rewritten by the data from the copy source song.

If you execute “Without Track/Pattern Events,” song setting data other than Play Loop and RPPR will be rewritten.

Load Template Song

This command loads a template song as a song.

The built-in sequencer contains eighteen different preset template songs (P00–17) that contain preset settings for programs and effects appropriate for various musical styles. You are also free to create your own favorite settings for programs, track parameters, and effects, and save them as one of sixteen user template songs (U00–15) (See “Save Template Song”).

1. Select “Load Template Song” to open the dialog box.



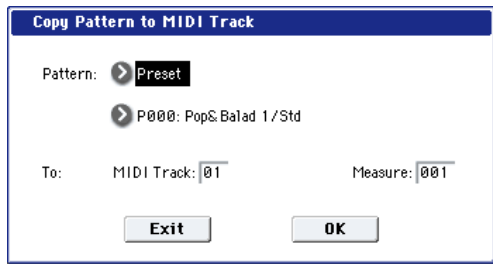
2. In “From,” specify the template song that you wish to load.
3. If you check “Copy Pattern to Track too?,” the “Copy Pattern To Track” dialog box will appear automatically after “Load Template Song” has been executed.

If you execute without checking this, only the template song you specified in step 2 will be loaded.

4. To load the template song, press the OK button. To cancel without loading, press the Cancel button.

When you execute, song settings other than Play Loop and RPPR will be copied.

If in step 3 you checked “Copy Pattern to Track too?” and pressed the OK button, the “Copy Pattern To MIDI Track” dialog box will appear.



This dialog box is the same as in the page menu command “Copy To MIDI Track”.

5. In Pattern, select the pattern that you wish to copy.

In **To Track**, select the copy destination track.

In **Measure**, specify the beginning measure of the copy destination.

Note: Track 1 of each preset template songs contains a drum category program. (In preset template songs P02, P04, P08, and P15 drum category programs are specified for multiple tracks.)

The names of the 156 preset patterns indicate the musical genre and part of the optimal drum category program.

By loading the drum track for these preset template songs and the corresponding preset patterns, you can efficiently set up a drum track that is suited to each preset template song.

6. To execute, press the OK button.

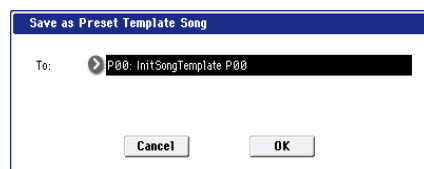
When you execute, **Measure** will count up automatically. You may then copy patterns as well. To exit the command, press the **Exit** button.

For details on how to copy preset patterns to a song along with the preset template song, see “Template songs” on page 91 of the Operation Guide.

Save Template Song

This command saves the program selections, track parameters, and effect settings etc. of the current song as a user template song U00–15.

1. Select “Save Template Song” to open the dialog box.



2. In “To,” specify the user template song (U00–15) in which the data will be saved.

3. To save the template song, press the OK button. To cancel, press the Cancel button.

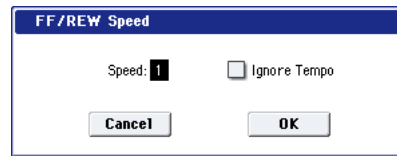
Be aware that when you execute this command, all setting data of the save destination User Template Song will be erased and rewritten with the current settings.

FF/REW Speed

This allows you to set the speed at which fast-forward or rewind will occur when you press the FF switch or REW switch.

Audio tracks will not produce sound during fast-forward or rewind.

1. Select “FF/REW Speed” to open the dialog box.



2. In “Speed,” specify the speed (relative to the playback tempo) at which fast-forward and rewind will occur.

This setting is in multiples of the playback tempo. A setting of 1 is the same speed as the playback tempo. Settings of 2–4 respectively correspond to double, triple, or quadruple speed of the playback tempo.

Note: Fast-forward and rewind speeds may be slower in areas where the performance data is dense.

3. If “Ignore Tempo” is checked, the playback tempo and note length will be ignored, and fast-forward and rewind will be performed as fast as possible.

The speed of fast-forward and rewind will differ between sections where the playback data is dense and sections where it is sparse.

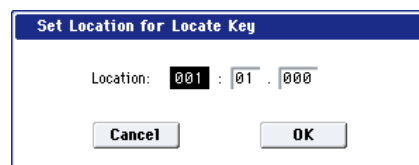
If this item is unchecked, fast-forward and rewind will be performed at the speed you specify for “Speed.”

4. To execute the settings, press the OK button. To cancel, press the Cancel button.

Set Location (for Locate Key)

This sets the Sequencer’s locate point. When you press the LOCATE switch, the Song will move to the measure, beat, and tick specified here.

1. Select Set Location to open the dialog box.



2. Specify the location to which the Song will move when you press the LOCATE switch.

From the left, the values are Measure (001–999), Beat (01–16), and Tick (000–191).

If you set this to 001:01.000, pressing LOCATE brings you back to the beginning of the song.

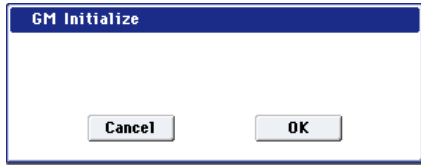
3. To execute the settings, press the OK button. To cancel, press the Cancel button.

Note: When this dialog box is not open, you can hold down the ENTER switch and press the LOCATE switch to set the current location as the locate point.

GM Initialize

This command transmits a GM System On message to the Sequencer mode, resetting all MIDI tracks to the GM settings (See “GM Initialize List” on page 584).

1. Select “GM Initialize” to open the dialog box.



2. To execute the settings, press the OK button. To cancel, press the Cancel button.

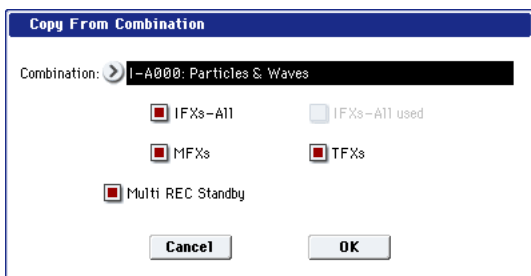
MIDI In Sequencer mode, when a GM System On message is received from an external device, or if a GM System On message is recorded in the sequence data, the OASYS will be reset to settings appropriate for GM just as if you had executed this command. However, in these cases, the various P9: Master/Total Effect parameters will not be reset.

Copy from Combination

This command copies the parameters of the specified combination to the setting data of the currently selected song.

Note: Only the timbres used by the combination will be copied. Timbres in the combination whose Status is Off will not be copied. If any timbres are set to Mute, the corresponding tracks of the song will be set to a Status of Off. However if none of the timbres used in the combination have a MIDI channel setting of Gch, a MIDI track whose MIDI channel is Gch will automatically be specified, and that track will be selected in Track Select. After the copy is executed, you will immediately be able to play in the same state as that combination.

1. Select “Copy from Combination” to open the dialog box.



2. In “Combination,” select the copy source destination.
3. Use the IFX-All, IFX-All used, MFXs and TFXs check boxes to specify whether you want the effect settings of the combination to be copied as well.

IFX-All: All insert effect settings of the copy-source combination (the contents of the Insert FX page and the IFX1–12 effect parameters) will be copied.

IFX-All used: Only the insert effects that are used by the copy-source combination will be copied. When copied, they will be packed into unused slots (000: No Effect, unless within a chain).

Note: Copy-source insert effects that are set to 000: No Effect will not be copied. However if 000: No Effect is included within a chain, it will be copied.

If an entire chain in the copy-destination consists of 000: No Effect, it will be used as a copy-destination.

MFXs: All master effect settings of the copy-source combination will be copied.

TFXs: All total effect settings of the copy-source combination will be copied.

4. Specify the desired Multi REC Standby setting.

On: The Status will automatically be set to REC for MIDI tracks corresponding to valid timbres in the copy-source combination. In addition, “Multi REC” (0–1a) will automatically be turned on, and **Recording Setup** (0–5a) will be set to Overwrite.

5. To execute the Copy operation, press the OK button. To cancel, press the Cancel button.

Copy From Program

This command copies settings from the program you specify to the currently selected song.

This is the same function as in Combination mode; for details, see “Copy From Program” on page 461.

This command in Sequencer mode differs from its behavior in Combination mode in that the channels assigned to the tracks of the song will be preserved regardless of the “with KARMA” setting of the copy-destination track’s “MIDI Channel.” (See step 4.)

GM Initialize List

	Page	Parameter	MIDI Track 1–9, 11–16	Track 10	
PO	MIDI Prog/Mixer	Program Select	G001	g(d)001	
		Play/Mute, Solo	-	-	
		Pan	C064	C064	
		Volume	100	100	

	Page	Parameter	MIDI Track 1-9, 11-16	Track 10	
P1	MIDI Track EQ	Auto Load Prog EQ	On	On	
		Bypass	On	On	
		Input Trim	99	99	
		High Gain	+00.0	+00.0	
		Mid Frequency	3.20k	3.20k	
		Mid Gain	+00.0	+00.0	
		High Gain	+00.0	+00.0	
P2	MIDI	Status	-	-	
		MIDI Channel	-	-	
		Bank Select MSB/LSB	000	000	
		Timbre Priority	Off	Off	
	OSC	Force OSC Mode	-	-	
		OSC Select	-	-	
		Portamento	Off	Off	
	Pitch	Transpose	+00	+00	
		Detune	+0000	+0000	
		Bend Range	PRG	PRG	
		Use Program's Scale	-	-	
	Delay	Mode	Time	Time	
		Time	0000	0000	
WSEQ/KARMA	WS Key Sync	PRG	PRG		
	WS Swing	PRG	PRG		
	WS Quantize Trigger	PRG	PRG		
	KARMA Track On/Off	Nrm	Nrm		
P3	MIDI Filter Keyboard Zones Vel Zone		On	On	
			C-1...G9 (Slope=000)	C-1...G9	
			001...127 (Slope=000)	001...127	
P7	KARMA	All parameters			-
P8	MIDI Routing1	IFX/Indiv.Out Assign	L/R	L/R	
		Send1	0	0	
		Send2	40	40	
	MIDI Routing2	FX Control Bus	Off	Off	
		REC Bus	Off	Off	
	Insert FX	IFX1...12		-	
		Pan(CC#8)			-
		REC Bus			-
		FX Control Bus			-
		Send1/2			-
Common LFO	All parameters			-	
P9	Routing	MFX1			Stereo Chorus
		MFX2			Reverb Smooth Hall
		Chain			Off
		Chain Direction			1->2
		Level			127
		Return1			127
		Return2			50
	Other MFX parameters				-
TFX1/2				-	
Master Level				-	


Stereo Pair

This lets you assign adjacent audio tracks as a stereo pair. The following parameters of paired channels will

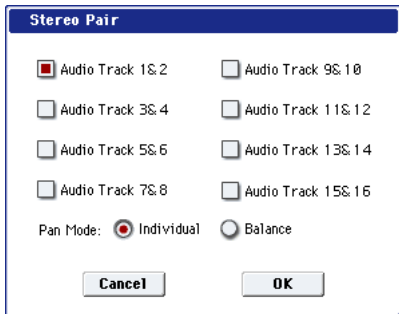
be linked with the same values.

Volume, Pan, Send1, Send2, EQ (Bypass, Input Trim, Low Gain, Mid Cutoff, Mid Gain, High Gain), Play/Rec/Mute

In addition, you can use the P4: Track Edit page menu commands to edit paired tracks simultaneously.

 Paired channels are controlled by the odd-numbered knob or slider. Moving the even-numbered knob or slider will not control the channels.

1. Select "Stereo Pair" to open the dialog box.



2. Use "Audio Track 1&2," "3&4," "5&6," "7&8," "9&10," "11&12," "13&14," and "15&16" to specify the audio tracks that you want to pair.

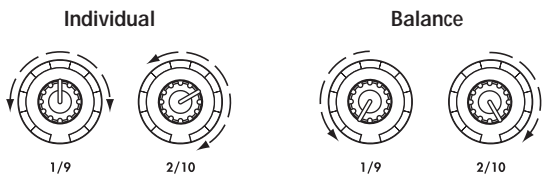
Uncheck audio tracks that you want to un-pair.

3. Specify the "Pan Mode."

Individual: The pan of the two channels will operate independently.

Balance: The pan of the two channels will operate as a balance control.

How tracks 1 and 2 behave when paired



Pan 1 and 2 can be set separately.

If you set pan knob 1 to L000, pan knob 2 will be set to R127. Pan knob 2 has no effect.

4. To apply the changes you made, press the OK button. If you decide to cancel, press the Cancel button.

Optimize RAM

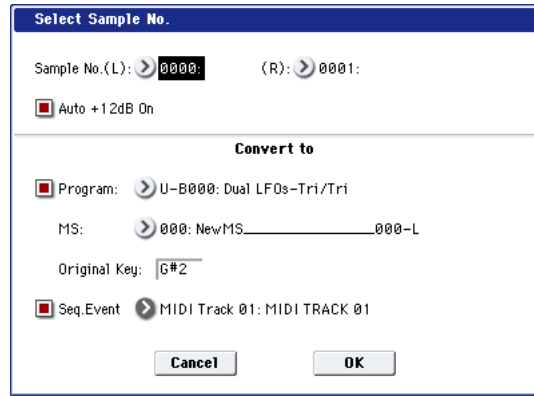
This command optimizes the RAM memory. When you execute this command, unused memory areas will be reorganized, allowing the full amount of remaining to be used. For more information, see "Optimize RAM" on page 143.

Select Sample No.

This command specifies the sample number into which samples will be written. You can also specify whether the sample will be automatically converted into a program after sampling.

Note: **Select Sample No.** can be selected if you have chosen RAM for "Save to."

1. Choose **Select Sample No.** to open the dialog box.



2. In "Sample No.," choose a sample number where the sampling will be performed.

By default, this will be the lowest-numbered of the vacant sample numbers. If you select ----:---No Assign--- or a sample number that already contains data, the sample will automatically be sampled into the lowest-numbered vacant sample number. If you are sampling in stereo, "Sample No.(L)" and "Sample No.(R)" will be created.

3. Set "Auto +12 dB On."

On (checked): +12 dB (Sampling 2-1d) will automatically be turned on for samples you record. Samples for which +12 dB is on will play back approximately +12 dB louder than if this setting were off.

When you resample a performance in Program, Combination, or Sequencer modes, you should normally set **Recording Level** to about +0.0 (dB) so that the recording level will be as high as possible without clipping. When you resample, the sound will be recorded at the optimum level for sampled data, but the playback level at playback will not be as loud as it was during the resampling process (if +12 dB (Sampling 2-1d) is off). In such cases, you can check the **Auto +12 dB On** check box when you resample, so that +12 dB will automatically be on, making the sample play back at the same level as when it was resampled.

In these modes, the power-on default settings are **Recording Level** at +0.0 (dB) and **Auto +12 dB On**. If you resample a performance in the respective mode with these settings, the sample will play back at the same level at which it was resampled.

If you want to monitor your performance in Program, Combination, or Sequencer mode, while sampling only the external audio signal from AUDIO INPUT etc., we recommend that you set **Recording Level** to about +0.0 (dB) and turn off **Auto +12 dB On** when you resample.

The **Auto +12 dB On** setting is made independently for Program, Combination, Sequencer, and Sampling modes.

4. "Convert to" lets you specify whether the sample will automatically be converted to a program after sampling. You can also specify whether a note event will be created at the time of sampling.

If the "Program" check box is **checked**, the sample will automatically be converted to a program.

At the right, use “Program” and “MS” to specify the program number and multisample number of the program that will be created.

Original Key (Sampling 0–1b) specifies the location of the original key. The multisample will be created with an **Index** (Sampling 0–1d) having this key as its **Top Key** (Sampling 0–1d). **Original Key** will increment after sampling, so that the next sample will be assigned to the next higher key.

If you **check** the **Seq.Event** check box, a note event will automatically be created in the track specified by **Track**. Note-on will occur at the location at which sampling began, and note-off will occur at the location at which sampling ended. The note event will be created as in **Recording Setup** Overdub mode (i.e., it will be added without erasing existing events). If you are sampling repeatedly without stopping the song playback, the event(s) will be automatically created when you stop song playback. The “Program Select” (0–1b) of the **Track** you created will automatically will automatically change to the program you specified in “Program.”

Seq.Event is available only if “Program” has been checked.

If you sample with Seq.Event checked in “Convert to,” the multisample and samples will be the object of the Compare function. If you want re-do sampling, you can press the COMPARE switch to return the multisample and samples to the state prior to sampling, and unneeded samples will not remain. The program will not be affected by the Compare operation, and will not return to its prior state.

5. Press the OK button to apply the settings you made, or press the Cancel button to discard any settings you made after accessing the dialog box.

Select Directory

This command lets you specify the save-destination disk, directory, and filename for the WAVE file that will be created by recording or sampling.

You can also use this “Select Directory” command to listen to audio from a WAVE file that was saved to disk.

The “Select Directory” command is available when “Save to” is set to DISK.

For details, see “Select Directory” on page 144.

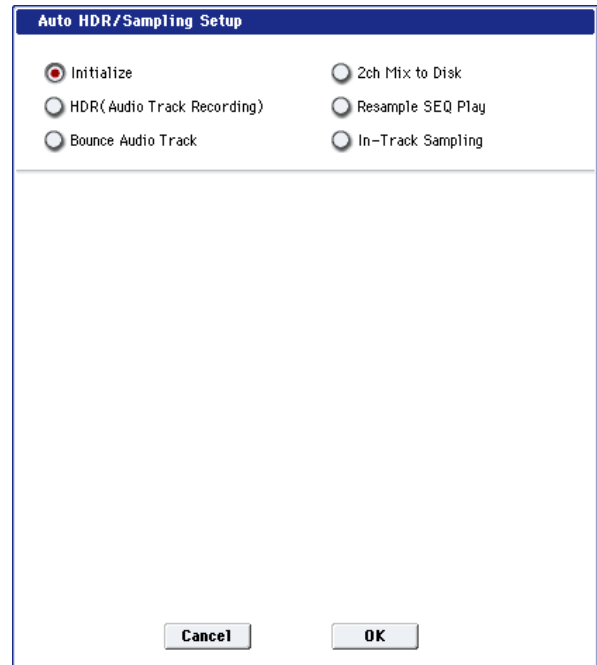
Auto HDR/Sampling Setup

This command automatically makes the appropriate two-channel mix settings etc. for hard disk recording, audio track bouncing, sampling/resampling (in-track sampling, etc.), or creating an audio CD.

- When you execute this operation, the relevant parameters will be set automatically. You cannot use the COMPARE switch to revert to the prior settings.

- The settings are automatically made for the most typical applications. After executing the auto setup operation, you can further adjust any of the parameters as described in the paragraphs for each item.

1. Select Auto HDR/Sampling Setup to open the dialog box.



2. Use the radio buttons to select the type of settings you want to be made automatically.

Initialize: Set parameters related to hard disk recording and sampling to their default values.

HDR (Audio Track Recording): Make the necessary settings for recording external audio signals such as guitar or vocal from the audio inputs to audio tracks.

Bounce Audio Track: Make the necessary settings for bounce-recording audio tracks.

2ch Mix to Disk: Make settings for resampling a completed song in order to create a two-channel stereo WAVE file on the hard disk. (Use this if you want to create a WAVE file and then use the Disk mode Make Audio CD page to burn the file to an audio CD on the internal CD-R/RW drive.)

Resample SEQ Play: Make settings so that you can resample your keyboard playing in Sequencer mode.

In-Track Sampling: Make settings to sample only an external audio signal using the In-Track Sampling function.

3. The settings for the rest of the procedure will depend on what you selected in step 2. (For details, refer to the explanations below.)

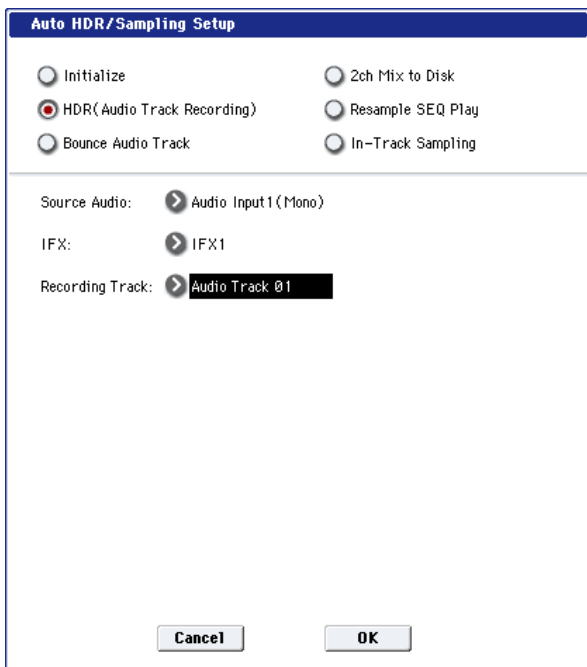
If you selected Initialize:

1. Refer to Auto HDR/Sampling Setup steps 1 and 2, and select Initialize.
2. Press the OK button to execute the command. If you decide not to execute, press the Cancel button.

For more information, see “Auto HDR/Sampling Setup: Automatically-set parameters and their values” on page 592.

If you selected HDR (Audio Track Recording):

1. Refer to Auto HDR/Sampling Setup steps 1 and 2, and select HDR (Audio Track Recording). Then press the OK button to open the dialog box.



2. In “Source Audio,” select the external audio input source.

If the external audio input source is monaural:

Audio Input1 (Mono)...4 (Mono): Selects the analog audio signal from a mic, musical instrument or other device connected to the AUDIO INPUT 1–4 jacks.

S/P DIF L(Mono), R(Mono): Selects the digital audio signal from an instrument or DAT deck etc. connected to the S/P DIF jack.

If the external audio input source is stereo:

Audio Input1/2(Stereo)...3/4(Stereo): Selects the stereo analog audio signal from a musical instrument or other device connected to the AUDIO INPUT1/2 and 3/4 jacks.

S/P DIF L/R(Stereo): Selects the stereo digital audio signal from an instrument or DAT deck etc. connected to the S/P DIF IN jack.

If “Source Audio” is set to S/P DIF, change the **System Clock** setting (Global 0–1d).

3. Specify whether you want to apply an insert effect to the input source (i.e., to record the processed signal). Choose the insert effect you want to use. If you don’t want to use an effect, turn this Off.)

Note: If you’re using more than one insert effect, make settings for the Insert FX page **Chain** parameters after you execute **Auto HDR/Sampling Setup**. For the last insert effect in the chain, set the **REC Bus** to 1 (for a mono source) or 1/2 (for a stereo source). (At this time, you will normally set **Bus Select** to **Off**—but you don’t have to do so.)

Note: You can also record the input source to an audio track without applying an insert effect, and then send the output of the audio track through an insert effect. Make the appropriate **Bus Select** setting in the P8– Audio Routing 1 page for the audio track you recorded.

4. Use “Recording Track” to specify the track(s) that will be recorded.

If “Source Audio” is set to Audio Input 1 (Mono)– Audio Input 4 (Mono), S/P DIF L (Mono), or R (Mono), choose from Audio Track 1–16.

If “Source Audio” is set to Audio Input 1/2 (Stereo), Audio Input 3/4 (Stereo), or S/P DIF L/R (Stereo), choose from Audio Tracks 1&2–15&16. When you execute the command, the “Stereo Pair” setting will be made automatically so that you can record in stereo.

5. Press the OK button to execute the command. If you decide not to execute, press the Cancel button.

For more information, see “Auto HDR/Sampling Setup: Automatically-set parameters and their values” on page 592.

Recording to the audio track(s) after executing the command

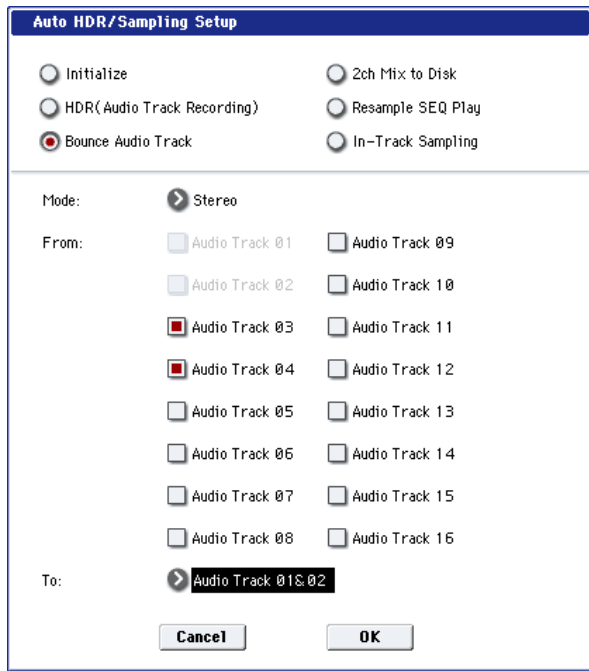
1. Connect your instrument etc. to the AUDIO INPUT jack you selected in “Source Audio,” and use “Audio Track Recording Level” to adjust the recording level.
2. Set “Location” to the location that you want to record.
3. Press the SEQUENCER REC/WRITE switch and then the SEQUENCER START/STOP switch. (Recording will begin.)
4. Play the musical instrument etc. that is connected to the AUDIO INPUT jack(s) you selected for “Source Audio.”
5. When you have finished performing, press the SEQUENCER START/STOP switch. (Recording will stop.)

Check the audio track(s) that you recorded

- To listen to the audio track you recorded, press the SEQUENCER START/STOP switch to play back the track.

If you selected Bounce Audio Track:

1. Refer to Auto HDR/Sampling Setup steps 1 and 2, and select Bounce Audio Track. Then press the OK button to open the dialog box.




2. Use "Mode" to specify whether you will bounce in mono or in stereo.

Mono: Settings will be made so the track(s) you selected in "From" can be bounced in mono to a single audio track.

Stereo: Settings will be made so that the track(s) you selected in "From" can be bounced in stereo to two audio tracks.

3. Use "From" to select the bounce-destination track(s).

 If you're bouncing in "Mode" Mono, the "From" setting can't be more than 15 audio tracks. If you're bouncing in Stereo, the "From" setting can't be more than 14 audio tracks.

4. Use "To" to select the bounce-destination audio track(s).

If using "Mode" Mono, choose from Audio Track 1–16.

If using "Mode" Stereo, choose from Audio Track 1&2–15&16.

5. Press the OK button to execute the command. If you decide not to execute, press the Cancel button.

For more information, see "Auto HDR/Sampling Setup: Automatically-set parameters and their values" on page 592.

Recording to the bounce after executing the command

1. Press the SEQUENCER REC/WRITE switch and then the SEQUENCER START/STOP switch.


Only the audio track(s) you select in "From" will play back, and bounce-recording will begin.

2. When the audio track(s) finish playing back, press the SEQUENCER START/STOP switch. (Bounce-recording will stop.)

Checking the recorded result

1. Turn SOLO ON for the audio track selected by "To" in the dialog box.

2. Press the SEQUENCER START/STOP switch to begin playback.

 If you don't change the settings after executing the command, the effect settings will be ignored, and the audio from the audio track will be bounced directly. Even if IFX1 is being applied to the output of Audio Track 1 and 2 as shown below, IFX1 will not be applied to the sound that is recorded on the bounce-destination audio tracks.

Audio Track 01: Side Guitar → IFX1: Guitar Amp

Audio Track 02: Side Guitar → IFX1: Guitar Amp

Audio Track 03= Audio Track 01 + Audio Track 02

If you want to apply an effect to the output of audio track 03, use the audio track 03 **Bus Select** to send the output to IFX1.

An example of changing the settings

- If you want to bounce audio that is processed by an effect, you can do this by changing the **REC Bus** or **REC Source** settings.

If you want to bounce the audio from the audio track after it has been processed by the insert effect and master/total effects, send the post-effect audio to the REC Bus, and set the bounce-destination audio track's **REC Source** to REC Bus.

Audio Track 01 → IFX1 → **REC Bus 1**

Audio Track 02 → IFX1 → **REC Bus 1**

Audio Track 03: **REC Source REC 1**

When you bounce, the audio processed by IFX1 will be recorded on audio track 03.

- If you want to bounce audio after it is processed by a total effect, set the bounce-destination audio track's **REC Source** to L/R, and make settings so that the post-effect sound is sent to the bounce-destination audio track.

Audio Track 01 → Solo On → IFX1 → MFX/TFX

Audio Track 02 → Solo On → IFX1 → MFX/TFX

Audio Track 03: **REC Source L**

When you bounce, the audio processed by IFX1 and MFX/TFX will be recorded on audio track 03.

If you selected 2ch MIX to Disk:

1. Refer to Auto HDR/Sampling Setup steps 1 and 2, and select 2ch MIX to Disk.

2. Press the OK button to execute the command. If you decide not to execute, press the Cancel button.

For more information, see "Auto HDR/Sampling Setup: Automatically-set parameters and their values" on page 592.

Making the song into a two-channel (stereo) WAVE file after you execute this command

1. Select the song that you want to resample.

2. Press the SAMPLING REC switch and then the START/STOP switch (Standby).

3. Press the SEQUENCER START/STOP switch.

The song will play back, and resampling will begin at the same moment.

4. When song playback ends, resampling will stop, and a WAVE file will be created.

Even if you press the SEQUENCER START/STOP switch during playback, playback and resampling will stop, and a WAVE file will be created.

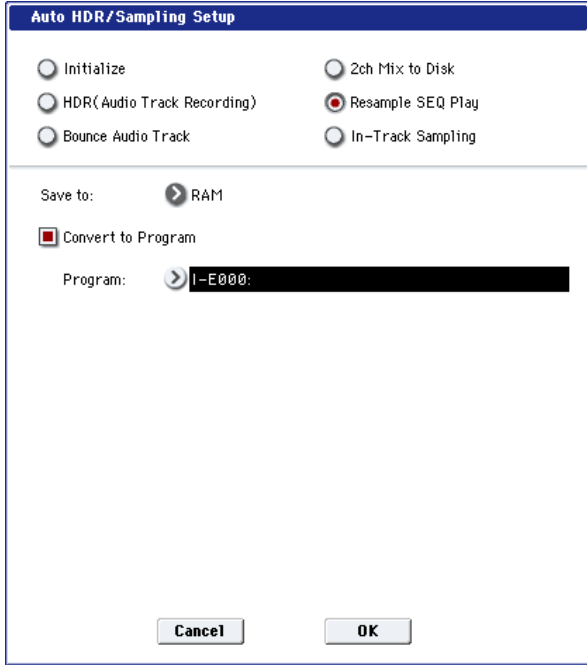
To audition the WAVE file you created

- Use the page menu command "Select Directory."

Note: Use the page menu command “Select Directory” to specify the location in which the new WAVE file will be created.

If you selected Resample SEQ Play:

1. Refer to Auto HDR/Sampling Setup steps 1 and 2, and select Resample SEQ Play.



2. Use “Save to” to select either RAM or DISK as the destination to which the resampled data will be written.

If you select RAM, the data will be written to RAM memory. If you select the DISK setting, a WAVE file will be created from the sampled data and saved to the hard disk.

3. If you selected “Save to” RAM, you can specify whether the data will be automatically converted to a program after resampling.

If you want the data to be converted, check “Convert to Program” and use the “Program” field to specify the convert-destination program.

4. Press the OK button to execute the command. If you decide not to execute, press the Cancel button.

For more information, see “Auto HDR/Sampling Setup: Automatically-set parameters and their values” on page 592.

Resampling after you execute this command

1. Press the SAMPLING REC switch and then the SAMPLING START/STOP switch, and then play the keyboard etc.

Since “Trigger” (0–8c) is set to Note On, sampling will begin at the first note-on.

2. When you’ve finished playing, press the SAMPLING START/STOP switch to stop resampling.

Note: If you execute Resample SEQ Play with “Save to” RAM and “Convert to Program” checked, you can continue sampling without changing the settings, and the samples will automatically be assigned to C#2, D2, ... and so on. A new

multisample will be created when you execute “Resample SEQ Play” once again and sample.

Auditioning the data you sampled

- If you executed with “Save to” RAM and “Convert to Program” checked, select the program you specified as the convert-destination, and play the C2 key to hear the result.

If you didn’t check “Convert to Program,” use Sampling mode to select and audition the sample.

- If you executed with “Save to” DISK, use the page menu command “Select Directory” to audition the sample.

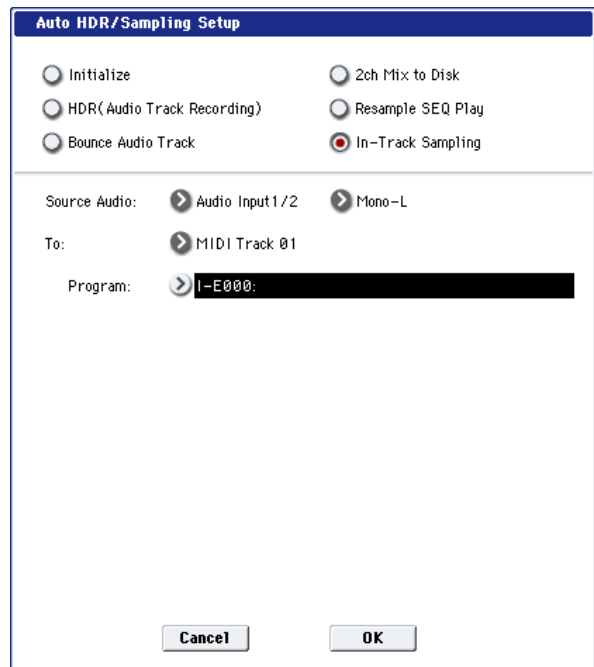
Note: To change the sample number used for sampling (when using “Save to” RAM), use the page menu command **Select Sample No.** If you want to change the save-destination for the WAVE file (when using “Save to” DISK), use the page menu command “Select Directory”.

An example of changing the settings

- To change the way in which sampling is initiated, change the “Trigger” setting.
- If you want to simultaneously sample an external audio source from AUDIO INPUT etc. together with your own playing on a program, set the Sampling page Input 1–4 and S/P DIF “Bus (INF/Indiv.) Select” setting to L/R, and the **Source Bus** to L/R.

If you selected In-Track Sampling:

1. Refer to Auto HDR/Sampling Setup steps 1 and 2, and select In-Track Sampling.



2. Use “Source Audio” to select the external audio input source.

If you select Audio Input 1/2 or 3/4, the analog audio output of an instrument or other device connected to the AUDIO INPUT 1, 2, 3, 4 jacks will be input to the OASYS.

If you select S/P DIF, the digital audio output from an instrument or DAT player etc. connected to the

S/P DIF IN jack will be input to the OASYS. (0–8a “Audio Input”)

3. Use “Mono-L/Mono-R/Stereo” to select the input source and the number of channels you will sample.

The Mono-L setting will sample from Audio Input1, 3 and S/P DIF L to sample to L-MONO, Mono-R will use Audio Input2, 4, and S/P DIF R to sample to R-MONO, and Stereo will use Audio Input 1/2, 3/4, and S/P DIF L/R to sample in stereo.

4. Use the “To” field to select the track that you will use for In-Track Sampling.

Note data will automatically be written to the track you select.

5. Use “Program” to specify the program into which the sample will be converted.

When sampling ends, the entire process of creating a new multisample through converting it to a program and assigning it to a track will be performed automatically.

6. Press the OK button to execute the command. If you decide not to execute, press the Cancel button.

For more information, see “Auto HDR/Sampling Setup: Automatically-set parameters and their values” on page 592.

In-Track Sampling after you execute this command

1. Use “Location” to specify the location from which you want the song to play back.
2. Press the SAMPLING REC switch to enter sampling-standby mode.
3. Press the SEQUENCER START/STOP switch to begin playback.
4. At the point where you want to start sampling, press the SAMPLING START/STOP switch. In-Track Sampling will begin.
5. Play the instrument etc. that is connected to the AUDIO INPUT jack you selected as the “Source Audio” setting.
6. When you’re finished playing, press the SAMPLING START/STOP switch to stop only sampling.

If you press the SEQUENCER START/STOP switch, both sampling and song playback will stop.

Note: If you continue sampling after executing In-Track Sampling, successive samples will automatically be assigned to C#2, D2, ... etc.

However if you execute Auto Sampling Setup once again and then sample, the samples will be created in a new multisample.

Auditioning the data you sampled

- Return the “Location,” and then press the SEQUENCER START/STOP switch to play back the song.

Alternatively, use **Track Select** (0–1a) to select the track you specified in “To” (dialog box), and play the C2 key.

An example of changing the settings

- If you want to apply an insert effect to the input source, go to the Sequencer P0: Audio In/Sampling

page and set “Bus (IFX/Indiv.) Select” to IFX1–IFX12. Set the **Bus Select** following the insert effect you’re using to REC 1/2.

- To change the way in which sampling is initiated, change the “Trigger” setting. If you set this to Threshold, resampling will begin the instant the input level exceeds the specified value. Use the page menu command **Select Sample No.** to select the sampling-destination RAM memory.
- If you selected S/P DIF for “Source Audio,” you may also wish to check that the **Global System Clock** parameter is set appropriately. For more information, see “System Clock” on page 702.

Auto HDR/Sampling Setup: Automatically-set parameters and their values

		Initialize	HDR (Audio Track Recording)	Bounce Audio Track	2ch Mix to Disk	Resample SEQ Play	In-Track Sampling
Input (Input Source)*1		Input1...4 S/P DIF	[Source Audio]*2	Input1...4 S/P DIF	Input1...4 S/P DIF	Input1...4 S/P DIF	[Source Audio]*2
Input1, 3, S/P DIF-L	Bus Select	Off	[IFX]	Off	Off	Off	Off
	FX Ctrl Bus	Off	Off	Off	Off	Off	Off
	REC Bus	Off	Off	Off	Off	Off	1/2
	Send1/2	000	000	000	000	000	000
	Pan	L000	L000	L000	L000	L000	L000
	Level	127	127	127	127	127	127
Input2, 4, S/P DIF-R	Bus Select	Off	[IFX]	Off	Off	Off	Off
	FX Ctrl Bus	Off	Off	Off	Off	Off	Off
	REC Bus	Off	Off	Off	Off	Off	1/2
	Send1/2	000	000	000	000	000	000
	Pan	R127	R127	R127	R127	R127	R127
	Level	127	127	127	127	127	127
Audio Track	Play/Rec/Mute	Play	[Recording Track]: REC *8	[To][Mode]: REC *8	-	-	-
	Solo	-	-	[From]: Solo On	-	-	-
	REC Source	In1	[Source Audio][IFX]*6	REC 1/2 *8	-	-	-
	Stereo Pair	Off	[Source Audio]*6	[Mode] *8	-	-	-
Sampling Setup (Name)	Source Bus	L/R	-	-	L/R	L/R	REC1/2
	Source Direct Solo	(N/A)	-	-	(N/A)	(N/A)	Off
	Trigger	Note On	-	-	Sequencer START SW	Note On	Sampling START SW
	Metronome Precount	(N/A)	-	-	(N/A)	(N/A)	-
	Save to	RAM	-	-	DISK	[Save to]	[Save to]
	Mode	Stereo	-	-	Stereo	Stereo	[Source Audio]*3
	Sample Time(RAM)	Maximum	-	-	(N/A)	-	-
	Sample Time(DISK)	80min?	-	-	-	-	-
	Rec Level	+0.0	-	-	+0.0	+0.0	+0.0
Select Sample	Auto +12dB On	On	-	-	-	On*4	On*4
	Convert to Program	Off	-	-	-	[Convert to Program]*5	[Convert to Program]*5
	Program	-	-	-	-	[Program]*5	[Program]*5
	MS	-	-	-	-	(Newly created)*5	(Newly created)*5
	Original Key	-	-	-	-	(C2)*5	(C2)*5
	Seq. Event	-	-	-	-	-	On*5
	MIDI Track	-	-	-	-	-	[To]*5
Select Directory	-	-	-	-	-	-	
Insert FX	Bus Select (Post IFX)	-	REC 1/2(st), REC 1(mn)*7	-	-	-	-

--: Not set automatically

[]: Set automatically according to the parameter settings in the dialog box

- *1[] User Global Setting: Edit Song Parameters
[x] User Global Setting: Edit Global Parameters
- *2The input source specified as Source Audio will be set.
- *3L-Mono if the Source Audio is Mono-L, R-Mono if it is Mono-R, and Stereo if it is Stereo
- *4When Save to=RAM
- *5When Save to=RAM, when Convert to Program=On
- *6If IFX=Off, set to [Source Audio]. If Stereo, turn Stereo Pair off
If IFX=IFX1...12, set to REC1/2 (Stereo) or REC1 (Mono)
- *7If IFX=IFX1...12, specify the Bus Select of that IFX1...12. If effects are chained, specify the last IFX in the chain.
- *8If the source audio Mode=Stereo, Multi REC is turned On, and a stereo pair is set to REC as the To track.
Set the From Track "REC Bus" to REC1/2.

Note: The **Recording Level** will automatically be set to +0.0 [dB].

Copy Tone Adjust

For more information, see "Copy Tone Adjust" on page 147.

Reset Tone Adjust

For more information, see "Reset Tone Adjust" on page 147.

Show EQ Graphic

This calls up a floating window, showing a graphic representation of the selected Track's EQ settings. You can leave the window open as you work; as you change EQ settings, or select different Tracks, the graphic will update accordingly.

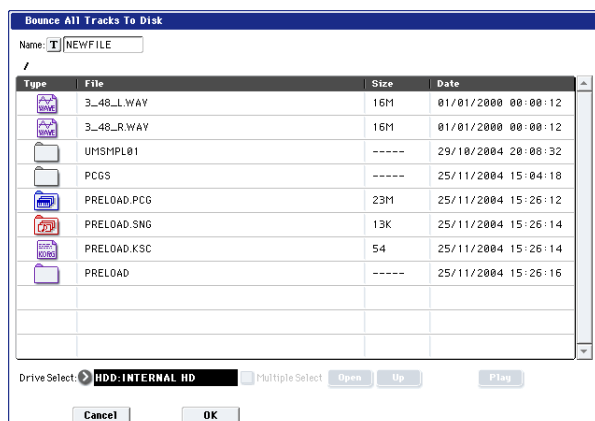
The window will cover the parameters for some of the Tracks on either the right or left sides of the display. If you select one of these Tracks, the window will automatically move to the other side of the display.

Bounce All Tracks To Disk

This command bounce-records all tracks in the song to a single WAVE file (stereo).

Simply use the dialog box to specify the bounce-recording destination song and the name of the file that will be created, and press the OK button. The WAVE file will be created automatically.

1. Use "Song Select" to select the song you want to bounce.



2. Select "Bounce All Tracks To Disk" to open the dialog box.
3. Use "Drive Select," "Open," and "Up" to select the directory in which the WAVE file will be saved.
4. Use "Name" to specify the filename of the WAVE file that will be created by bounce-recording.
5. Press the OK button to execute the command. If you decide to cancel, press the Cancel button.

The bounce-source song will start playing, and recording will begin simultaneously. When song playback ends, bounce-recording will end.

Copy Vector Envelope

For more information, see "Copy Vector Envelope" on page 148.

Copy Pad Setup

For more information, see "Copy Pad Setup" on page 148.

Detune BPM Adjust


If you've created a phrase or rhythm loop multisample or sample at a specific BPM in Sampling mode (or that you loaded in Disk mode), and want to use it with a program in a track, you can use this command to change the BPM of that multisample or sample. The "Detune BPM Adjust" command modifies the BPM of the phrase or rhythm by changing its pitch.

This command is available when the "Detune" setting of that track is selected. When you execute this command, the selected "Detune" value will be adjusted.

For more information, see "Detune BPM Adjust" on page 464.

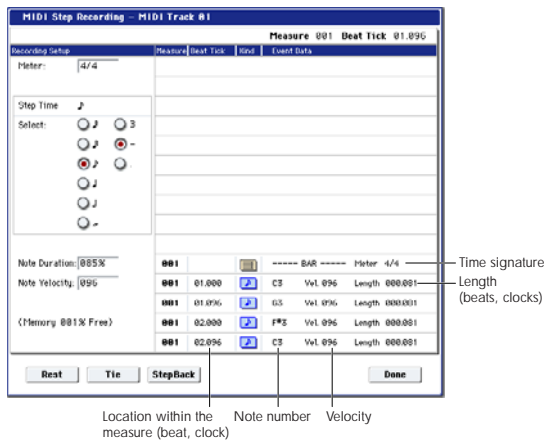
MIDI Step Recording

Step recording allows you to specify the length and velocity of each note numerically, and to input MIDI data, the pitches, from the keyboard. You can also use the on-screen buttons to enter Rests or Ties.

 If you use step recording to input data into a track that already contains sequence data, all data will be erased from the **From Measure** and subsequent measures. If after recording, you decide to revert to the prior data, use the Compare function.

To input data with a continuously-changing value such as pitch bend, it is best to use the "Create Control Data" menu command. To input individual data events such as program changes, use the "MIDI Event Edit" menu command.

1. Use **Track Select** to select the track into which you wish to input data, and use **From Measure (4-1b)** to specify the measure at which you wish to begin input.
2. When you select "MIDI Step Recording," the following dialog box will appear.



3. In Meter, set the time signature.

This will show the time signature that has already been set for the measure.



















If you change the time signature setting, the time signature data of the measures you record will change, and all tracks will change to the time signature you specified.

4. In "Step Time," specify the length (in terms of a note value) of the basic interval at which you will input data.

From the popup menu at the left, select the note length from between \circ (whole note) and ♪ (32nd note).

If you want the selected note value to be a dotted note or a triplet, use the popup menu at the right to select a dot "." (Dot) or triplet "3 (Triplet)." To use the unmodified value of the selected note, choose "-" (Normal)."

The following table shows the number of clocks represented by each "Step Time" selection.

					
(0:24)	(0:48)	(0:96)	(1:00)	(2:00)	(4:00)
					
(0:36)	(0:72)	(0:144)	(1:96)	(3:00)	(6:00)
					
(0:16)	(0:32)	(0:64)	(0:128)	(1:64)	(2:128)

5. In "Note Duration," specify the length that the note will actually be held, relative to the "Step Time."

In general, 100% will be tenuto, 85% will be normal, and 50% will be staccato.

6. Use "Note Velocity" to specify the velocity value (keyboard playing strength) of the note data.

With the PAUSE switch pressed, you can hold down the ENTER switch and play a note on the keyboard to specify the velocity value. If you set this to Key, the actual velocity at which you played the key will be input.

7. Input the note events described below by playing notes on the keyboard or by pressing the buttons in the lower part of the dialog box.

- Entering notes

When you press a key on the keyboard, that note number will be input as a note of the length specified in step 4.

When you press a chord on the keyboard, those note numbers will be input as chords of the length specified in step 4. Since each of the note numbers you press before releasing all of the keys will be input at the same location, the notes will be input as a chord even if they are actually played at different times.

Each time you press and release the keyboard, the location will advance by the length specified in step 4.

- Entering rests

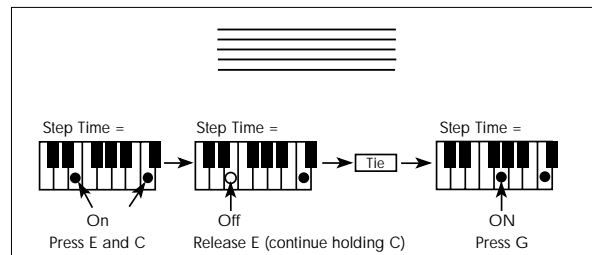
Press the Rest button to enter a rest of the length specified in step 4.

- Entering a tie

If you press the Tie button without pressing the keyboard, the previously-input note will be tied, and lengthened by the amount specified in step 4.

If you press the Tie button while holding down a note, the note you are playing will be tied, and lengthened by the amount specified in step 4.

You can even enter notes as shown in the following diagram.



- Deleting a note or rest

To delete a note or rest, press the Step Back button. The location will move backward by the amount specified in step 4, and the data in that interval will be deleted.

- Auditioning the next note before input

If you wish to make sure of the next note before you actually input it, press the PAUSE switch (the LED will light). Now when you press a key, you will hear sound but the note will not be input. Press the

PAUSE switch once again (the LED will go dark) to cancel the pause mode and resume input.

8. When you are finished with step recording, press the Done button.

If you press the COMPARE switch, you will return to the condition of before you began step recording.

MIDI Event Edit

Here you can edit individual events of MIDI data that were input.

1. Use Track Select to select the track that you wish to edit
2. Use the From Measure (4-1b) field to specify the measure at which you wish to begin editing.
3. Select the MIDI Event Edit menu command.

If Track Select is set to MIDI Track01-16, the Set Event Filters dialog box will appear.

If Track Select is set to the Master Track, the Event Edit window will appear immediately; Set Event Filters will not appear.



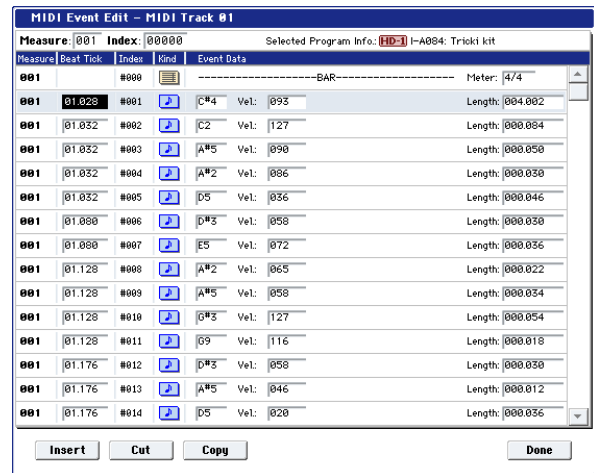
Set Event Filters lets you choose which types of MIDI data will appear in the event edit window. You can use this to focus on one or more specific types of data, or to hide data that you're not interested in at the moment. Only the data which is shown can be edited.

You can choose to view only a specific range of notes, by setting the **Note Bottom** and **Top** as desired. To edit these settings, you can use the standard shortcut: hold ENTER and play a note on the keyboard. Normally, leave these set at the defaults of C-1 and G9.

Control Change lets you show only a specific control change number, or ALL controllers (the default).

You can also show or hide **Pitch Bend**, **Program Change**, **After Touch**, **Poly After Touch**, and **Exclusive**.

4. Press the OK button to open the Event Edit dialog box.



5. In the upper part of the dialog box, Measure and Index show the measure that you are editing and the events of the index numbers within the measure.

You can touch the scroll bar located at the right to move to the event that you wish to edit.

6. Select the event that you wish to edit, and use the VALUE controller etc. to modify its value(s).

By modifying the value of the "Beat Tick" location within the measure, you can move the event within the measure.

You can edit each event by modifying its data value(s). When you select a note event, it will sound.

7. You can press the buttons located at the bottom of the dialog box to edit events as follows.

- Inserting an event

Select the location "Beat Tick" at which you wish to insert an event, and press the Insert button to insert an event.

- Deleting an event

Select the event that you wish to delete, and press the Cut button to delete the event.

- Moving an event

You can use the Cut button and Insert button to move an event (by "cut and paste").

Use the Cut button to delete the event that you wish to move, then use the Insert button to insert it at the desired location.

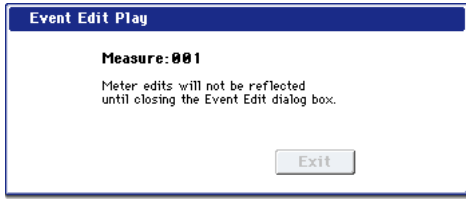
You can also move an event by modifying its "Beat Tick" value.

- Copying an event

Select the event that you wish to copy, and press the Copy button. Then select the copy destination and press the Insert button to insert the event at that location.

- Playing back an event

When you press the Play button, a dialog box will open and the song will begin playing. Use this to audition the edits you've made in Event Edit.



Playback will start from the beginning of the measure that includes the selected event. If there is no selected event, playback will start from the **Measure** setting of the song—just like playback on the P0: Play/REC page.

If you want to hear only the track you're editing, use the Control Surface to solo the track, or to mute other tracks.

Playback will begin from the measure specified by **Measure**.

If you've edited the **Meter**, the change will not be reflected in the playback until you exit Event Edit.

When you press the Exit button, playback will stop and you will return to the Event Edit dialog box.

8. When you are finished event editing, press the Done button.

If you press the COMPARE switch you will return the data to the condition in which it was before you began event editing.

The following table shows the types of musical data that can be edited by "MIDI Event Edit" and the range of their values.

BAR (displayed only) (Measure line)		Meter: 1/4...16/16 *1 (Time signature)
C-1...G9 *2 (Note data)	V: 1...127 *2 (Velocity)	L: 000.000...15984.000 (Length: beats, clocks)
PAFT (Polyphonic after touch)	C-1...G9 (Note number)	0...127 (Value)
CTRL (Control change)	C: 0...101 (Control change number)	0...127 (Value)
PROG (Program change)	Bank: I-A...I-F 000...127, G, g(1)...g(9) g(d), - -, U-A...U-G (Program bank)	P: 0...127, 1...128 (G, g(1)...g(d)) (Program number)
AFTT (After Touch)	0...127 (value)	
BEND (Pitch bend)	-8192...+8191 (value)	
EXCL *3 (Exclusive)		

*1: Be aware that because the time signature is recorded in the master track, modifying it from any track will affect the same measure of all tracks, causing them all to be played in the modified time signature.

Note: *2: Note data and velocity values can also be entered by holding down the ENTER switch and playing a note on the keyboard.

*3: You cannot change System Exclusive events into a different type of event (e.g., a Note or Control Change event). Nor can you change any other type of event into a System Exclusive event.

Pattern numbers will be displayed in locations in which a pattern has been "put" (placed). At the end of the track there will be an indication of End of Track.

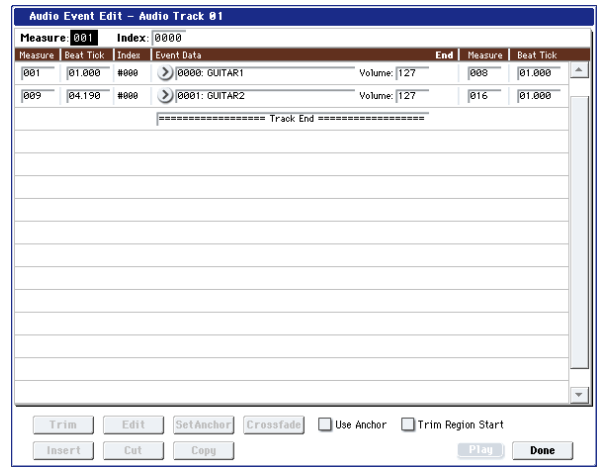
Audio Event Edit

This command lets you edit individual audio events that have been recorded, or trim (i.e., make adjustments in steps of a single sample to) the region used by audio events.

If you want to change the name of a region after recording, use the Select Region dialog box.

Note: As long as there is data in the master track, you can open the audio event editing dialog box even if the audio track is empty.

1. Use Track Select to select the audio track you want to edit, and use From Measure (4-1b) to select the measure at which you want to begin editing.
2. Choose the "Audio Event Edit" command to open the dialog box.

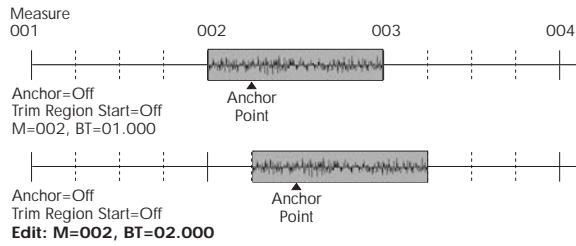


3. Measure and Index located in the top line of the dialog box show the measure for editing and the index number of an event within that measure; this event is shown at the top of the list of events.

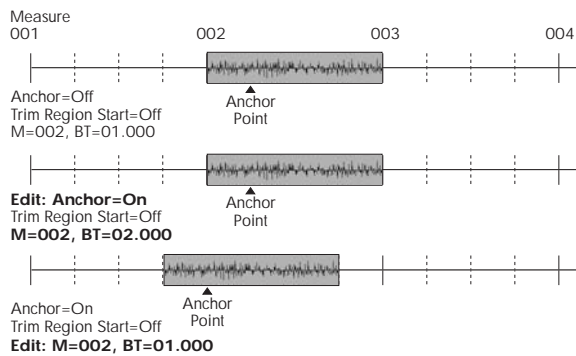
You can use the scroll bar at right to move to the event you want to edit.

You can select an audio event and press the Play button to hear that event. This is a convenient way to audition your changes.

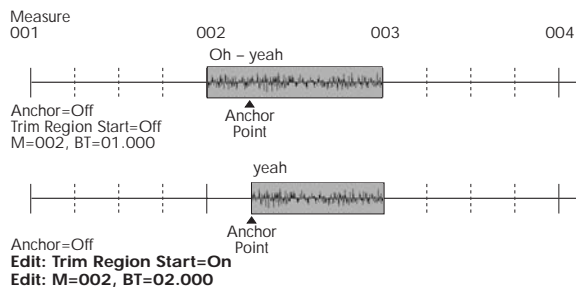
4. Select the event you want to edit, and use the VALUE controller to input the desired values.
 - You can edit the Location **Measure** and "Beat Tick" to move the location of the event. However, you can't place two or more events at the same location.



- If you check the “Anchor” check box, the anchor point location will be displayed in **Measure** and “Beat Tick”, and you can specify the location using this anchor point as the reference. This is convenient when a point inside a region needs to be aligned at a specific location.



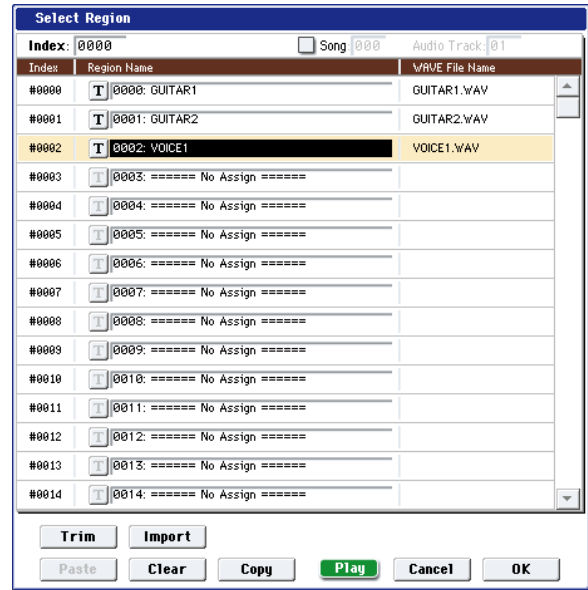
- If you edit the location with “Trim Region Start” checked, the “Start” of the region will also be adjusted simultaneously. Check this box if you want to adjust the length without changing the overall position.



- “V” (Volume) specifies the volume of the audio event.
Note: The volume of an audio track is determined by this volume value multiplied by the volume of the audio track.
- You can edit the end location “E” (Measure. Beat. Tick) to change the location at which the event ends. Editing the end location will change the “End” of the region. However, you can’t set this to a point beyond the length of the WAVE file.

5. Press the Select Region button to change the region.

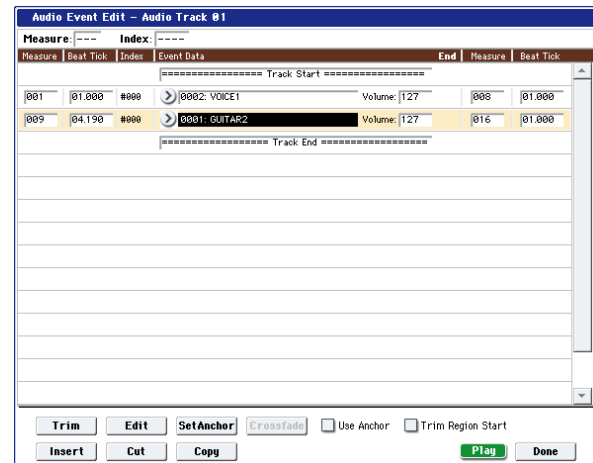
When you press the Select Region button, the Select Region dialog box will appear.



The procedure is the same as for “Region Edit.” The region will be changed when you press the OK button. If you press the Cancel button, the region will not be changed.

If stereo pairing is enabled and you’re editing a stereo audio event, the dialog box will appear twice. In the second dialog box, select the region for the other paired track.

6. Use the buttons located at the bottom of the dialog box to edit the event.



- **Inserting an event**
Select the event that follows the location at which you want to insert, and press the Insert button. If you press the Insert button without having previously used the Copy button or Cut button to load audio event data into the copy buffer, only the first Select Region dialog box will appear; select the region that you want to insert as described in step 5, and then press the OK button. Press the Cancel button if you decide not to insert. (See
- **Deleting an event**
Select the event that you wish to delete, and press the Cut button to delete the event.
- **Moving an event**
You can use the Cut button and Insert button to move an event (by “cut and paste”).

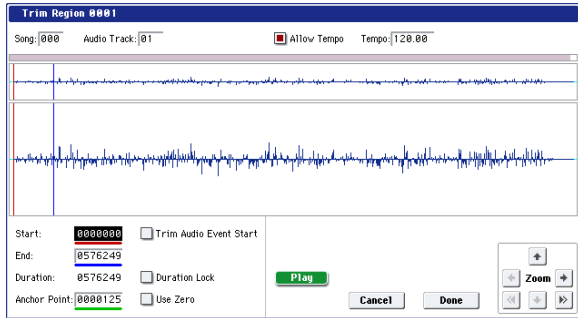
Use the Cut button to delete the event that you wish to move, then use the Insert button to insert it at the desired location.

- Copying an event

Select the event that you wish to copy, and press the Copy button. Then select the copy destination and press the Insert button to insert the event at that location.

7. "TRIM": This edits the area in which the region will sound.

Select the region that you want to edit, and press the Trim button to open the Trim dialog box.



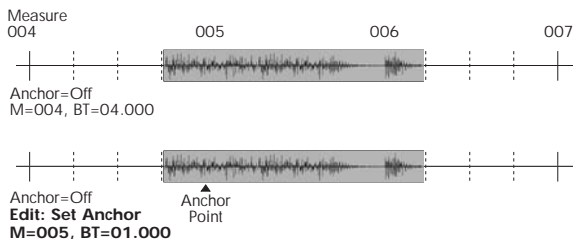
The functions and operation are the same as in the trim dialog box of "Region Edit," with the exception of "Trim Audio Event Start." (See "Region Edit" on page 609.)

If you check "Trim Audio Event Start," editing the "Start" value will simultaneously modify the location (Measure and "Beat Tick") of the audio event. Check this option if you want to adjust the length without changing the position at which the entire event will sound. This will operate in the same way as if "Trim Region Start" is checked in step 4.

The region will be modified when you press the Done button. If you press the Cancel button, the region will not be modified.

8. "Set Anchor": This sets the anchor point at the beginning of the first measure from where the audio event is placed.

Select the event that uses the region in which you want to specify an anchor point, and press the Set Anchor button. For more about how to use anchor points, refer to step 4.

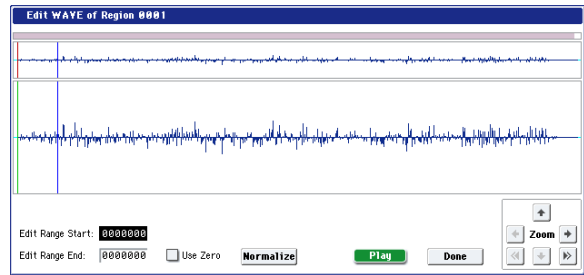


Note: If you want to edit the anchor point that is automatically set here, use TRIM to make adjustments in units of samples.

Tip: For example, you can specify the anchor point as the starting location of a region. Then you can turn on "Use Anchor," and easily place that phrase at the beginning of another measure.

9. Edit the waveform data of the WAVE file assigned to the region.

Select an event that uses the region you want to edit, and press the Edit button to open the edit dialog box.



WAVE file waveform display, ZOOM

This area displays the waveform of the WAV file assigned to the region. The waveform display and ZOOM buttons operate in the same way as in Sampling mode, except that the displayed data is a WAVE file. Refer to the Sampling mode sections "1-1c: Sample waveform display" on page 643 and "1-1f: ZOOM" on page 644.

Edit Range Start [0000000...230399998]

Edit Range End [0000001...230399999]

"Edit Range Start" and "Edit Range End" set the range of the waveform that will be edited.

This range is highlighted in the "WAVE file display." To audition the selected region, press the PLAY or SAMPLING START/STOP buttons.

Use Zero [Off, On]

On (checked): When you set "Edit Range Start" or "Edit Range End," you will only be able to select zero-cross points; i.e., addresses at which the waveform level is at the center "zero" line. Use the VALUE slider, VALUE dial, or Δ/∇ switches to move to the previous or next zero-cross address. If you use the numeric keypad to enter a value directly, you will move to the zero-cross point that is nearest that value.

Off (unchecked): You can adjust the "Edit Range Start" and "Edit Range End" address in units of 1. This is the normal mode of operation.

Normalize

This command processes a WAVE file in the same way as the "Normalize/Level Adj." menu command in Sampling mode. For more information, see "Normalize/Level Adjust" on page 683.

The "Normalize" command applies a uniform change to the sample levels between "Edit Range Start" and "Edit Range End." It boosts the level of the sample data in the specified range as much as possible without causing it to clip. If the data was sampled at a low level, you can use this command to increase the dynamic range of the sample data. You can use **Level** to raise or lower the level as necessary.

10. "Crossfade": This creates an event in which the volume is gradually modified in the area where two audio events overlap, causing them to be mixed.

Edit the location and end location so that the two events overlap. Then select the first of the two events, and press the Crossfade button to display the dialog box.

Use “Curve” to specify how the volume will change in the crossfaded portion.

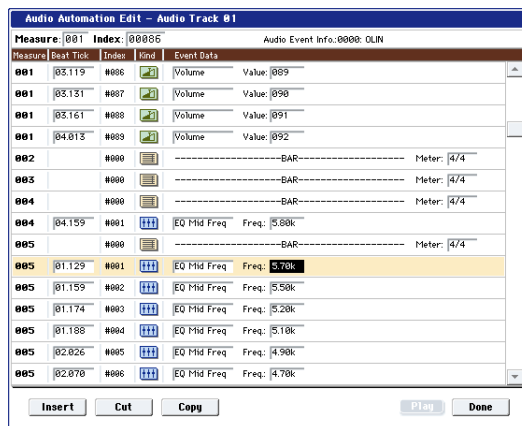
Linear: The volume will change linearly.

Power: The volume will change in a non-linear power curve. Sometimes, using the Linear setting will produce the impression that the volume is less during the middle of the curve. If so, use the Power curve.

Press the OK button to execute the crossfade, or press the Cancel button if you decide to cancel.

11. When you’re finished with audio event editing, press the Done button.

By pressing the COMPARE switch you can return to the state prior to your audio event editing operations.

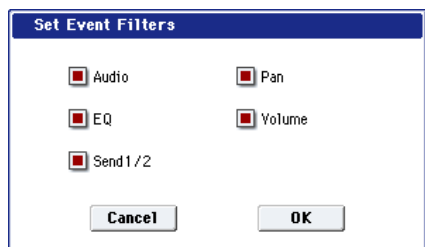


Audio Automation Edit

This lets you edit individual automation data events. All edits are performed only on the single audio track that is selected, regardless of whether stereo pairing is on or off.


1. Use Track Select to select the audio track that you want to edit, and use From Measure (4–1b) to specify the first measure that you want to edit.

When you use **Track Select** to select Audio Track 01–16 and then choose “Automation Edit,” the Set Event Filters dialog box will appear.



In the Set Event Filters dialog box, select the types of automation event data that you want to view or edit in the automation edit window.

Check each type of event (**Audio, Pan, EQ, Volume, Send 1/2**) that you want to see.

 Audio events are shown in this window for reference, but they cannot be edited here. To edit them, use the “Audio Event Edit” command.

2. Press the OK button to access the Automation Edit dialog box.

3. Measure and Index located in the top line of the dialog box show the measure for editing and the index number of an event within that measure; this event is shown at the top of the list of events.

You can use the scroll bar at right to move to the event you want to edit.

4. Select the event you want to edit, and use the VALUE controller to input the desired values.

- You can move the location of the event within the measure by editing the “Beat Tick” value.
- To edit the event data, input the desired values for each event.

5. You can press the buttons located at the bottom of the dialog box to edit events as follows.

- Inserting an event
Select the location “Beat Tick” at which you wish to insert an event, and press the Insert button to insert an event.

- Deleting an event
Select the event that you wish to delete, and press the Cut button to delete the event.

- Moving an event
You can use the Cut button and Insert button to move an event (by “cut and paste”).

Use the Cut button to delete the event that you wish to move, then use the Insert button to insert it at the desired location.

You can also move an event by modifying its “Beat Tick” value.

- Copying an event
Select the event that you wish to copy, and press the Copy button. Then select the copy destination and press the Insert button to insert the event at that location.

6. You can press the Play button to play back an audio event. During playback, an indication of “Stop” will appear, and you can stop playback by pressing this button.

Playback will also stop when you reach the end of the audio event. This is available only if you’ve selected an audio event.

7. When you’re finished with automation editing, press the Done button.

If desired, you can press the COMPARE switch to return to the state prior to automation editing.

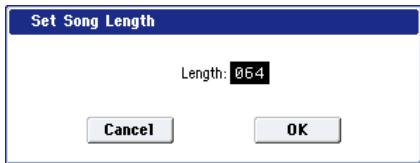
The following table shows the types of “Automation Edit” events and the range of values.

Kind	Value	Value2
Region name (display only) (Audio events)		E:001.00.000... 999.15.191(Display only) (End of an audio event: measure, beat, clock)
Volume	0...127	
Pan	L000...R127	
Send1	0...127	
Send2	0...127	
EQ Bypass	On, Off	
EQ Input Trim	0...99	
EQ High Gain	-18.0...+18.0	
EQ Mid Cutoff	100...10.00k	
EQ Mid Gain	-18.0...+18.0	
EQ Low Gain	-18.0...+18.0	

Set Song Length

This command changes the length of the specified song. When it is executed, the length of the master track will change, and the number of measures played will change.

1. Select “Set Song Length” to open the dialog box.



2. In “Length,” specify the length of the song.
3. To execute the Set Song Length command, press the OK button. To cancel without executing, press the Cancel button.

- ⚠ All data following the measure specified by “Length” will be deleted. If you execute this command with “Length” shorter than the song, causing an audio event to extend beyond the end of the track, a new region will be automatically named and created to specify the region of the WAVE file that will actually be played.

The WAVE file itself will not be deleted.

Erase Track

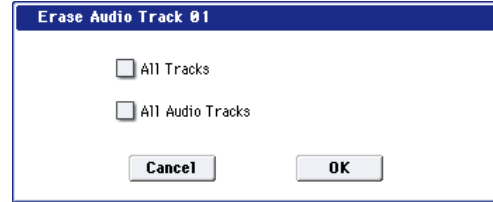
This command erases the data from the specified track. It is not possible to erase the master track by itself.

1. In Track Select, select the track that you wish to erase.
2. Select “Erase Track” to open the dialog box.

MIDI tracks



Audio tracks



3. Select the track whose data you want to erase.

If you do not check **All Tracks**, **All MIDI Tracks**, or **All Audio Tracks**, only the playback data of the track you selected in **Track Select** will be erased.

If you check **All Tracks**, the playback data of all tracks (MIDI tracks, master track, and audio tracks) will be erased. WAVE files and regions will not be erased.

If you check **All MIDI Tracks** (when **Track Select** is set to a MIDI Track 01–16), the playback data of all MIDI tracks (MIDI Track 01–16) will be erased.

If you check **All Audio Tracks** (when **Track Select** is set to an Audio Track 01–16), the playback data of all audio tracks (Audio Track 01–16) will be erased.

Note: WAVE files and regions will not be erased.

4. Press the OK button to execute “Erase Track.” If you decide not to execute, press the Cancel button.

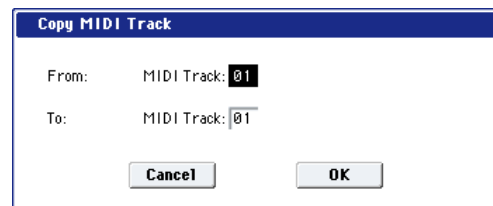
Copy Track

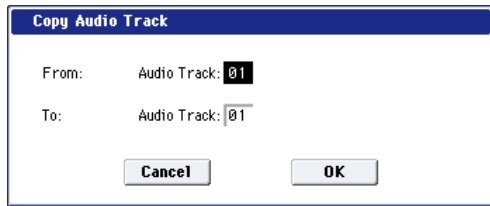
This command copies musical data from the copy source track to the specified track.

Be aware that the track data of the copy-destination will be erased when you execute the Copy Track operation.

1. Use Track Select to select the MIDI track (MIDI Track 01–16) or audio track (Audio Track 01–16) that you want to copy.
2. Select “Copy Track” to open the dialog box.

MIDI tracks



Audio tracks

3. Use “From” to select the copy-source track, and “To” to select the copy-destination.

(By default, the track you choose in **Track Select** will be specified for “From”.)

When you copy an audio track, only the playback data (audio events and automation events) is copied; the WAVE files and regions are not copied.

 You can't copy between MIDI and audio tracks.

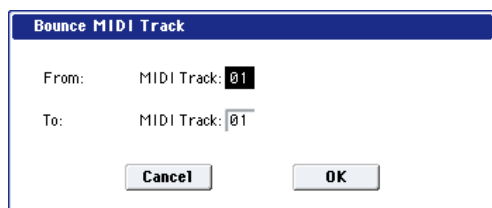
4. Press the OK button to execute the command. If you decide not to execute, press the Cancel button.

Bounce Track

This command combines the musical data of the bounce source and bounce destination tracks, and places the combined data in the bounce destination. All musical data in the bounce source will be erased.

If MIDI control data existed in the bounce source track and bounce destination track, unexpected results may occur during playback after the bounce command is executed. To prevent this from happening, use the “MIDI Event Edit” or “Erase Control Data” menu commands to edit the MIDI control data of the two tracks before you use Bounce Track.

1. Use **Track Select** to select the MIDI track (Track 01–16) that you want to bounce.
2. Select “Bounce Track” to open the dialog box.



3. Use “From” to select the bounce-source track, and “To” to select the bounce-destination track.

(By default, the track you choose in **Track Select** will be specified for “From”.)

4. Press the OK button to execute the command. If you decide not to execute, press the Cancel button.

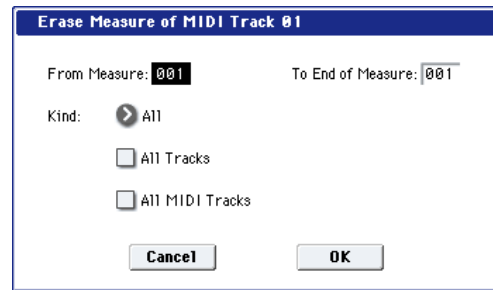
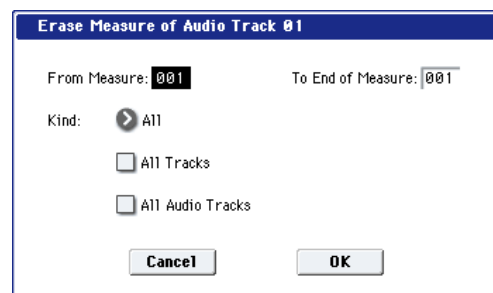
In the case of “Bounce Track,” the bounce-source track data will be set to “zero”.

Erase Measure

This command erases the specified type(s) of musical data from the specified range of measures. The Erase Measure command can also be used to remove only a specific type of data. Unlike the Delete Measure command, executing the Erase Measure command does not cause the subsequent measures of musical data to be moved forward.

1. Use **Track Select** to select the MIDI track (MIDI Track 01–16) master track or audio track (Audio Track 01–16), that contains the measures of data you want to erase.

2. Select “Erase Measure” to open the dialog box.

MIDI tracks*Audio tracks*

3. In **From Measure** select the first measure to be erased, and in **To End of Measure** select the last measure to be erased.

(By default, **From Measure** and **To End of Measure** will be set to the range that you specified in the **Track Edit** page.)

4. Use “Kind” to select the type of data you want to erase.

MIDI data

All: Erases all types of data in that track, including note data.

Control Change: Erases control change data.

After Touch: Erases both channel pressure and poly key pressure data.

Pitch Bend: Erases pitch bend data.

Program Change: Erases program change data.

Exclusive: Erases exclusive data.

Audio data

All: Erase all data from that track.

Audio Event: Erase audio events.

Automation Event: Erase all automation events (EQ, Send 1/2, Pan, Volume).

EQ: Erase only EQ data (Bypass, Input Trim, High Gain, Mid Cutoff, Mid Gain, Low Gain).

Send 1/2: Erase only Send 1 and Send 2 data.

Pan: Erase only pan data.

Volume: Erase only volume data.

5. Select the track(s) for which you want to execute the command.

If you execute with **All Tracks**, **All MIDI Tracks**, and **All Audio Tracks** unchecked, the specified

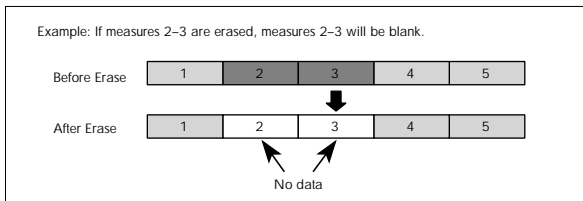
“Kind” of data will be erased only from the track that’s selected in **Track Select**.

If you check **All Tracks**, the specified “Kind” of data will be erased from all tracks.

If you check **All MIDI Tracks** (when a MIDI Track is selected), the specified “Kind” of data will be erased from all MIDI tracks (MIDI Tracks 01–16).

If you check **All Audio Tracks** (when an Audio Track is selected), the specified “Kind” of data will be erased from all audio tracks (Audio Tracks 01–16).

- To execute the Erase Measure command, press the **OK** button. To cancel, press the **Cancel** button.



- If data extends across the boundary between a measure being erased and a measure that is not being erased, only the portion that falls within the specified region will be erased.
- Be aware that if note data extends across several measures, and you erase a measure that falls in the middle of the note, that note data will disappear from the subsequent measures as well.

Note: Note data can also be erased using the “Shift/Erase Note” menu command. Use this command when you wish to erase a specific range of notes, or to erase notes from a specific **Beat.Tick**.

Note: Control Change data can also be erased using the “Erase Control Data” menu command. Use this when you wish to erase a specific type of control change, or to erase control change data from a specific **Beat.Tick** range.

- If you erase a portion of an audio event that extends across several measures, a new region that changes the region of the WAVE file that is played back will automatically be created and named.

Note: The WAVE file will not be deleted.

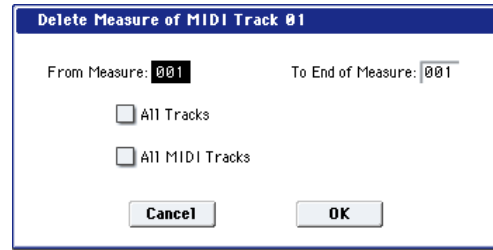
Delete Measure

This command deletes the specified measures.

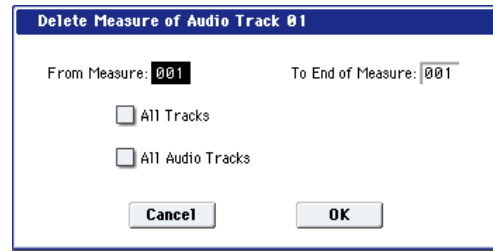
When the Delete Measure command is executed, the musical data following the deleted measures will be moved towards the beginning of the sequence.

- Use **Track Select** to select the MIDI track (MIDI Track 01–16) or audio track (Audio Track 01–16) that contains the measures you want to delete.
- Select “Delete Measure” to open the dialog box.

MIDI tracks



Audio tracks



- In **From Measure** select the first measure that you wish to delete, and in **To End of Measure** select the last measure that you wish to delete.

By default, the range of measures will be set as specified on the Track Edit page.

- Specify the track(s) on which you want to execute the command.

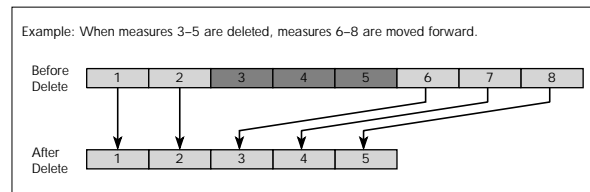
If you execute with **All Tracks**, **All MIDI Tracks**, and **All Audio Tracks** unchecked, the specified measures of data will be deleted only from the track that’s selected in **Track Select**.

If you check **All Tracks**, the specified measures of data will be deleted from all tracks.

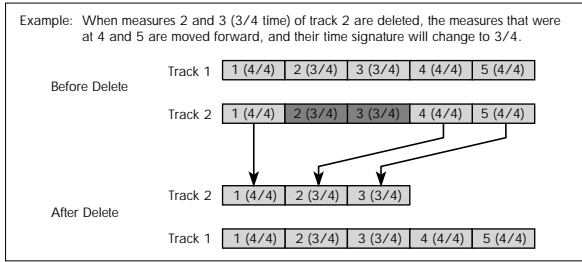
If you check **All MIDI Tracks** (when a MIDI track is selected), the specified measures of data will be deleted from all MIDI tracks.

If you check **All Audio Tracks** (when an Audio track is selected), the specified measures of data will be deleted from all audio tracks.

- To execute the Delete Measure command, press the **OK** button. To cancel, press the **Cancel** button.



- If in step 4 you uncheck **All Tracks** and execute this operation, the measures will not be deleted from the master track. Time signature and tempo data will remain unchanged, and the time signature and tempo of the measures that were moved forward as a result of the Delete operation will change.



- If in step 4 you check **All Tracks** and execute this operation, the specified measures of musical data will be deleted from all tracks including the master track, and the time signature and tempo will also move forward by the number of measures that were deleted.
- If note data extends across several measures, and you delete a measure that falls in the middle of the note, that note data will disappear from the subsequent measures as well.
- If you erase a portion of an audio event that extends across several measures, a new region that changes the region of the WAVE file that is played back will automatically be created and named.

Note: The WAVE file will not be deleted.

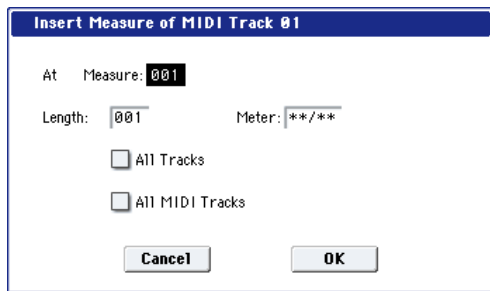
Insert Measure

This command inserts the specified number of measures into the specified track. Existing data following the insert location will be moved backward.

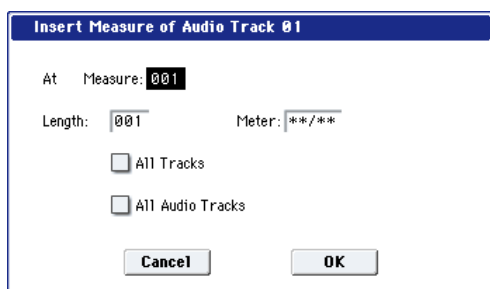
If you insert measures between note events that are connected by a tie, a note-off will be created immediately before the inserted measure, and the subsequent portion will be deleted.

1. Use **Track Select** to select the MIDI track (MIDI Track 01–16) or audio track (Audio Track 01–16) into which you want to insert measures.
2. Select **“Insert Measure”** to open the dialog box.

MIDI tracks



Audio tracks



3. In **“At Measure,”** specify the measure location at which the data will be inserted. (The measure you specified in **Track Edit page From Measure** will be set as a default.)
4. In **“Length,”** specify the number of measures that will be inserted.
5. In **Meter,** specify the time signature of the measures that will be inserted.

If you want the inserted measures to match the existing time signature, specify ****/****. With any setting other than ****/****, the time signature of the inserted measures will change, and the specified time signature will apply to all tracks for those measures.

6. Specify the track(s) for which you want to execute the command.

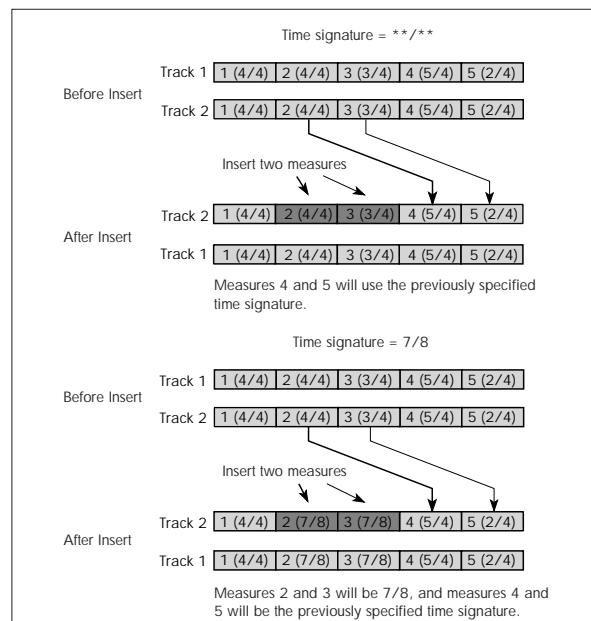
If you execute with **All Tracks**, **All MIDI Tracks**, and **All Audio Tracks** unchecked, the measures will be inserted into the track that’s selected in **Track Select**. Be aware that at this time, the playback data that follows the insert location will move toward the end of the song according to the number of inserted measures, but the time signature and tempo will not move.

If you check **All Tracks**, the measures will be inserted into all tracks including the Master Track. The playback data in subsequent measures will play just as it did before this command was executed.

If you check **All MIDI Tracks** (when a MIDI track is selected), the measures will be inserted into all MIDI tracks.

If you check **All Audio Tracks** (when an Audio track is selected), the measures will be inserted into all audio tracks.

7. To execute the **Insert Measure** command, press the **OK** button. To cancel, press the **Cancel** button.



- If you execute **Insert Measure** at a location in the middle of an audio event that spans several measures, two new regions that play the regions divided at the **“At Measure”** will be automatically created and named.

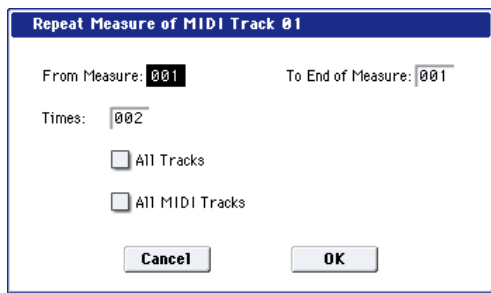
Note: The WAVE file itself will not be modified.

Repeat Measure

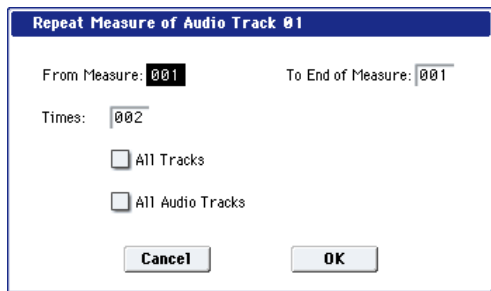
This command repeatedly inserts the specified measures for the specified number of times. When you execute the Repeat Measure command, the measures will be inserted following the measure specified by **To End of Measure**, and musical data following the inserted data will be moved backward. It is convenient to use this command when you have a song that you playback with “Track Play Loop” (0–3a) turned on, and wish to expand it into musical data.

1. Use **Track Select** to select the MIDI track (MIDI Track 01–16) or audio track (Audio Track 01–16) that you want to insert data into.
2. Select “Repeat Measure” to open the dialog box.

MIDI tracks



Audio tracks



3. In **From Measure** and **To End of Measure**, specify the range of measures that will be repeated.

By default, the range of measures will be set as specified on the Track Edit page.

4. In **Times**, specify the number of repetitions.

For example if you set **From Measure** to 001, **To End of Measure** to 004, and **Times** to 2, the musical data of measures 1–4 will be inserted into measures 5–8. The result will be that measures 1–4 will be played twice.

5. Specify the track(s) for which you want to execute the command.

If you execute with **All Tracks**, **All MIDI Tracks**, and **All Audio Tracks** unchecked, the playback data will be inserted into the track that’s selected in **Track Select**. Be aware that at this time, the playback data that follows the inserted location will move toward the end of the song according to the number of inserted measures, but the time signature and tempo will not move.

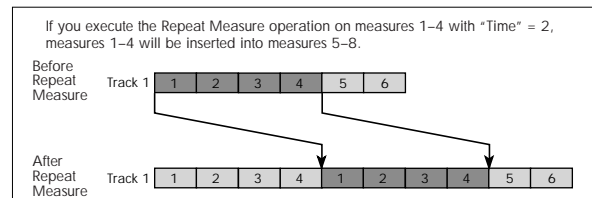
If you check **All Tracks**, the playback data will be inserted into all tracks including the Master Track.

The playback data in subsequent measures will play just as it did before this command was executed.

If you check **All MIDI Tracks** (when a MIDI track is selected), the data will be inserted into all MIDI tracks.

If you check **All Audio Tracks** (when an Audio track is selected), the data will be inserted into all audio tracks.

6. To execute the Repeat Measure command, press the **OK** button. To cancel, press the **Cancel** button.



- ⚠ If you execute Repeat Measure at a location in the middle of an audio event that spans several measures, a new region will be automatically created and named.

Note: The WAVE file itself will not be modified.

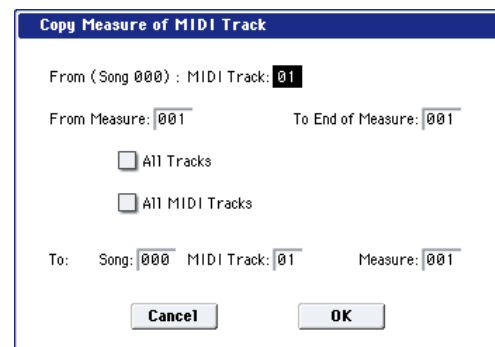
Copy Measure

This command copies the measures of musical data specified as the “From” source to the beginning of the measure specified as the “To” location.

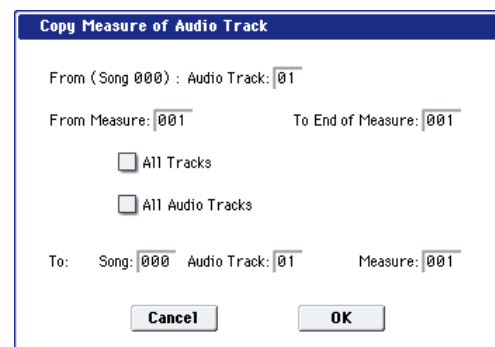
When you execute the Copy Measure command, the existing track data at the copy destination will be rewritten.

1. Select the copy source song.
2. Select “Copy Measure” to open the dialog box.

MIDI tracks



Audio tracks



3. Use **From: Track** or “Audio Track” to select the copy-source track.

(By default, this will be the **Track Select** track.)

If you execute with **All Tracks**, **All MIDI Tracks**, and **All Audio Tracks** unchecked, only the selected track will be copied. Note that the time signature and tempo will not be copied.

If you check **All Tracks**, the playback data of all tracks including the Master Track will be copied.

If you check **All MIDI Tracks** (when a MIDI Track is selected), all MIDI tracks will be copied.

If you check **All Audio Tracks** (when an Audio Track is selected), all audio tracks will be copied.

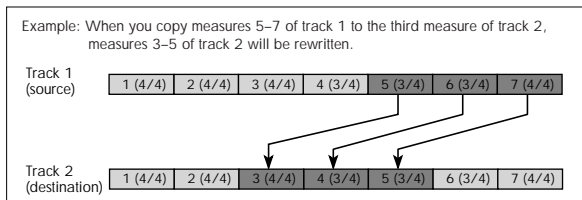
4. In From Measure and To End of Measure, specify the range of copy source measures.


By default, the range of measures will be set as specified on the Track Edit page.

5. Use To: Song to select the copy-destination song, use Track or "Audio Track" to select the copy-destination track (if you haven't checked All Tracks, All MIDI Tracks, or All Audio Tracks), and use Measure to select the measure at which the copied data will be inserted.

 You can't copy between MIDI and audio.

6. To execute the Copy Measure operation, press the OK button. To cancel, press the Cancel button.



 If the copy-source you specify is a portion of an audio event that spans several measures, or if the copy-destination is a portion of an audio event that spans several measures, a new region will automatically be created and named when you execute the Copy Measure command.

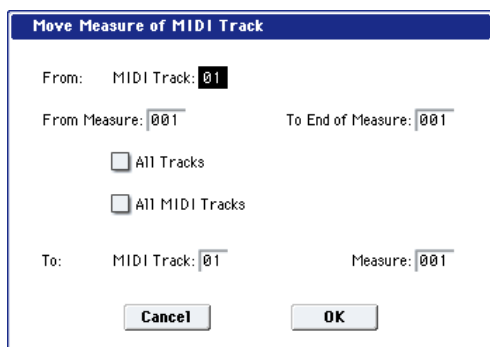
Note: The WAVE file itself will not be modified.

Move Measure

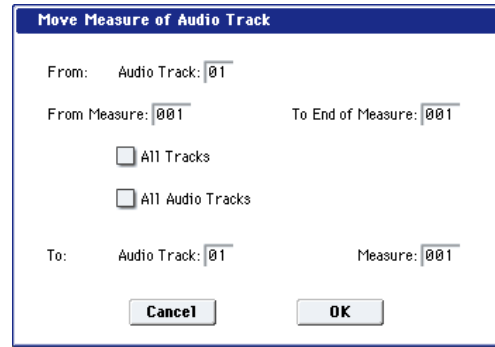
This command moves the specified measures to another location. Existing data at the destination will be pushed back to make room for the moved data, and the data surrounding the old location will be moved to fill in the gap.

1. Select "Move Measure" to open the dialog box.

MIDI tracks



Audio Tracks



2. Use From: Track or "Audio Track" to select the move-source track.

(By default, this will be the **Track Select** track.)

If **All Tracks**, **All MIDI Tracks**, and **All Audio Tracks** are unchecked, only data from the selected track will be moved.

If you check **All Tracks**, the playback data of all tracks including the Master Track will be moved.

If you check **All MIDI Tracks** (when a MIDI Track is selected), all MIDI tracks will be moved.

If you check **All Audio Tracks** (when an Audio Track is selected), all Audio tracks will be moved.


3. Use From Measure and To End of Measure to specify the region of measures that will be moved.

By default, the range of measures will be set as specified on the Track Edit page.

4. Use To: Track or "Audio Track" (if you haven't checked All Tracks, All MIDI Tracks, or All Audio Tracks) to select the destination track, and use Measure to select the starting measure at which the data will be inserted.

 You can't move between MIDI and audio.

5. To execute the Move Measure command, press the OK button. To cancel, press the Cancel button.

 If you move a portion of an audio event that spans several measures, or if you move to a portion of an audio event that spans several measures, a new region will automatically be created and named when you execute the Move Measure command.

Note: The WAVE file itself will not be modified.

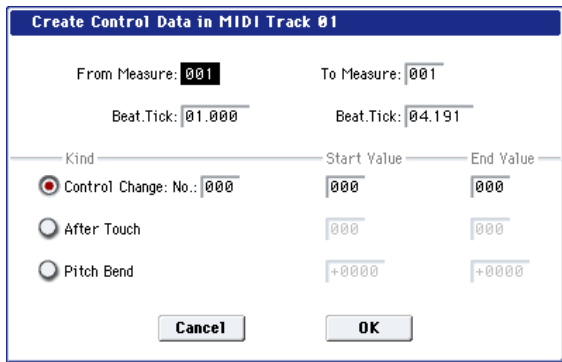
Create Control Data

This command creates control change, aftertouch, pitch bend, or tempo data in the specified region of a MIDI track or the master track.

1. In Track Select, select the MIDI track on which you wish to perform the Create Control Data command.

If you wish to modify tempo data, select Master Track as the track. In this case, the step 4 item "Kind" will be set to "Tempo."

2. Select "Create Control Data" to open the dialog box.



3. Specify the range into which the control data will be inserted.

In **From Measure** and **To End of Measure** specify the measures, and in **Beat.Tick** specify the beat and clock. (By default, the range of measures will be set as specified on the Track Edit page.)

4. Set "Kind" to the type of musical data (event) that you wish to create.

Control change: Control change data will be inserted. Use "#" to specify the CC number.

After Touch: Aftertouch data will be inserted.

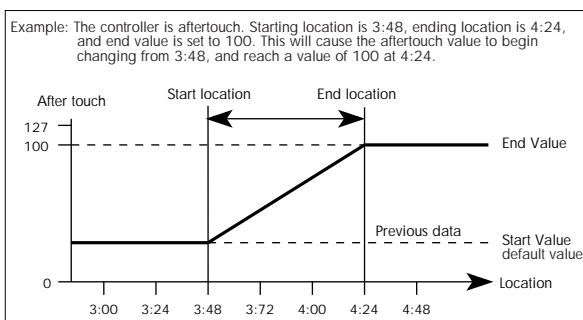
Pitch Bend: Pitch bend data will be inserted.

Tempo: Tempo data will be inserted (if you've selected the master track).

5. In "Start Value," select the starting value of the control data. In "End Value," select the ending value of the control data.

By default, the "Start Value" will be set to the value of the existing data at the start location. If you wish to create control data that changes smoothly from the starting location, you can leave the "Start Value" unchanged, and set only the "End Value."

6. To execute the Create Control Data command, press the OK button. To cancel, press the Cancel button.



When you execute Create Control Data, a large amount of sequencer memory will be consumed. For this reason it may not be possible to execute this command if there is a limited amount of memory remaining. In such cases, first use the "Quantize" menu command to quantize the data and remove unnecessary control data. Alternatively, you could quantize the data inserted by the Create Control Data command.

Erase Control Data

This command erases data such as control changes, after touch, pitch bend, or tempo in the specified range.

1. In **Track Select**, select the MIDI track from which you wish to erase control data.

If you wish to erase tempo data, select Master Track. In this case, the "Kind" item in step 4 will be Tempo.

2. Select "Erase Ctrl Data" to open the dialog box.
3. Specify the range from which you wish to erase control data.

In **From Measure** to **To End of Measure** specify the measures, and in **Beat.Tick** specify the beat and clock. (By default, **From Measure** and **To End of Measure** will be the range that was specified in the Track Edit page.)

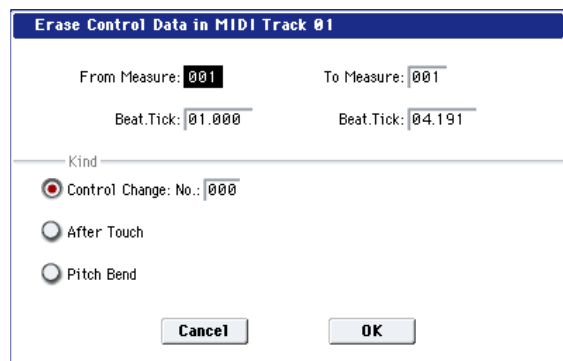
4. Set "Kind" to the type of musical data (event) that you wish to erase.

Control change: Control change data will be erased. Use "#" to specify the control change number.

After Touch: Aftertouch data will be erased.

Pitch Bend: Pitch bend data will be erased.

Tempo: Tempo data will be erased. (If you've selected the master track)



5. To execute the Erase Control Data command, press the OK button. To cancel, press the Cancel button.

Note: To erase all control change data from specified measures, you can also use the "Erase Measure" menu command, and set "Kind" to Control Change. However, the Erase Control Data command allows you to specify the range using **Beat.Tick**, and also to erase only specific types of control change data.

Quantize

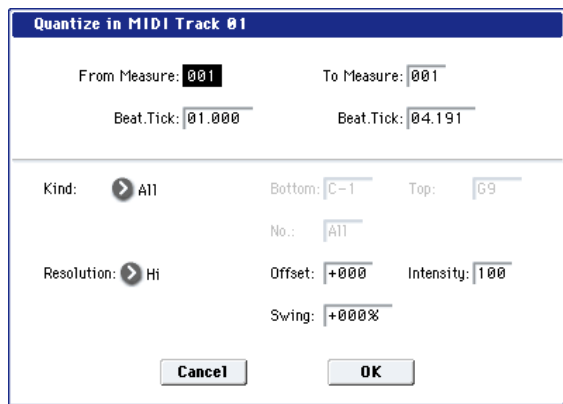
This command corrects the timing of MIDI data of the type you specify (note data, control change, aftertouch, pitch bend, program change, etc.) in the track.

When you execute the Quantize operation, the musical data will be affected as follows:

- When quantizing note data, only the timing of the note-on is affected; the length (duration of the note) is not affected.
- If the Quantize resolution is set to Hi, the timing will be adjusted to the base resolution (♩/192), so note data will not be affected. However, continuous controller data such as joystick or after touch will be processed so that duplicate events on the same

“tick” are combined into a single event, thus conserving memory.

Similarly, two or more data events of an identical type existing at the identical timing will be combined into one, also conserving memory.



1. In **Track Select**, specify the track.
2. Select **“Quantize”** to open the dialog box.
3. Specify the range that will be quantized.

In **From Measure** and **To End of Measure**, specify the measures. In **Beat.Tick** specify the beat and clock. (By default, **From Measure** and **To End of Measure** will be the range that you specified in the Track Edit page.)

4. In **“Kind,”** select the type of musical data (events) that you wish to quantize.

All: Quantization will be applied to all performance MIDI data.

Note: Quantization will be applied only to note data. **Bottom** specifies the lowest Note that will be affected, and **Top** specifies the highest Note. You can use this when you want to quantize only a specific note or notes (for example, just the snare sounds of a drum track). If you want to quantize all notes, set these parameters C-1 and G9 respectively. These note settings can be entered by holding down the ENTER switch and playing a note on the keyboard.

Control Change: Quantization will be applied to control changes. To quantize only a specific control change, specify the number (“No.”). To quantize all control changes, select All.

After Touch: Quantize both Channel Pressure and Polyphonic Key Pressure messages.

Pitch Bend: Pitch bend data will be quantized.

Program Change: Program change data will be quantized.

5. In **“Resolution,”** specify the timing resolution to which the data will be corrected.

Lower resolutions can save memory, but if you set it too low, the timing may not be acceptable.

6. In **“Offset,”** specify the number of clock ticks by which the data will be moved forward or backward relative to the standard timing.

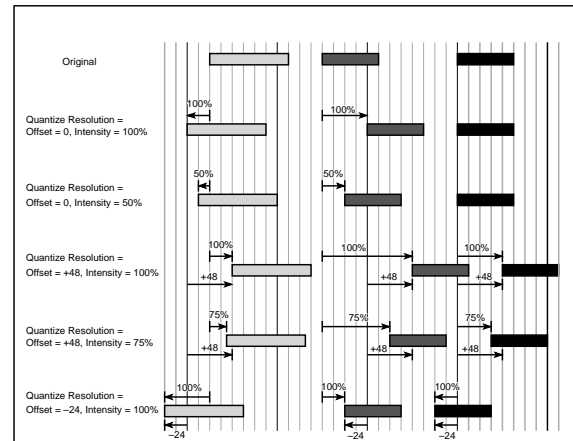
48 is a 16th-note; 96 is an 8th-note. Positive (+) settings move the timing forwards, and negative (–) settings move it backwards. This allows you to “push” or “drag” the beat.

7. In **“Intensity,”** specify the degree of sensitivity to which the timing will be corrected; i.e., how close to the locations specified by step 5 and 6 the data will be moved.

With a setting of 0, no correction will take place.

With a setting of 100, the data will be moved all the way to the timing intervals specified by step 5 and 6.

By varying the **Offset** and **Intensity** settings, you can create quantization effects such as the following:

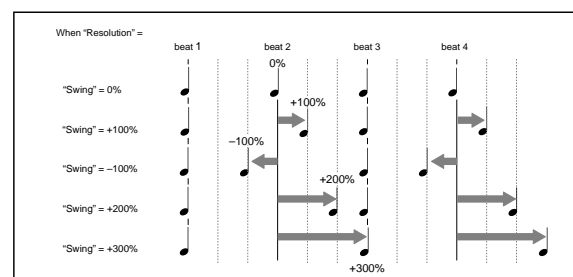


8. Use **“Swing”** to add a sense of swing to the rhythm. For example, this is an easy way to give a slight shuffle groove to a “square” 16-beat rhythm.

Settings other than 0% will adjust the positions of notes at even-numbered beats relative to the specified “Resolution.”

With a setting of +100%, notes will be moved one third of the way toward the specified “Resolution.” With a setting of +300%, notes of even-numbered beats will be moved all the way to the next even-numbered beat.

By varying the **Swing** settings, you can create effects such as the following:

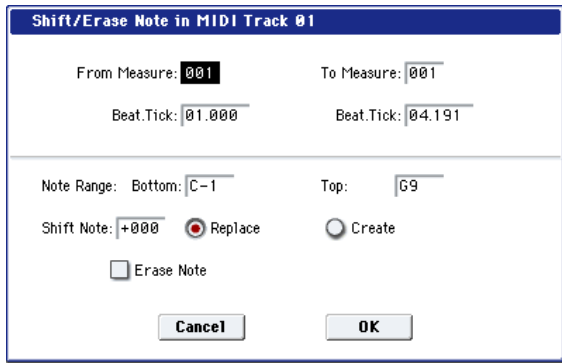


9. To execute the **Quantize** command, press the **OK** button. To cancel, press the **Cancel** button.

Shift/Eraser Note

This command shifts (moves) or erases the specified note numbers in a specified MIDI track and range of measures.

1. In **Track Select**, select the MIDI track on which you wish to execute the **Shift/Eraser Note** command.
2. Select **“Shift/Eraser Note”** to open the dialog box.

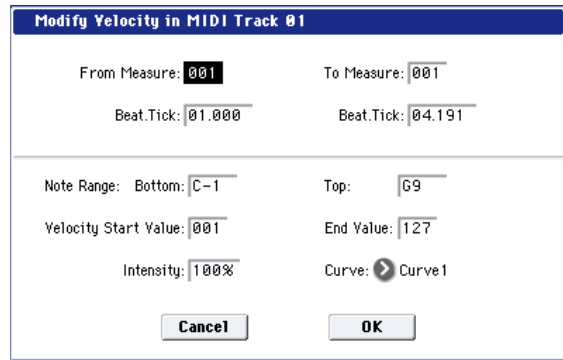


3. Specify the range in which you wish to shift or erase note numbers.
In **From Measure** and **To End of Measure**, specify the measures. In **Beat.Tick**, specify the beat and clock. (By default, **From Measure** and **To End of Measure** will be the range that you specified in the Track Edit page.)
4. Specify the range of notes that you wish to shift or erase.
Note Range: Bottom specifies the lower limit, and **Top** specifies the upper limit. If you wish to edit all notes, set **Bottom** to C-1 and **Top** to G9. These settings can also be made by holding down the ENTER switch as you play a note.
 - Shifting notes
5. In "Shift Note," specify the amount by which you wish to move the note.
The amount of shift is set in semitone steps over a range of -127+127. +1 will shift the note a semitone upward.
6. Select either "Replace" to move the note numbers, or "Create" to generate additional notes.
For example if you are editing a track that uses a drum program, you can use "Replace" to exchange the current snare sound for a different snare sound assigned to a different key, or use "Create" to add a sound effect at a different note # to the snare sound. Alternatively, you can use "Create" to add an octave doubling to an existing guitar phrase, etc.
7. To execute the Shift Note command, press the OK button. To cancel, press the Cancel button.
 - Erasing notes
8. Check "Erase Note."
If you wish to erase all note data in the specified range of measures, you can also use the "Erase Measure" menu command and set "Kind" to Note. However, this Shift/Erase Note command lets you specify the **Beat.Tick** range, and to erase only specific ranges of note data.
9. To execute the Erase Note command, press the OK button. To cancel, press the Cancel button.

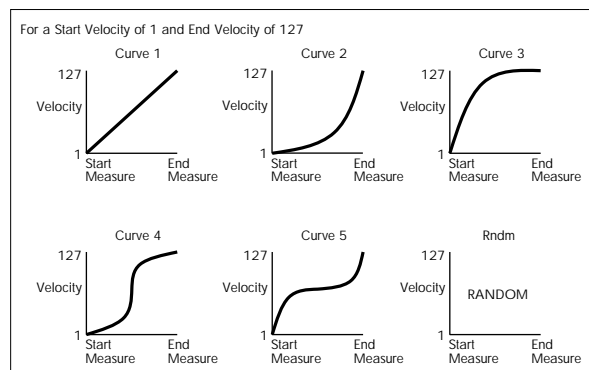
Modify Velocity

This command modifies the velocity values of notes in the specified area so that they will change over time according to a selected curve.

1. In Track Select, specify the track whose velocity will be modified.
2. Select "Modify Velocity" to open the dialog box.



3. Specify the range in which note velocity will be modified.
From Measure and **To End of Measure** specify the measure, and **Beat.Tick** specify the beat and clock. (By default, **From Measure** and **To End of Measure** will be set to the range that you specified in the Track Edit page.)
4. Specify the range of notes that will be affected by the Modify Velocity command.
Note Range: Bottom is the lower limit, and **Top** is the upper limit. If you wish to edit all notes, set **Bottom** to C-1 and **Top** to G9. These settings can also be made by holding down the ENTER switch as you play a note on the keyboard.
5. In "Velocity Start Value" specify the value at which the velocity data will start, and in "End Value" specify the final velocity value.
These settings can also be made by holding down the ENTER switch as you play a note on the keyboard.
6. In "Intensity," specify the degree to which the velocity data will be adjusted toward the curve you specify in step 7.
With a setting of 0 [%], the velocity will not change. With a setting of 100 [%], the velocity will be exactly as described by the curve.
7. "Curve"* lets you select from six types of curve to specify how the velocity will change over time.
The six curves are as follows:



8. To execute the Modify Velocity operation, press the OK button. To cancel, press the Cancel button.

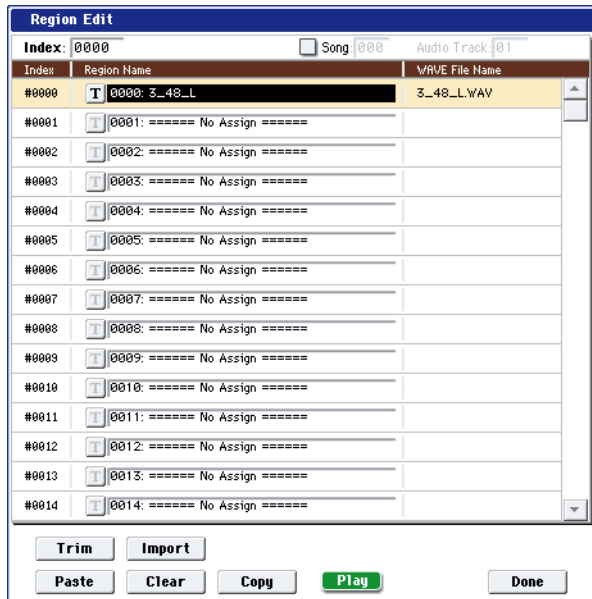
Region Edit

Here's how to edit the regions used in an audio track.

In addition to Importing or Pasting a region, you can use the Trim dialog box to specify the range in which a WAVE file will play back.

- Editing a region will affect all audio tracks of the song. Use caution when editing a region that is already used by an audio track.

- Use Track Select to select an Audio Track.
- Choose "Region Edit" to open the region edit dialog box.



- Use Index at the top of the dialog box to specify the index number of the region you want to edit; this will be displayed at the beginning of the list in the dialog box.

You can also touch the scroll bar at the right to move to the region you want to edit.

If you check **Song**, only regions of the specified song number and audio track number will be displayed. This is convenient if you have difficulty finding the region you want to edit.

The song number and audio track number of a region is specified when it is recorded. You can also modify these in the Trim dialog box (step 6).

- If you want to edit the region name, press the text edit button.

Press the text edit button to open the text edit dialog box, and input the desired region name (up to 24 characters).

Regions whose names are shown as "No Assign" are empty. You cannot edit these names.

- Select the region that you want to edit, and use the buttons at the bottom of the dialog box to edit the region.

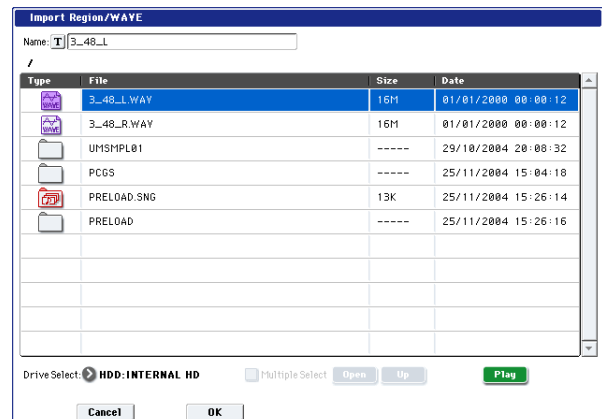
The available buttons will differ depending on whether you've checked **Song**.

- Importing a region

You can copy a region from a .SNG file, or create a region from a WAVE file.

Select the region that you want to import, and press the Import button.

The Import dialog box will appear.



Use "Drive Select," "Open," and "Up" to move to the desired directory, select the region file or WAVE file you want to import, and press OK.

You can use "Name" in the upper line to edit the name of the region. Edit "Name" after you've selected a file.

Important: You can only directly import WAVE files from the internal hard drive. To use files from CDs or external USB devices, you must first copy them to the internal hard drive, and then import the copied file into the Song.

- Note:* You can only import monaural WAVE files with a sample rate of 48 kHz that are no longer than 80 minutes. If the WAVE file has a sample rate of 44.1 kHz, you must use the Disk mode **Rate Convert** command to convert it to 48 kHz before importing. For more information, see "Rate Convert" on page 783.

When you press the Play button, the selected WAVE file will play. This applies to 48 kHz WAVE files. (See "WAVE files" on page 226 of the Operation Guide.)

- Copying a region

Select the copy-source region and press the Copy button. Then select the copy-destination and press the Paste button or Insert button to paste (overwrite) or insert the region into that destination.

Commands that are available if Song is unchecked

- Paste region

Select the region to which you want to paste, and press the Paste button to overwrite that region.

- Clear region

Select the region that you want to clear, and press the Clear button to clear that region.

Commands that are available if Song is checked

- Insert region

Select the region at which you want to insert, and press the Insert button to insert a region.

- Cut region

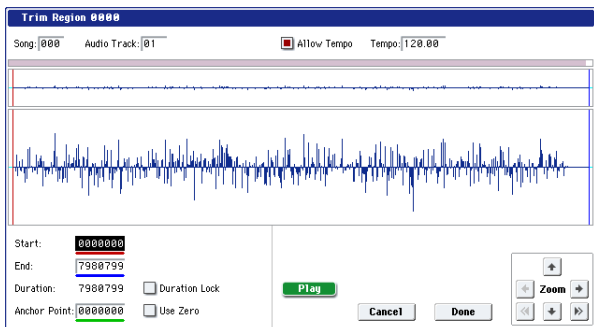
Select the region that you want to cut (delete), and press the Cut button to delete that region.

- Play back the region.

Select the region that you want to play back, and press the Play button to play the region from its “Start” to “End” (Trim step 6). During playback, the Play button indication will change to Stop. You can press the Stop button to stop playback.

7. Use the trim dialog box to specify the portion of the region that will play back.

In the trim dialog box, select the region that you want to edit and press the Trim button to open the trim dialog box.



WAVE file waveform display, ZOOM

This area shows the waveform of the WAVE file that is assigned to the region.

The waveform display and the ZOOM buttons are the same as in Sample mode, except for the fact that the displayed data is a WAVE file. Refer to Sampling mode “1–1c: Sample waveform display” on page 643 and “1–1f: ZOOM” on page 644.

Start [0000000...230399999]

End [0000001...230399999]

“Start” and “End” specify the range (start address and end address) of the waveform that will be played. The range you specify here is highlighted in the “WAVE file display.”

Duration

This indicates the length between “Start” and “End.” (You can’t edit this indication.)

Anchor Point [0000000...230399999]

Here you can specify an anchor point, which is convenient when you need to move an audio event. (The value is shown in samples.)

Anchor points are used in audio event editing.

Use Zero [Off, On]

On: When you edit “Start,” “End,” or “Anchor Point,” you will be able to select only “zero-cross” addresses; locations at which the waveform level crosses the center line of the sample waveform display, and is therefore at ± 0 . When you operate the VALUE slider, VALUE dial, or Δ/∇ switches, the next or previous zero-cross point will be automatically found and selected. If you use the numeric keys 0–9 to enter a value, the nearest zero-cross address will be found automatically.

Off: You will be able to specify “Start,” “End,” and “Anchor Point” in units of a single sample. This is the normal setting.

Duration Lock [Off, On]

This specifies whether the length between “Start” and “End” will be fixed during editing.

On: If you edit the “Start” or “End” address, the “End” or “Start” address will automatically be adjusted to preserve the existing length between “Start” and “End.”

Allow Tempo [Off, On]

This specifies whether the Region’s Tempo (see “Tempo [40.00...240.00],” below) will be used when executing the menu commands “Adjust Region to Song’s Tempo (Time Stretch)” or “Adjust Song’s Tempo to Region.”

Normally you will leave this turned on, and turn it off only when using “one-shot” samples such as rhythm instruments whose length you don’t want to change even if the tempo is changed.

This is turned on when you record or import.

Tempo [40.00...240.00]

This specifies the tempo of the region.

This tempo is used when executing the “Adjust Region to Song’s Tempo (Time Stretch)” or “Adjust Song’s Tempo to Region” page menu commands.

For more information, please see “Adjust Region to Song’s Tempo (Time Stretch)” on page 612, and “Adjust Song’s Tempo to Region” on page 611.

The tempo at the beginning of recording is set at the time of recording. With imported audio files, the tempo is set to 120.00.

Song [000...199]

Audio Track [01...16]

These specify the song number and audio track that are displayed when viewing regions for each audio track if you’ve checked **Song** for “Select Region” when using “Edit Region” or “Audio Event Edit.” For details, see step 2.

Play/Stop

When you press the Play button, the area from “Start” to “End” will play back, allowing you to audition the trimmed region. During playback, the button is displayed as Stop; playback will stop if you press it.

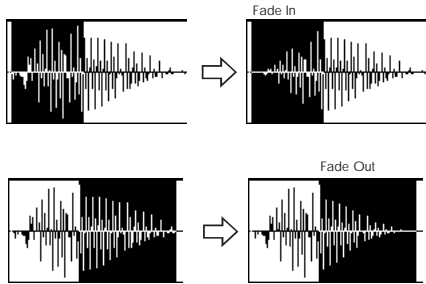
8. If you want to keep the changes you made in the Trim dialog box, press the Done button.

If you don’t want to save your changes, press the Cancel button. If you press the Cancel button, the region will revert to the state prior to entering the Trim dialog box.

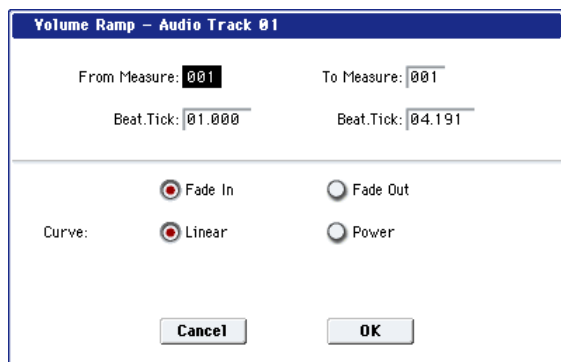
9. When you’re finished with Region Edit, press the Done button.

Volume Ramp

This command modifies the data values (volume) of the specified area. You can gradually increase (Fade In) or decrease (Fade Out) the volume between the start and end points.



1. Use **Track Select** to select the audio track that you want to edit, and use **From Measure and To End of Measure** to specify the area that you want to edit.
2. Choose **"Volume Ramp"** to open the dialog box.



3. Use **From Measure**, **"To Measure,"** and **Beat.Tick** to specify the area on which you will execute the command.
Specify the desired measures in **From Measure** and **"To Measure,"** and specify the beat and clock in **Beat.Tick**. By default, **From Measure** and **"To Measure"** are set to the range of measures you specified in **From Measure** and **To End of Measure** of the Track Edit page.
4. Use the radio buttons to select the type of volume ramp.
Fade In: The volume will be zero at the beginning of the range, and will gradually increase toward the original volume at the end of the range.
Fade Out: The volume will gradually decrease from the beginning of the range, reaching zero at the end of the range.
5. Use **"Curve"** to select how the volume will change.
Linear: The volume will change linearly. Choose the Linear setting for a conventional fade-in or fade-out.
Power: The volume will change non-linearly. In some cases, such as when you use the **"Mix"** menu command to mix (cross-fade) a faded-in waveform with a faded-out waveform, using the Linear setting may produce the impression that the volume is lower during the transition. If so, use the Power setting.
6. Press the **OK** button to execute the **Volume Ramp**, or press the **Cancel** button if you decide to cancel.

Note: When you execute this command, a new region and WAVE file will be created, and the file will be named automatically. The audio event will also be updated. Automation events will not be affected.

Copy Song's Tempo to Region

This command changes the tempo used by the specified regions of audio events so that the audio event tempo will match the tempo of the location in which those regions play back.

If the tempo of an audio track matches the tempo of the MIDI tracks, executing this command to match the region tempo will ensure that the **"Adjust Region to Song's Tempo (Time Stretch)"** or **"Adjust Song's Tempo to Region"** commands can be executed correctly.

Note: The tempo of a region is specified at the time of recording. You can also modify it using Trim in **"Audio Event Edit."**

- ⚠ The tempo will not be copied if **"Allow Tempo"** (Trim Dialog) is Off.
1. Use **Track Select** to select the track to which you want to copy the tempo.
 2. Choose **"Copy Song's Tempo to Region"** to open the dialog box.
 3. Use **From Measure** to select the first measure to which you want to copy the tempo, and use **To End of Measure** to select the last measure.
(By default, **From Measure** and **To End of Measure** will be the range of measures you specified in the Track Edit page.)
 4. If you want to copy the sequencer tempo to all audio tracks, check **All Audio Tracks**.
If this is not checked, the tempo data will be copied to the track you specified in **Track Select**.
 5. Press the **OK** button to execute the **Copy Song's Tempo to Region** command, or press the **Cancel** button to cancel without executing.

- ⚠ Executing this command will modify the region(s). Be aware that editing a region will affect the audio tracks of the entire song. Use caution when editing regions that are used by other audio tracks.

Note: This command will not affect audio events, automation events, or WAVE files.

Adjust Song's Tempo to Region

This command creates tempo events in the master track to match the tempo of the regions used by the audio events in the specified range.

This is useful if you create audio tracks in a previously-recorded region, and want all tracks (including MIDI tracks) to match that region.

Note: The tempo of a region is specified at the time of recording. You can also modify it using Trim in **"Audio Event Edit."**

- ⚠ Tempo events will not be created if **"Allow Tempo"** (Trim Dialog) is Off.
1. Use **Track Select** to select the track whose tempo you want to reference.
 2. Choose **"Adjust Song's Tempo to Region"** to open the dialog box.
 3. Use **From Measure** to select the first measure in which you want to create tempo events, and use **To End of Measure** to select the last measure.

(By default, **From Measure** and **To End of Measure** will be the range of measures you specified in the Track Edit page.)

4. If you want to create tempo events based on all audio tracks, check **All Audio Tracks**.

If this is not checked, the track you specified in **Track Select** will be used as the basis for the tempo events that are created.

5. Press the **OK** button to create the tempo events, or press the **Cancel** button to cancel.

Adjust Region to Song's Tempo (Time Stretch)

If the tempo of regions used by audio events in the specified range differs from the tempo of the range in which those regions play back, you can execute Time Stretch (Sustaining) to create new WAVE files and regions. Audio events that use the newly created regions will also be created automatically.

If you want to change the tempo of a song you've already created, you can first execute "Copy Song's Tempo to Region" so that the tempo of the master track etc. matches the song tempo and region tempo. Then you can create an audio track that matches the new tempo.

Note: The tempo of a region is specified at the time of recording. You can also modify it using Trim in "Audio Event Edit."

 The Time Stretch command will not be executed if "Allow Tempo" (Trim Dialog) is Off.

1. Use **Track Select** to select the track for which you want to execute the Time Stretch command.
2. Choose "Adjust Region to Song's Tempo (Time Stretch)" to open the dialog box.
3. Use **From Measure** to select the first measure to which you want to apply Time Stretch, and use **To End of Measure** to select the last measure.

(By default, **From Measure** and **To End of Measure** will be the range of measures you specified in the Track Edit page.)

4. If you want to apply Time Stretch to all audio tracks, check **All Audio Tracks**.
If this is not checked, the Time Stretch command will be applied to the track you specified in **Track Select**.
5. Use "Quality" to specify the audio quality of the sample that is produced by the Time Stretch command.

You can choose a setting in a range of 0–7. Although the result will depend on the type of sample, higher settings generally produce better results, but will take longer to execute.

Since you can try this command as many times as you like, start with a value of about 4, and raise it little by little if necessary.

6. Press the **OK** button to execute the Time Stretch command, or press the **Cancel** button to cancel.

Note: When you execute this command, new regions and WAVE files will be created, and file names and region names will be assigned automatically. The audio events will also be modified. Automation data will not be affected.

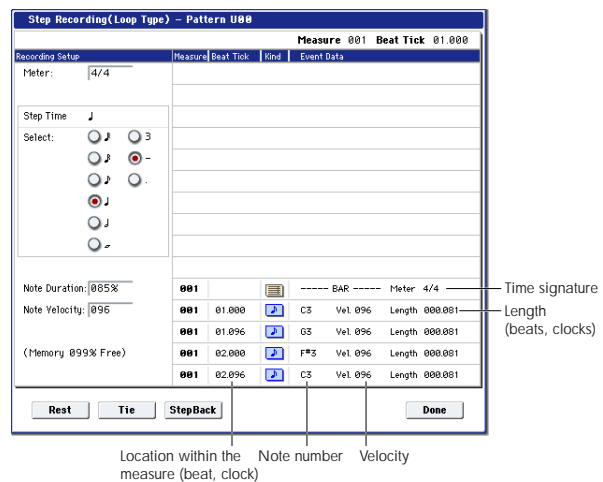
Step Recording (Loop Type)

Here you can perform step recording into a pattern. This is available when a user pattern is selected.

1. In **Pattern** and **Pattern Select**, specify the pattern.

By default, the pattern length is one measure. If you wish to change the number of measures in the pattern, set the "Pattern Parameter."

2. Select "Step Recording (Loop Type)" to open the dialog box.



3. The remaining steps are the same as when step recording on a track.

Refer to steps 3 and following in the "MIDI Step Recording" menu command. However, step recording a pattern differs from step recording a track in that when you reach the end of the pattern, you will return to the beginning and continue recording, in this way continuing to add more data.

Event Edit

Here you can edit individual events of the musical data in a pattern.

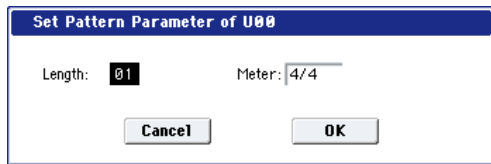
Use **Pattern** and **Pattern Select** to specify the pattern, and then select this command.

The remaining steps are the same as when editing a MIDI track using track event editing. See "MIDI Event Edit."

Pattern Parameter

This command specifies the number of measures and the time signature of the selected pattern.

1. Use **Pattern** and **Pattern Select** to specify the pattern.
2. Select "Pattern Parameter" to open the dialog box.

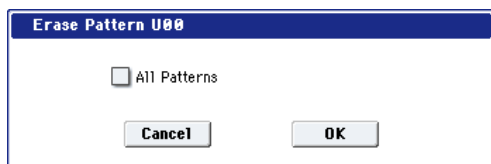


3. In **Length**, specify the number of measures in the pattern.
4. In **Meter**, specify the time signature of the pattern.
However, this time signature is only temporary, and when you “put” or “copy” the pattern in a track of a song, the pattern will play according to the time signature of that measure.
5. To execute the **Pattern Parameter** settings, press the **OK** button. To cancel, press the **Cancel** button.

Erase Pattern

This command erases the data from the selected pattern.

1. Use **Pattern** and **Pattern Select** to specify the pattern.
2. Select “**Erase Pattern**” to open the dialog box.



3. If you check “**All Patterns**,” all user patterns in the song will be erased.
If “**All Patterns**” is not checked, only the pattern specified in step 1 will be erased.
4. To execute the **Erase Pattern** command, press the **OK** button. To cancel, press the **Cancel** button.

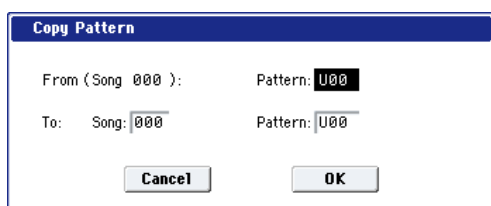
Copy Pattern

This command copies the settings and musical data of the selected pattern to another pattern.

User patterns belong to a particular song, but you can use the **Copy Pattern** command to use the same pattern in another song.

Also, while preset patterns cannot be edited, you can copy a preset pattern to a user pattern and then edit and save it as a user pattern. Be aware that when you execute the **Copy Pattern** operation, the pattern settings and musical data of the copy destination will be erased.

1. Select “**Copy Pattern**” to open the dialog box.



2. In **From (Song**): Pattern**, specify the copy source pattern.

(By default, this will be the song and pattern that was selected in the **Pattern Edit** page.)

3. In **To: Song and Pattern**, specify the copy destination song and pattern.

For **Pattern**, only user patterns U00–U99 can be specified.

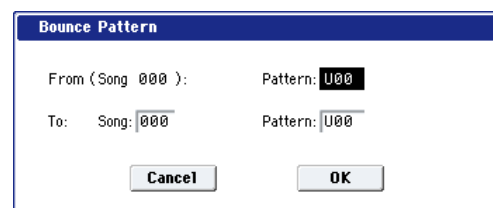
4. To execute the **Copy Pattern** command, press the **OK** button. To cancel, press the **Cancel** button.

Bounce Pattern

This command combines the musical data of the bounce source pattern and bounce destination pattern, and places the combined musical data in the bounce destination. The time signature and length of the pattern following execution will be according to the settings of the bounce destination. Unlike the **Track Bounce** operation, the musical data of the bounce source will not be erased.

If MIDI control data exists in the selected pattern and in the bounce destination pattern, the resulting playback following the bounce operation may produce unexpected results. We recommend that you use the “**MIDI Event Edit**” command to prepare the MIDI control data of the two patterns before executing the **Bounce Pattern** command.

1. Use **Pattern** and **Pattern Select** to specify the bounce source pattern.
2. Select “**Bounce Pattern**” to open the dialog box.



3. In **From (Song***) Pattern**, select the bounce source pattern.

(By default, the song and pattern that are selected in the **Pattern Edit** page will be chosen.)

4. In **To: Song and Pattern**, select the bounce destination song and pattern.

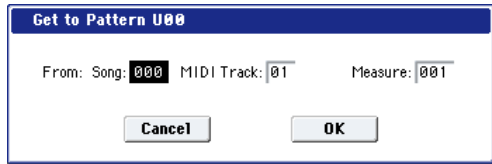
For **Pattern**, only user patterns U00–U99 can be specified.

5. To execute the **Bounce Pattern** command, press the **OK** button. To cancel, press the **Cancel** button.

Get From MIDI Track

This command takes musical data from a MIDI track and loads it into the specified pattern.

1. Use **Pattern** and **Pattern Select** to specify the pattern.
2. In the “**Pattern Parameter**” menu command, specify the pattern length of the “**get**” destination.
3. Select “**Get From MIDI Track**” to open the dialog box.



4. In Song, select the "get" source song.
5. In Track, select the "get" source MIDI track.
6. In Measure, specify the first measure of the "get" source.
7. To execute the Get From MIDI Track command, press the OK button. To cancel, press the Cancel button.

Put To MIDI Track

This command places a pattern into a MIDI track.

Unlike the "Copy To MIDI Track" menu command, this command only places the pattern number in the song, so that when playback reaches that point, the pattern will be recalled. The musical data of the pattern will not actually exist in the track.

By creating patterns that contain frequently-used phrases or drum patterns, and then placing them on the tracks, you can conserve memory.

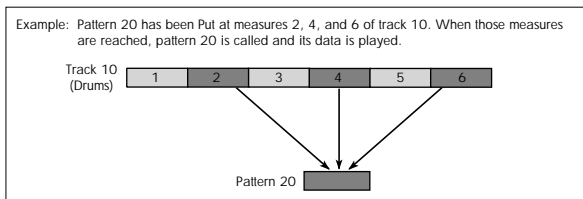
Be aware that when you edit a pattern, all locations in the song where that pattern has been placed will be affected.

When you execute the Put To MIDI Track command, the musical data will be affected as follows.

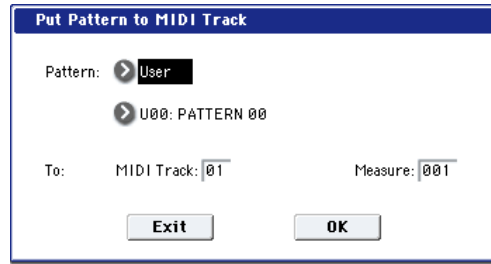
- Musical data previously existing at the "put" destination will be erased.
- The pattern that you "put" will playback according to the time signature that is specified by the measures of the "put" destination.
- Control data such as pitch bend etc. (but not including volume data) previously existing in the track will be reset immediately before the measure at which the pattern was "put."

If you wish to use control data such as pitch bend in the measures in which a pattern is "put," you must first write the control data into the pattern.

To delete a pattern that has been placed in a track you can use the "Erase Measure" menu command, specifying the area in which the pattern was "put," and setting "Kind" to All.



1. Select "Put To MIDI Track" to open the dialog box.



Note: If you press the SEQUENCER START/STOP switch while the dialog box is open, the selected pattern will play back.

2. In Pattern and Pattern Select, select the "put" source pattern.
(By default, this will be the pattern selected in the Pattern Edit page)
- In To: Track, select the "put" destination MIDI track.
3. In Measure, specify the first measure of the "put" destination.
4. To execute the Put To MIDI Track command, press the OK button. When you execute the command, Measure will automatically count up.

If you wish to, you can continue "putting" the pattern. To exit the command, press the Exit button.

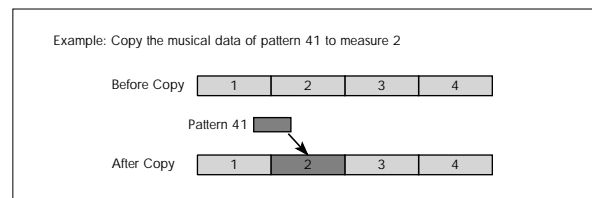
Copy To MIDI Track

This command copies the specified area of musical data from the specified pattern to a MIDI track as musical data.

Unlike the Put To MIDI Track command, this command actually writes the musical data of the pattern into the MIDI track, so that you can edit the copied data in the track. Even if you later edit the copy source pattern, the musical data of the song will not be affected.

When you execute the Copy To MIDI Track command, the musical data will be affected as follows.

- Musical data previously existing in the copy destination measures will be erased.
- The musical data that is copied will playback according to the time signature specified at the copy destination measures.



The procedure is the same as for the Put To MIDI Track command. For more information, see "Put To MIDI Track" on page 614.

Copy KARMA Module

For more information, please see "Copy KARMA Module" on page 464.

Initialize KARMA Module

For more information, please see “Initialize KARMA Module” on page 465.

Copy Scene

For more information, please see “Copy Scene” on page 151.

Swap Scene

For more information, please see “Swap Scene” on page 151.

Capture Random Seed

For more information, please see “Capture Random Seed” on page 151.

Auto Assign KARMA RTC Name

For more information, see “Auto Assign KARMA RTC Name” on page 143.

Copy Note Map

For more information, please see “Copy Note Map” on page 143

Copy Insert Effect

For more information, please see “Copy Insert Effect” on page 153.

Note: the slot’s MIDI control channel, as specified by the **Ch** parameter on the IFX1–12 pages, will not be copied.

Swap Insert Effect

For more information, please see “Swap Insert Effect” on page 154.

Note: the slot’s MIDI control channel, as specified by the **Ch** parameter on the IFX1–12 pages, will not be swapped.

Insert IFX Slot

For more information, please see “Insert IFX Slot” on page 154.

Cut IFX Slot

For more information, please see “Cut IFX Slot” on page 155.

Clean Up IFX Routings

For more information, please see “Clean Up IFX Routings” on page 156.

DrumKit IFX Patch

For more information, please see “Drum Kit IFX Patch” on page 466.

Copy MFX/TFX

For more information, please see “Copy MFX/TFX” on page 157.

Note: the slot’s MIDI control channel, as specified by the **Ch** parameter on the MFX1–2 pages, will not be copied.

Swap MFX/TFX

For more information, please see “Swap MFX/TFX” on page 158.


Note: the slot’s MIDI control channel, as specified by the **Ch** parameter on the MFX1–2 pages, will not be swapped.

Write FX Preset

For more information, please see “Write FX Preset” on page 158.

Put Effect Setting to Track

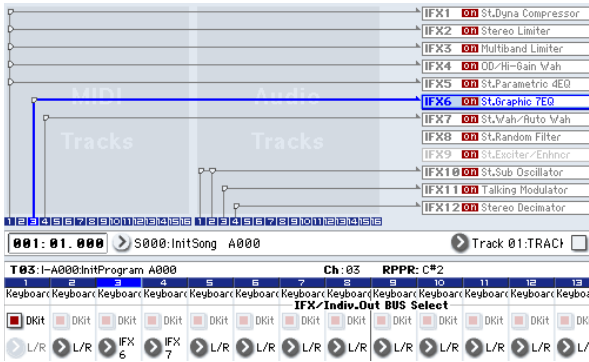
This inserts effect settings into a track as System Exclusive events. Use this when you want to change the effect settings during a song.

-  If you use MIDI parameter change system exclusive messages to change the effect settings, it will take a certain amount of time for the effect change to occur. In addition, the sound may not change smoothly if sound is being produced at that time. Be aware of the timing of your playback data, and make the appropriate adjustments to the location at which the system exclusive message is inserted.

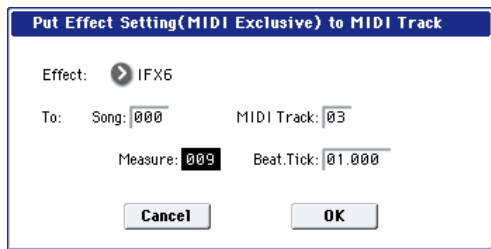
Note: If you switch effects during the song, you should also insert this command at the beginning of the track (**Measure 001, Beat.Tick 01.000**) as well, so that the song starts with the correct effect.

1. **Use P8: Insert Effect or P9: Master /Total Effect to edit the effect you want to insert (IFX1–12, MFX1, 2, TFX 1, 2), and determine the song, track, measure, beat, and clock at which you should insert the System Exclusive event.**

For example, let’s suppose that IFX6 which is used on track 3 needs to change at the beginning of measure 9.



2. Select Put Effect Setting to Track to open the dialog box. (The values shown in the dialog box are the settings for example (1).)



3. Use Effect to select the effect that you want to insert.
4. Use To: Song to specify the song, Track to specify the track, Measure to specify the measure, and Beat.Tick to specify the beat and clock at which you want to insert the event.
5. Press the OK button to execute the Put Effect Setting to Track command. If you decide to cancel, press the Cancel button.

Note: The inserted event contains only the type of effect and the effect parameters. You'll need to realtime-record the effect on/off status and the bus, etc.

Note: Return the location to a point earlier in the song, and play back to verify that the effect changes as you intend. You can also use the P4: Track Edit page menu command "MIDI Event Edit" to verify that a parameter change system exclusive message (Exclusive) has been inserted.

Note: If a pattern has been inserted at the insert-destination, that pattern will be expanded into note data.

Using "Put Effect Setting to Track" to switch effects

The "Put Effect Setting to Track" page menu command inserts effect settings into a track as exclusive event data.

In this example, we'll apply IFX3 to MIDI track 2, and make the effect 051: Stereo Phaser change to 048: Stereo Flanger in the middle of the song. We'll describe two ways of doing this; 1) and 2).

In order to perform this example, begin by making the following settings.

- In the P0: MIDI Track Prog Select/Mixer page, use "Program Select" to choose the desired program for MIDI track 02.
- In the P8: MIDI Routing 1 page, route MIDI track 02 "IFX/Indiv. Out Assign" to IFX3. Then in the P8-

Insert Effect page, choose 051: Stereo Phaser for IFX3.

- Note:** If you use MIDI parameter change system exclusive messages to modify effect settings, it will take a certain amount of time for the effect change to occur. If notes are sounding, there may be cases in which the sound does not change smoothly. Consider the timing of the performance data, and insert the system exclusive message at a location that will cause minimal disruption to the sound.
- Note:** You can only insert events to specify the type of effect and the effect parameters. Settings for effect on/off and bus selection must be recorded in realtime.

- 1) Inserting effect settings at the beginning and in the middle of the song

In this example we'll use the page menu command "Put Effect Setting to Track" to insert MIDI parameter change system exclusive messages into MIDI track 2 so that the insert effect (IFX3) uses 051: Stereo Phaser for measures 1 through 8, and 048: Stereo Flanger for measures 9 and following.

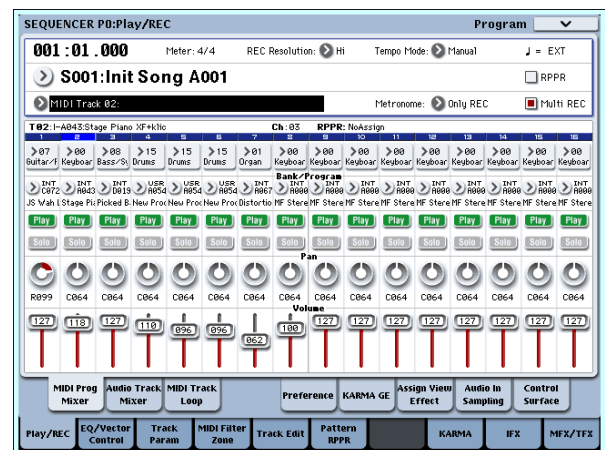
1. Select the desired program for MIDI track 2, and send it to IFX3.

Make the following settings for MIDI track 2.

Track Select: MIDI Track 02 (P0)

Bus Select (IFX/Indiv. Out Assign): IFX3 (P8)

Use the P0: MIDI Track Prog Select/Mixer page to assign the desired program to track 2, and use the P8: Insert Effect page to route the effect to track 3 and make effect settings.



2. Set Track Select to MIDI Track 02, and specify the desired routing.
3. In P8: Insert Effect, choose the "Put Effect Setting to Track" page menu command to open the dialog box.
4. Specify the effect and insertion location for the exclusive message you want to insert.
Effect: IFX3
To: Song: 000
Track: 03
Measure: 001
Beat.Tick: 01.000
5. Press the OK button.

6. Specify the effect that you want to use for measure 9 and following.

Go to the P8: Insert FX page, and choose 048: Stereo Flanger for IFX3.

7. In the P8: IFX 1-12-IFX3 page, set the parameters as desired.
8. In the P8: Insert FX page, choose the "Put Effect Setting to Track" page menu command to open the dialog box.
9. Specify the effect and insertion location for the exclusive message you want to insert.

Effect: IFX3

To: Song: 000

Track: 03

Measure: 009

Beat.Tick: 01.000

10. Press the OK button.

When you play back after executing these commands, the effect on track 3 will change to 048: Stereo Flanger at measure 9.

11. If you press the COMPARE switch (it will light) and play back, the playback will occur as it did before you executed "Put Effect Setting to Track."

You can use the COMPARE switch to compare the state of the track before and after execution.

12. In the P4: Track Edit page, set Track Select to Track 03, and choose the "MIDI Event Edit" page menu command to access the event edit screen. (In the Set Event Filters dialog box, check "Exclusive.")

Notice that a MIDI parameter change system exclusive message is inserted at the beginning and at measure 9 of track 3.

- 2) Using the song's own effect settings from the beginning of the song, and inserting effect settings from elsewhere into the middle of the song

In this example, we'll apply an insert effect (IFX3) to MIDI track 3, and make settings so that it uses 051: Stereo Phaser from the beginning of the song. At measure 9, we'll insert a MIDI parameter change system exclusive message to make IFX3 switch to the 048: Stereo Flanger effect settings that were created for a different song.

1. Select a desired program for MIDI track 3, and send it to IFX3.

Make the following settings for MIDI track 3.

Track Select: MIDI Track 03 (P0)

"Bus Select (IFX/Indiv.Out Assign)": IFX3 (P8)

In the P0: MIDI Track Prog Select/Mixer page, assign a program to track 3. Then use the P8: Insert Effect page to route track 3 to the effect, and make effect settings.

2. Use Track Select to select MIDI Track 03, and record on it.

3. On a separate song you copied, make the effect settings that you want start using at measure 9.

1) Create song S001.

2) Use the "Copy From Song" page menu command to copy from Song 000 to Song 001.

4. In song 001, make the effect settings that you want to use from measure 9. Go to the P8: Insert FX page, and choose 048: Stereo Flanger for IFX3.

5. In the P8: Insert FX- IFX3 page, set the parameters as desired.

6. Choose "Put Effect Setting to Track" to open the dialog box.

7. Insert the effect settings you created in song 001 into song 000.

Effect: IFX3

To: Song: 000

Track: 03

Measure: 009

Beat.Tick: 01.000

8. Press the OK button to execute the command.

After execution, select song 000 and play it back. The effect for track 3 will change to 048: Stereo Flanger at measure 9.

9. In song 000, you can press the COMPARE switch (it will light) and play back to hear the song as it was before you executed "Put Effect Setting to Track."

You can use the COMPARE switch to compare the state of the track before and after execution.

Note: In the P4: Track Edit page of song 000, set Track Select to Track 03 and choose the "MIDI Event Edit" page menu command to access the Event Edit screen. (In the Set Event Filters dialog box, check "Exclusive.")

Notice that a MIDI parameter change system exclusive message is inserted at measure 9 of track 3.

System Exclusive events supported in Sequencer mode

You can record and play back System Exclusive events, and edit tracks that contain System Exclusive events.

SysEx messages that can be recorded in real-time


The following exclusive messages can be recorded in real-time:


- Exclusive messages received from an external MIDI device
- Parameter changes in Sequencer mode (see table below)
- Master Volume universal exclusive messages assigned to the foot pedal or a knob


Parameter change messages that you can realtime-record in Sequencer mode

Front panel/Page		Parameter
Front panel	KARMA	ON/OFF, LATCH, MODULE CONTROL switches
	Control Surface	CONTROL ASSIGN, MIXER KNOBS, PAD MODE switches
P0: Play/REC	MIDI Prog Mixer	Program Select, Pan, Volume, PLAY/MUTE, Solo On/Off *1
	Audio Track Mixer	Rec Source, Pan, Volume, PLAY/MUTE, Solo On/Off *1
	Audio In Sampling	All "Audio Input" parameters
	Control Surface	All "RT/KARMA" – "REAL TIME CONTROL," "KARMA SCENE," "KARMA SWITCH," "KARMA SLIDER" parameters, "TONE ADJ." – Assign, Value
P1: EQ/Vector Control	MIDI Track EQ	Auto Load Prog EQ, Bypass, Input Trim, High Gain, Mid Frequency, Mid Gain, Low Gain
	Audio Track EQ	Bypass, Input Trim, High Gain, Mid Frequency, Mid Gain, Low Gain
	Vector Volume	All "Vector Volume Control" parameters, VJS Assign, Center Volume, Enable Program Vector Volume
	Vector CC	All "Vector CC Control" parameters, Enable Song Vector CC, Enable Program Vector CC
	Vector Envelope	All "Basic," "Vector Envelope Loop," "Vector Envelope" parameters
	Set Up Controllers	All "Panel Switch Assign," "Modulation Knob Assign" parameters
	Set Up Pads	All "Pads Chord" parameters
P2: Track Param	MIDI	Track Priority
	OSC	Force OSC Mode, OSC Select, Portamento
	Pitch	Transpose, Detune, Bend Range, Use Program's Scale, Type, Key, Random
	Delay	Mode, Time, Base Note, Times
	WaveSeq KARMA	Key Sync, Swing, Quantize Trigger, KARMA Track On/Off Control
	Audio Track Delay	Mode, Time, Base Note, Times
P7: KARMA	GE Setup Key Zones	Load GE Options
	Name Note Map	All parameters except "Octave Replicate"
P8: IFX	MIDI/Audio Routing 1/2	"Bus Select, Send1, Send2, Fx Control Bus, Rec Bus
	Insert FX	IFX, IFX On/Off, Chain to, Chain, Pan, Bus Sel, REC Bus, Ctrl Bus, Send1, Send2
	IFX 1-12	All effect parameters
	Common FX LFO	All "Common FX LFO 1, 2" parameters
P9: MFX/TFX	Routing	MFX, MFX On/Off, Chain, Chain Direction, Chain Level, Return 1, Return 2, TFX, TFX On/Off, Master Volume
	MFX 1/2	All effect parameters
	TFX 1/2	All effect parameters

*1: Solo On/Off is always controlled by events in the track, regardless of the play/mute status of that track.

 The maximum amount of exclusive data that can be recorded at once is approximately 320 Kbytes. This size will decrease if other events exist within the same measure.

 You cannot simultaneously record exclusive messages received from an external MIDI device and parameter changes produced by editing.

 If you record a parameter assigned to a control change such as **Pan** with the Global mode Global P1: MIDI, MIDI Filter settings "Enable Control Change" and "Enable Exclusive" both checked, edits you make during recording will be recorded both as control change data and parameter change

data. These recorded events may not be reproduced correctly if you rewind or fast-forward during playback. If you want to record such events, check only one of these two "Enable" settings in Global mode MIDI Filter.

Sampling mode

Sampling Overview

The OASYS can sample external audio from the analog or S/P DIF inputs, at 48 kHz 16-bit resolution, in mono or stereo. You can record samples into RAM, or sample directly to disk.

You can also digitally resample the complete sound of a Program, Combi, or Song, played live or sequenced, including any effects and KARMA-generated events.

Finally, you can also sample (or “rip”) directly from an audio CD, in the digital domain.

Once a sample is loaded into RAM, you can use it directly in Drum Kits, or make it into a Multisample and use it anywhere that you use ROM Multisamples, such as in HD-1 Programs or Wave Sequences.

Sampling to RAM, or direct to disk

Sampling and RAM

The OASYS comes with 1 GB of RAM pre-installed, which can be expanded up to 2 GB with a user-installable DIMM module. This memory is shared between the operating system, ROM and EXs samples, and RAM samples.

In particular, the size of the currently loaded EXs samples trades off against the memory available for RAM samples. The more space used by the EXs samples, the less is available for RAM samples.

You can choose which EXs are loaded, if any, by using the Expansion Sample Setup menu command, on the Global mode Basic Setup page. For more information, see “Expansion Sample Setup” on page 742.

EXs samples and available sample RAM

EXs Loaded	Available Sample RAM	
	1GB installed	2GB Installed
None	500 MB	~1.5 GB
EXs1 ROM Expansion	187 MB	~1.2 GB
EXs2 Concert Grand Piano	0 MB	~1 GB

Note: To check the amount of sample RAM available, see “0–1f: Free Sample Memory/Locations” on page 630.

The amount of sampling time depends on the amount of free RAM, as shown below:

Free RAM	Approximate Sampling Time (min:sec)	
	Mono	Stereo
16 MB	2:54	1:27
64 MB	11:39	5:49
128 MB	23:18	11:39
256 MB	46:36	23:18
512 MB	93:12	46:36

Installing additional RAM

You can install additional RAM, up to a total of 2 GB. For more information, see “Installing memory” on page 1092.

Sampling to disk

You can sample directly to disk, creating a WAVE file. This lets you record up to 80 minutes continuously, in either mono or stereo (mono: approximately 440 MB, stereo: approximately 879 MB).

As long as they fit into the available RAM, these WAVE files can then be loaded into RAM and used in Drum Kits, HD-1 Programs or Wave Sequences.

WAVE files can also be used in audio tracks of the sequencer, or used to create an audio CD. For more information, see the Operation Guide under “Audio recording” on page 102, and “Creating and playing audio CDs” on page 181.

Sampling features

Sampling on the OASYS

The OASYS features Korg’s Open Sampling System. This lets you use sampling and resampling not only in Sampling mode but also in Program, Combination, and Sequencer modes, with optimized features for each mode.

- You can perform 48 kHz 16-bit linear mono or stereo sampling.
- A maximum of 1,000 multisamples and 4,000 samples can be created.

- In Disk mode, you can load multisample/sample data from various types of media.
- You can load several different sample formats, including Korg’s own format, Akai S1000/3000 samples and program data, and AIFF or WAVE samples.
- You can export samples created on the OASYS as AIFF or WAVE files.
- You can use all of the Insert, Master, and Total effects to process signals before sampling, from either internal or external sources. For instance, you can use compression, EQ, decimation, etc. You can

also use tempo-based LFO or delay effects, which can be very useful when sampling rhythmic loops.

- Sampling can be initiated by the front-panel SAMPLING or SEQUENCER START/STOP switches, note-on, or threshold. (The available methods will depend on the mode.) Threshold allows you to start sampling when the input signal exceeds a specified level. In Sampling mode, you can also capture sound *before* the trigger.
- The analog audio inputs support mic and line level signals. Digital audio input via S/P DIF IN supports the 96 kHz, 48 kHz sample rate.
- You can digitally sample (i.e., “rip”) audio data from an audio CD, using either internal or external CD-R/RW drives.
- Sampled data can be automatically converted into an HD-1 Program. It can then be edited and played just like any other Program, including processing with filters and effects. You could even re-sample that Program, and start all over again...
- Multisamples can be used in Wave Sequences.
- Individual samples can also be used in drum kits.

⚠ When you turn off the power, all multisample and sample data in RAM memory will be lost. Before you turn off the power, be sure to save important data to disk. When the OASYS is turned on, the RAM memory will contain no multisamples or samples, so you will first need to load previously-saved data into RAM before you can play or edit it.

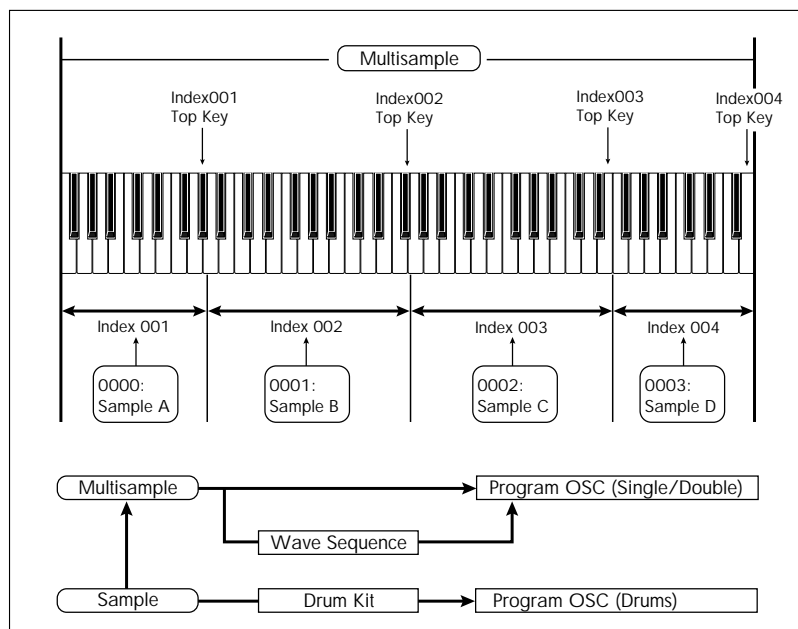
⚠ If **Auto Optimize RAM** (Global 0–1d) is on, and the writing destination for sampling data is RAM, the RAM memory will automatically be optimized after the data has been written. This is turned on by default, but you may switch it on/off as necessary. For more information, see “Auto Optimize RAM” on page 704, and “Optimize RAM” on page 677.

Editing in Sampling mode

- In Sampling mode, the sample data you sampled or loaded from various media (including WAVE and

AIFF formats) can be assigned to an index (zone) to create a multisample.

- The waveform can be viewed in the LCD screen, and edited by a variety of commands including rate conversion (down-sampling) and reverse playback.
- Start, loop start, and end addresses can be specified in single-sample units. Loop tune, reverse playback, and loop lock functions are also supported.
- The Use Zero function automatically searches for zero-cross points, making it easy to find the beginning or end of the waveform, or locations that will not produce noise when the sample is played back.
- The grid function displays a BPM-based grid on the waveform display, helping you to create loops or make waveform edits that match the desired BPM. At this time, you can set the BPM value by pressing TAP TEMPO in rhythm with the sample playback.
- Each multisample allows you to create up to 128 indices. Each index consists of a sample assignment, a key zone, an original key, a playback pitch, and settings such as level.
- The “Keyboard & Pad” display lets you edit a multisample while viewing the assignments and zones of each sample.
- Sample names and multisample names of up to 16 characters can be assigned. Sample names and multisample names can also be viewed in Disk mode (see “Translation” on page 761).
- The **Time Slice** function automatically detects the attack portions of a kick or snare etc. in a rhythm loop sample (a looped pattern of drums etc.), and divides it into separate rhythm instrument sounds. Either stereo or mono samples can be used. A pattern corresponding to the divided samples is created automatically, so that you can immediately use the Sequencer mode RPPR function to play the pattern and adjust the tempo without changing the pitch. You can also do things such as adjusting the pitch of only the snare, replacing it with a different sample, or changing the playback timing on the



sequencer, in this way creating a new rhythm loop based on the one you started with.

- The **Time Stretch** function lets you modify the tempo without changing the pitch of a sample. You can select either Sustaining (suitable for sustain-type instruments such as strings or vocals), or Slice (suitable for rhythm loops on decay-type instruments such as drums). Stereo samples are supported.
- The **Crossfade Loop** function is an important looping tool that helps smooth out irregularities in long loops which contain complex material. By executing Crossfade Loop, you can eliminate this problem and create natural-sounding loops.
- The **Link (with Crossfade)** function allows you to join two samples into a single sample. You can also crossfade the overlapping portion of the samples at this time, so that the volume changes gradually, producing a natural-sounding transition.
- The **BPM Adjust** function (playback pitch adjust) lets you adjust the playback pitch of each index so that the loop frequency matches the desired BPM value.
- You can use resampling (auto) to automatically apply effects to a sample and create a new sample.
- A multisample you create can easily be converted into a program (**Convert MS To Program**).
- In Sampling mode, the selected multisample or sample will sound when you play the keyboard, allowing you to hear the edited content of that page.

Sampling in Program, Combination, and Sequencer modes

- A performance in Program, Combination, or Sequencer modes can be resampled internally, with all audio remaining in digital form. This lets you resample a performance that uses the OASYS's filters, effects, KARMA, and sequencer etc.
- External audio sources from the various input jacks can be sampled. A performance played on the OASYS can be mixed with the external audio source and sampled, or you can sample just the external audio source while monitoring the performance played on the OASYS.
- In Sequencer mode when you sample an external audio source while listening to the playback of the song, note data will be automatically created in the track. You can use this In-Track Sampling function to sample vocals or guitar while the sequencer is running.
- You can resample the Sequencer mode song playback to the hard disk, use Disk mode to edit the desired order of songs, and then use the internal CD-R/RW drive or an external USB-connected CD-R/RW drive to create an audio CD.

Note: Changing velocity on the keyboard or pads

In Sampling mode, you cannot use keyboard or pad velocity (with PAD MODE set to VELOCITY SENSITIVE) to control the loudness of the sound. However, you will be able to use velocity to control effects if you select Velocity as a Dmod Source.

For example, you might make settings as follows.

Bus Select **All OSC to:** IFX1 (P8- Routing)

IFX1: 005: Stereo Limiter, On (P8- Insert FX)

Stereo Limiter:

Ratio 1.0:1

Gain Adjust [dB] -Inf

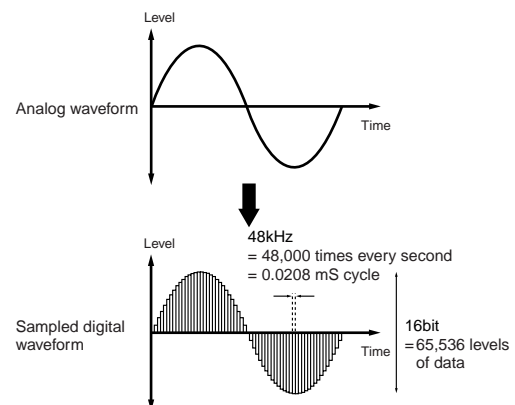
Source: Velocity or Exponential Velocity

Amount +40

If you are converting a user multisample into a program for use in Program mode, you can raise the P4: Amp/EQ- Amp1/2 Modulation "Velocity Intensity" value as desired to control the sound.

Sampling frequency and bit resolution

As shown in the diagram, sampling reads the level of the analog signal at fixed intervals along the time axis, and stores the levels in memory as digital data.



The "fixed intervals" mentioned above are generally expressed as the "sampling frequency." 48 kHz (kilohertz) means that sampling is performed 48,000 times each second, and that the interval is $1 \text{ (second)} / 48,000 \text{ (times)} = \text{approximately } 0.00002083 \text{ (seconds)} = \text{approximately } 0.02083 \text{ mS (millisecond)}$.

The higher the sampling frequency is, the closer to the original analog signal the waveform in memory will be.

Each level is read, and converted into digital data. The accuracy at this time is determined by the bit resolution. This process converts an analog signal with infinite resolution into a digital signal with finite resolution. With 16 bit resolution, each level is indicated in 65,536 steps (the sixteenth power of two).

The greater the bit resolution is, the closer to the original analog signal the waveform in memory will be.

Sampling mode

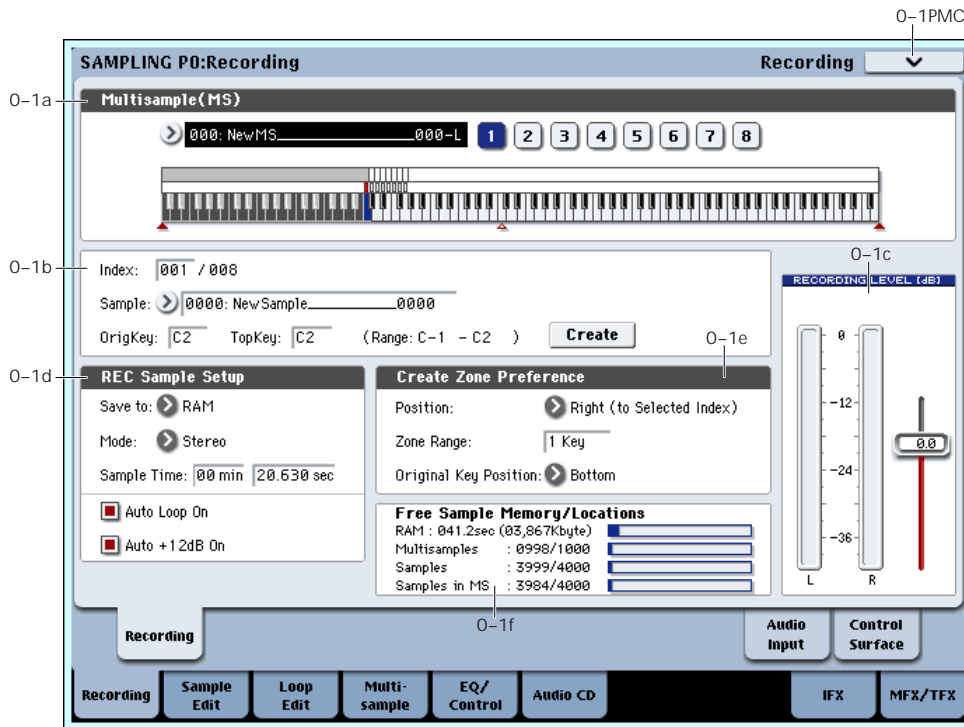
48 kHz 16 bit sampling is the same quality as in audio devices such as DAT. CDs use 44.1 kHz 16 bit sampling, which is a slightly lower sampling frequency.

Sampling P0: Recording

This page is where you make basic settings for recording (sampling), including:

- Creating and editing multisamples and indexes
- Specifying the writing-destination for the samples you record, and selecting either mono or stereo samples
- Specifying the sampling time, loop settings, and +12 dB boost
- Specifying the output destinations for the external audio inputs
- Selecting the source to sample
- Setting the recording level

0-1: Recording



Here you can create and edit multisamples and indexes, specify the writing-destination for the samples you record, and select stereo or mono sampling. You can also specify the sampling time, loop settings, +12 dB boost, and adjust the final level of the input signal.

Note: Normally you will perform sampling while in this page (Recording or Audio Input).

Note: If you have not yet made audio input settings, go to P0- Audio Input page and make these settings before you proceed.

0-1a: Multisample Select (MS)

Multisample Select (MS) [000...999]

Selects the multisample.

Each multisample consists of the samples for one or more indexes (an **Index** is a range or zone of keys).

This parameter can also be set from P1-P3.

Creating a new sample

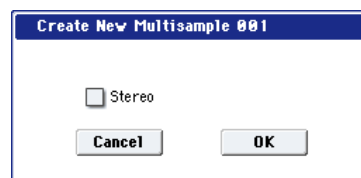
To create a new multisample,

1. Press the "Multisample Select" popup button to access the popup menu.

2. Select a number for which the multisample name is blank.

Alternatively, use the numeric keys 0-9 to specify a new multisample number, and press the ENTER switch.

When you select a new multisample number, the **Create New Multisample** dialog box will appear.



3. If you wish to create a stereo multisample, check "Stereo."
4. To create the multisample, press the OK button. To cancel, press the Cancel button.

A multisample will be created as follows (example).

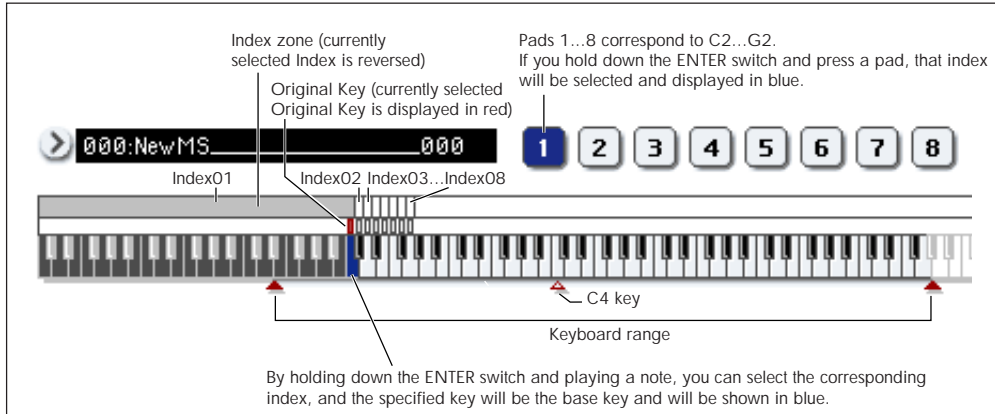
```

Mono    001: NewMS_-----_001
Stereo  001: NewMS_-----_001-L
        002: NewMS_-----_001-R
    
```

Keyboard & Pads

Keyboard: This shows the key range, original key, and root key for the selected index. The red triangles indicate the keyboard range, and the white triangle indicates the C4 key.

Keyboard & Pads



Note: **The base key (displayed in blue)**

- In P1: Sample Edit you can press the SAMPLING START/STOP switch to play the sample of the selected **Index** in one-shot mode from **Start** to **End**. At this time, the sample will sound at the pitch of the base key.
- Playback in the grid display of P1 and P2 will be according to the playback pitch of the base key selected here, and the specified tempo BPM/resolution (set in P1 and P2).
- The **Pitch BPM Adjust** menu command is based on the playback pitch of the base key you specify here.

Pads: By default, pads 1–8 are assigned to C2–G2. When you choose an index to which a pad is assigned, it is displayed in blue. The index zone, original key, and base key of the pads can be viewed and edited in the keyboard display or in 0–1b.

0–1b: Index, Sample Select, Original Key, Top Key, Create

Here you can set the sample, original key, and range of the selected index.

Index [xxx (001...128)/yyy (001...128)]

This selects the index to view and edit.

Each zone in a multisample is called an **Index**. For example on the 76 note keyboard, a multisample could be divided into seven zones of one octave (12 keys) each. Each of these zones is referred to as an **Index**. You will assign a sample to each of these indexes.

xxx: The selected index. Choose the desired index.

yyy: The total number of indexes in the multisample.

Note: You can also select an index by holding down the ENTER switch and playing a note on the keyboard or pad. The index that includes this note will be selected. The key you specify will be the base key, and will be displayed in blue in “Keyboard & Pads”.

This parameter can also be set from P1–P3:

Multisample. Sampling and editing in the respective page will apply to the index that you select here.

Immediately after the power is turned on, this will be 001/008. This indicates that there are eight indexes, and that currently the first index is selected.

To increase the number of indexes, use **Create** in this page. When you press the Create button, indexes will automatically be added from the left-most zone, as 002/002, 003/003, ... (The position, zone width, and original key location of the index that is created when you press the Create button can be set in Create Zone Preference (0–1e, 3–1c). You are also free to modify the zone width and original key location later.)

Sample Select [----: ---No Assign----, 0000...3999]

Selects a sample that you sampled or loaded in Disk mode, and play a note within the index range to sound that sample. The sample you select here is the sample that will be affected by your sampling and editing operations in the various pages. This parameter is also available in P1–P3.

----: ---No Assign----: No sample is assigned to the index. There will be no sound when you play the keyboard.

To record a sample, select a vacant sample such as 0000:. When you record a sample, data will be loaded into the selected sample. The sample name (such as NewSample_0000) will be shown beside the number. This sample name can be modified using the **Rename Sample** menu command.

You can also record a sample even when ----:---No Assign---- is displayed. In this case, a sample number will be selected automatically.

Even if you record to a sample that already contains data, the selected sample will not be overwritten –the data will automatically be sampled to a vacant sample, and the newly recorded sample will replace the previous sample in the index. If you wish to delete a sample, execute the **Delete Sample** menu command.

Original Key**[C-1...G9]**

Specifies the key that will play the sample at its original pitch (i.e., the pitch at which it was recorded). The pitch will change in semitone steps relative to the original key.

For example, suppose that you recorded a sample with **Original Key** of F2. When the zone of the index is C2–B2, pressing the F2 key would playback the sample at its original pitch. Pressing F#2 would playback the sample a semitone higher. Pressing E2 would playback the sample a semitone lower. The pitch of this sampled sound will change in semitone steps between C2 and B2, centered at F2.

The original key location can also be viewed in “Keyboard & Pads.”

Note: If **Constant Pitch** (3-1b) is checked, the sample will be sounded at its original pitch by all notes in the zone.

Top Key**[C-1...G9]**

Specifies the highest key in the zone of the index. The zone is defined by this **Top Key**.

For example, suppose that you set a **Top Key** of B2 for index 001/002, and a **Top Key** of B3 for index 002/002. This means that the zone of index 001 will be B2 and lower, and the zone of index 002 will be C3–B3.

Range

This indicates the zone (area) that was determined by the **Top Key** setting.

The sample selected by **Sample Select** will sound in this area. The zone for each index can also be viewed in “Keyboard & Pads.”

Create

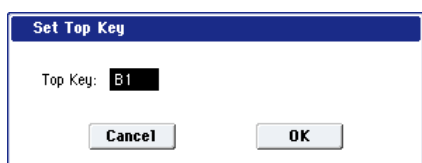
This creates an index. Use this when you wish to add a sample to a multisample.

When you press the Create button, a new index will be created according to the Create Zone Preference (0-1e, 3-1c) parameters **Position**, **Zone Range**, and **Original Key Position**.

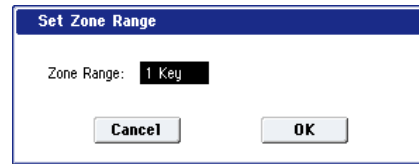
If you wish to delete an index or exchange indexes, use P3: Multisample Edit.

⚠ If when you execute **Create** (0-1b, 3-1b) or **Insert** (3-1b) it is not possible to create a new index according to your Create Zone Preference settings, one of the following dialog boxes will appear. If you wish to create a new index, perform the following procedure.

- **Set Top Key:** Select **Index** 001, set **Position** (0-1e, 3-1c) to Left (to Selected Index), and execute **Create** or **Insert** to open the dialog box. So that a new index can be created at the left of index 1, re-set the **Top Key** setting, and press the OK button.



- **Set Zone Range:** If you execute **Create** when it is not possible to create a new index according to the Create Zone Preference settings, the following dialog box will appear. This dialog box will also appear if you execute **Insert** when it is not possible to create a new index with the contents of the **Cut** or **Copy**. Re-set the **Zone Range**, and press the OK button.

**Stereo**

A **Stereo** indication will appear here if you have selected a stereo multisample or sample, or if you recorded a sample with **Mode** (0-1d) set to Stereo.

About stereo multisamples and stereo samples

Stereo multisamples: Under the following conditions, two multisamples will be handled as a stereo multisample.

- If you checked **Stereo** when creating a new multisample (i.e., selected a new multisample in **Multisample Select** 0-1a)
- If you executed the **MS Mono To Stereo** page menu command
- If you sampled with **Mode** (0-1d) set to Stereo

In these cases, a stereo multisample will be created automatically using the following criteria.

- 1) The last two characters of the two multisample names will be -L and -R respectively, and the earlier portion of the names are identical.
- 2) The two multisamples will have the same number of indexes, and their zone settings are identical.

Stereo samples: Under the following condition, two samples will be handled as a stereo sample.

- When the samples were recorded with **Mode** (0-1d) set to **Stereo**
- If you executed the **Sample Mono To Stereo** page menu command

In these cases, a stereo multisample will be created automatically using the following criteria.

- 1) The last two characters of the sample name will be -L and -R respectively, and the earlier portion of the names are identical.
- 2) Two samples that satisfy condition 1) for stereo multisamples are selected.

⚠ Stereo multisamples and samples are distinguished internally by their names. If you use **Rename MS** or **Rename Sample** menu commands to modify multisample or sample names, please pay attention to the above conditions.

⚠ As a condition of a stereo sample, the sampling rates must be identical. You can verify the sampling rate of a sample by using the page menu command “Rate Convert.” Be aware that if you use **Rate**

Convert to convert the -L and -R samples to differing sampling rates, they will no longer be handled as a stereo sample.

ADC OVERLOAD !

If the signal level from AUDIO INPUT 1–4 jacks is too high, the “ADC OVERLOAD !” indication will appear. You’ll need to adjust the MIC/LINE gain select switch, the LEVEL knob (AUDIO INPUT 1 and 2 only), or the output level of your external audio source.

0–1c: Recording Level [dB]

Recording Level [-Inf, -72.0...+18.0]

This adjusts the signal level at the final stage of sampling.

For more information, see “Setting levels” on page 14, “Tips for eliminating distortion when using the analog inputs” on page 15, and “Avoiding extraneous noise” on page 14.

Level Meter

This adjusts the signal level at the final stage of sampling. This setting can also be made in the P0–Audio Input page.

The meter is active only during standby mode (after pressing the SAMPLING REC switch) and recording.

CLIP !

If 0 dB is exceed, the display will indicate “CLIP !” This means that the level of the sampling signal is too high, so adjust the level as described under “Setting levels” on page 14.

Note: If you have sampled at a low input level, you can use the **Normalize/Level Adj.** menu command to amplify the level to the maximum possible without clipping. For more information, see “Normalize/Level Adjust” on page 683.

0–1d: REC Sample Setup

Save to [RAM, DISK]

Specifies the destination to which the data will be written during sampling.

RAM: The sound will be sampled into RAM memory.

A sample written into RAM memory can be heard immediately in Sampling mode.

You can check the remaining amount of RAM on the main Recording page, under “0–1f: Free Sample Memory/Locations,” as described on page 630.

Note: The amount of RAM available for user sampling will vary depending upon both the amount of physical RAM installed, and the size of the currently loaded EXs banks. For more information, see “Sampling and RAM” on page 621.

⚠ Data written into RAM memory will be lost when the power is turned off, so you must save it if you want to keep it.

DISK: Samples will be recorded to the internal hard disk or a USB-connected external hard disk.

When you sample, a WAVE file is created on the disk. Use the **Select Directory** page menu command to specify the writing-destination disk and directory. To open the resulting sample, you can either use Disk mode to load the sample into RAM, or use the **Select Directory** menu command to select the file and then press the Play button or the SAMPLING START/STOP switch.

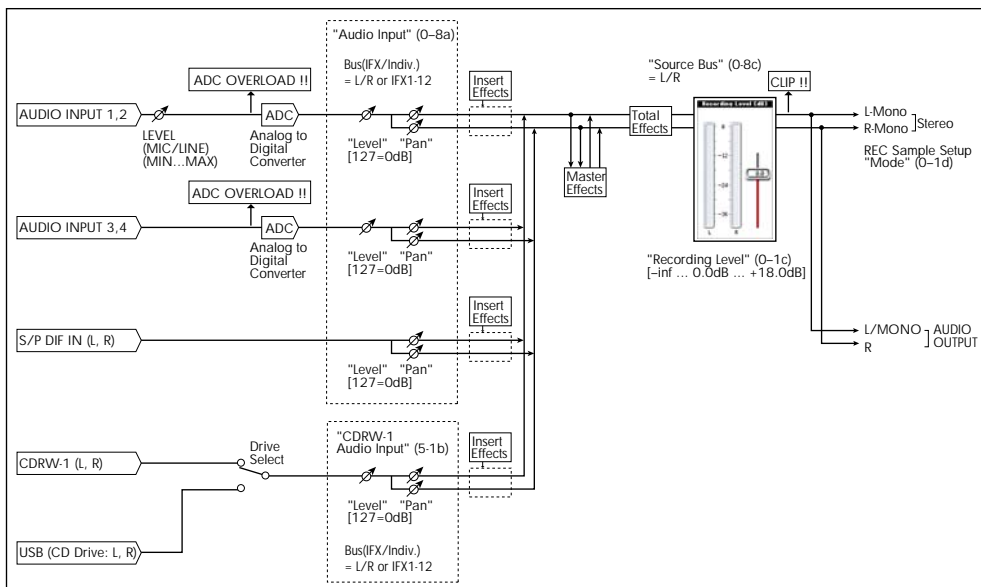
⚠ You cannot load a disk sample (WAVE file) that exceeds the amount of available RAM.

Mode [L-Mono, R-Mono, Stereo]

Specifies the channel(s) that you want to sample, and specify whether a mono or stereo sample will be created. For more information, see “Source Bus” on page 633.

L-Mono: The L channel of the **Source Bus** will be sampled in mono.

Audio input/output



R-Mono: The R channel of the **Source Bus** will be sampled in mono.

Stereo: The L and R channels of the **Source Bus** will be sampled in stereo, creating a stereo multisample.

Example: Sampling a mono source connected to AUDIO INPUT 1

If using the Audio Input:

Source Bus: Audio Input 1/2 (0-8c)

Resample: Manual (0-8c)

Recording Level [dB]: as desired (0-1c)

Mode: L-Mono (0-1d)

(→ see diagram in 0-8c: Source Bus = Audio Input 1/2)

If using the L/R Bus:

Input1 Bus Select (IFX/Indiv.): L/R (0-8a)

Input1 Pan: L000 (0-8a)

Input1 Level: 127 (0-8a)

Source Bus: L/R (0-8c)

Resample: Manual (0-8c)

Recording Level [dB]: as desired (0-1c)

Mode: L-Mono (0-1d)

(→ see diagram in 0-8c: Source Bus = L/R)

Example: Sampling a mono input, with internal stereo effects

Here, we'll apply the internal insert effect 101: Reverb Hall to a mono source connected to AUDIO INPUT 1, and then sample in stereo.

Input1 Bus Select (IFX/Indiv.): IFX1 (0-8a)

Input1 Pan: C064 (0-8a)

Input1 Level: 127 (0-8a)

Source Bus: L/R (0-8c)

Resample: Manual (0-8c)

IFX1: select 101: Reverb Hall (P8)

Recording Level [dB]: as desired (0-1c)

Mode: Stereo (0-1d)

(→ see diagram in 0-8c: Source Bus = L/R)

Example: Sampling a stereo source connected to AUDIO INPUT 1 and 2

If using the Audio Input:

Source Bus: Audio Input1/2 (0-8c)

Resample: Manual (0-8c)

Recording Level [dB]: as desired (0-1c)

Mode: Stereo (0-1d)

(→ see diagram in 0-8c: Source Bus = Audio Input1/2)

If using the L/R Bus:

Input1 Bus Select (IFX/Indiv.): L/R (0-8a)

Input1 Pan: L000 (0-8a)

Input1 Level: 127(0-8a)

Input2 Bus Select (IFX/Indiv.): L/R (0-8a)

Input2 Pan: R127 (0-8a)

Input2 Level: 127 (0-8a)

Source Bus: L/R (0-8c)

Resample: Manual (0-8c)

Recording Level [dB]: as desired (0-1c)

Mode: Stereo (0-1d)

(→ see diagram in 0-8c: Source Bus = L/R)

Example: sampling a stereo input, with internal effects

Here, we'll apply the internal effect 012: St.Graphic 7EQ to a stereo source connected to AUDIO INPUT 1 and 2, and then sample in stereo.

Input1 Bus Select (IFX/Indiv.): IFX1 (0-8a)

Input1 Pan: L000 (0-8a)

Input1 Level: 127 (0-8a)

Input2 Bus Select (IFX/Indiv.): IFX1 (0-8a)

Input2 Pan: R127 (0-8a)

Input2 Level: 127 (0-8a)

Source Bus: L/R (0-8c)

Resample: Manual (0-8c)

IFX1: select 012: St.Graphic 7EQ (P8)

Recording Level [dB]: as desired (0-1c)

Mode: Stereo (0-1d)

(→ see diagram in 0-8c: Source Bus = L/R)

Example: Sampling from the S/P DIF input

Source Bus: S/P DIF L/R (0-8c)

Resample: Manual (0-8c)

Recording Level [dB]: as desired (0-1c)

Mode: Stereo (0-1d)

(→ see diagram in 0-8c: Source Bus = S/P DIF L/R)

Note: For details on resampling, see "Resample" on page 634.

Sample Time [min sec]

Specifies the amount of time that you wish to sample, in 0.001 second increments.

Immediately after the power is turned on, this parameter indicates amount of remaining RAM memory in the selected memory bank (the available sampling time). If you record a sample in this condition ([REC]→[START]→[STOP]), the change in time will be displayed automatically.

If **Save to** is set to **DISK**, the maximum value is calculated from the amount of remaining space on the selected disk.

Tips: If you have sufficient RAM memory, it is a good idea to set an ample "Sample Time," and to use the "Truncate (for Sample Edit)," "Truncate (for Loop Edit)" page menu command after you sample to delete unwanted portions of the sample and reduce it to the minimum size necessary. You can also press the SAMPLING START/STOP switch to manually stop sampling after you have recorded the desired material.

For more details on sampling please see "Sampling (Open Sampling System)" on page 123 of the Operation Guide.

- ▲ If **Save to** is set to RAM, and you continue sampling with **Auto Optimize RAM** disabled, wasted space will develop in memory, decreasing the amount of available RAM. In this case, use the **Optimize RAM** command to recover the wasted space. For more information, see “Optimize RAM” on page 677.

Note: “Free Sample Memory/Locations” (0–1f) lets you check the remaining amount of RAM.

The remaining amount of memory will depend on the following conditions:

- The amount of memory that is installed.
- The size of any loaded EXs samples.
- Whether sampling in stereo or in mono. If **Mode** (0–1d) is set to Stereo, the maximum “Sample Time” will be halved.
- The time specified for “Pre Trigger REC” (0–8c: a function that automatically samples the sound even before you begin sampling) will be subtracted from the amount of memory that actually remains.

Auto Loop On [Off, On]

On (checked): The recorded sample will automatically be played with looping turned on “Loop” (2–1d). When you play back, that sample will loop.

Auto +12dB On [Off, On]

This setting applies only when **Save to** is set to RAM. It does not apply if **Save to** is set to DISK.

On (checked): The +12 dB (2–1d) setting will automatically be turned on for newly created samples. Samples for which +12 dB is on will play approximately +12 dB louder than if the +12 dB setting was off.

You will normally turn this **off (unchecked)** when you sample an external audio source in Sampling mode, or apply insert effects to a sample and resample it. (In Sampling mode, the default for this setting is Off.)

When you are sampling more than one external audio source, or an audio source mixed with your keyboard performance, set **Recording Level** to approximately 0.0 (dB) so that the recording level will be the optimum level that does not cause clipping. This will allow the sampled data to be recorded at the ideal level, but the playback level will be lower than it was during sampling.

In such cases you can check **Auto +12 dB On** when you resample, so that the playback level is the same as the level during sampling.

Note: The **Auto +12 dB On** setting is set separately for each mode: Program, Combination, Sequencer, and Sampling.

0–1e: Create Zone Preference

These settings define the initial state of the indexes that are created when you press the Create button (0–1b, 3–1b). Each new index will be created according to the settings you make here, but you are free to modify the settings later.

Position [Right (to Selected Index), Left (to Selected Index)]

Specifies whether the new index will be created at the right or left of the selected index.

Right (to Selected Index): The new index will be created at the right of the currently selected index.

Left (to Selected Index): The new index will be created at the left of the currently selected index.

Zone Range [1 Key... 127 Keys]

Specifies the key range of the newly created index.

1 Key: Each individual note of the keyboard will be an index. The sample of an index will sound at its original key when you play that note.

2 Keys–127 Keys: The sample will change pitch in semitone steps across the specified number of keys, centered on the original key **Original Key** (0–1b, 3–1b). If **Constant Pitch** (3–1b) is checked, the pitch will not change.

Original Key Position [Bottom, Center, Top]

Specifies where the original key will be located in the zone (specified by “Zone Range”) for a newly created index.

Bottom: The lowest key in the zone will be the original key.

Center: The middle key in the zone will be the original key.

Top: The top key in the zone will be the original key.

0–1f: Free Sample Memory/Locations

RAM [000.0...999.9 sec]

This shows the remaining amount of sample RAM, in both seconds and bytes. The free RAM determines the available sampling time, the maximum size of sample files that can be loaded in Disk mode, and the maximum size of samples during editing. The graph to the right shows the free space in white, and the used space in blue.

Note that the amount of RAM available for user sampling will vary depending upon both the amount of physical RAM installed, and the size of the currently loaded EXs banks.

Multisamples [0000...0999/1000]

Samples [0000...4000/4000]

Samples in MS [0000...3999/4000]

These show the number of multisamples and samples in RAM, as well as the number of samples which are already placed in multisamples. The current numbers are shown on the left, and the maximum numbers are shown on the right.

The graphs to the right show the free amounts in white, and the used amounts in blue.

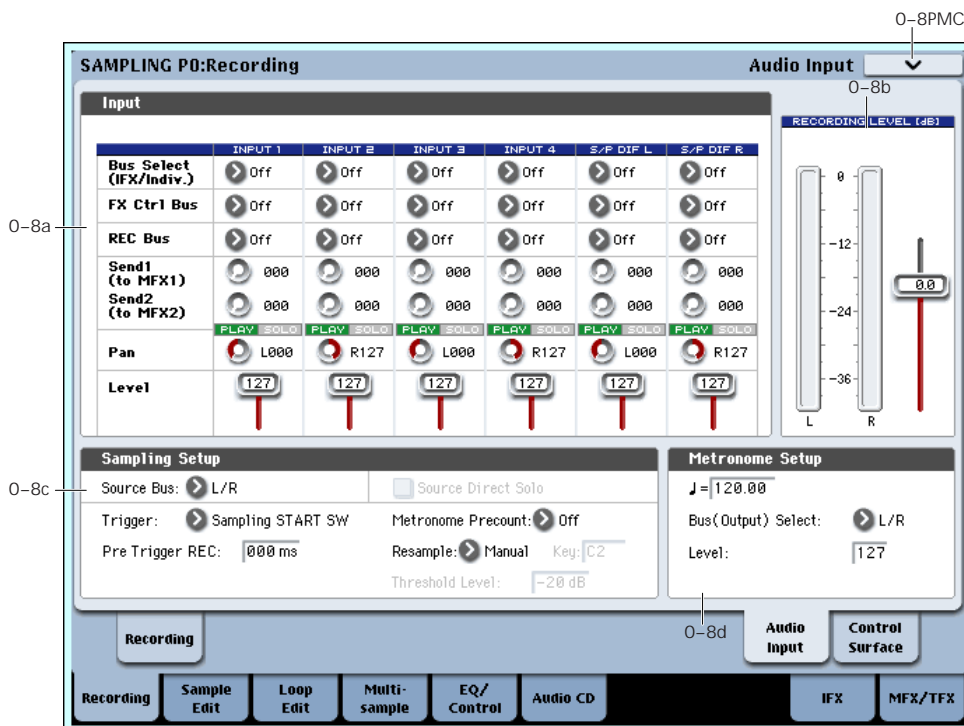
▼ 0–1: Page Menu Commands

The number before each command shows its ENTER + number-key shortcut. For more information on these shortcuts, see “ENTER + 0-9: shortcuts for menu commands” on page 142.

- 0: **Delete Sample.** For more information, see “Delete Sample” on page 672.
- 1: **Copy Sample.** For more information, see “Copy Sample” on page 673.
- 2: **Rename Sample.** For more information, see “Rename Sample” on page 673.
- 3: **Move Sample.** For more information, see “Move Sample” on page 673.
- 4: **Sample Mono To Stereo.** For more information, see “Sample Mono To Stereo (Change Sample Type)” on page 674.
- 5: **Delete MS.** For more information, see “Delete MS (Delete Multisample)” on page 674.
- 6: **Copy MS.** For more information, see “Copy MS (Copy Multisample)” on page 675.

- 7: **Rename MS.** For more information, see “Rename MS (Rename Multisample)” on page 675.
- 8: **Move MS.** For more information, see “Move MS (Move Multisample)” on page 676.
- 9: **Convert MS To Program.** For more information, see “Convert MS (Multisample) To Program” on page 675.
- 10: **MS Mono To Stereo.** This will appear only if the current MS is Mono. For more information, see “MS Mono To Stereo/MS Stereo To Mono (Change Multisample Type)” on page 676.
- 10: **MS Stereo To Mono.** This will appear only if the current MS is Stereo. For more information, see “MS Mono To Stereo/MS Stereo To Mono (Change Multisample Type)” on page 676.
- 11: **Optimize RAM.** For more information, see “Optimize RAM” on page 143.
- 12: **Select Directory.** This applies only when **Save to** is set to **Disk**. For more information, see “Select Directory” on page 144.
- 13: **Auto Sampling Setup.** For more information, see “Auto Sampling Setup” on page 677.

0–8: Audio Input



Here you can specify the output destination and input level etc. for the external audio signals being input from the INPUT jacks. Here you can also specify the source that will be sampled, and specify how sampling will be initiated. You can also specify a metronome count-down before sampling begins.

Using the control surface to adjust Audio Input

You can use the control surface to adjust the Audio Input **Send1 (to MFX1)**, **Send2 (to MFX2)**, **PLAY/MUTE**, **Solo On/Off**, **Pan**, and “Level.”

For more information, please see “0–9c: Audio Inputs” on page 22.


0–8a: Input

Input1, Input2, Input3, Input4

These are settings for analog inputs 1/4. Inputs 1/2 are mic/line; inputs 3–4 are line-level only.

S/P DIF L, S/P DIF R

Here you can make settings for the digital audio input from the S/P DIF IN jack. Connect the digital output of your instrument or DAT etc. to the S/P DIF IN jack. The S/P DIF input and output of the OASYS support 48 kHz and 96 kHz sample rates. Make this selection in "S/P DIF Sample Rate" (Global 0–1d). 96 kHz sample rate data is converted to 48 kHz when it is sampled.

 When using the S/P DIF input, make sure that the word clocks on all connected digital audio devices are configured correctly. For more information, see "System Clock" on page 702.

Note: Audio input settings for CD audio from the internal CD-R/RW drive or a USB-connected CD-R/RW drive are made in "P5: Audio CD."

Bus Select (IFX/Indiv.) [L/R, IFX1...12, 1...8, 1/2...7/8, Off]

This specifies the main bus routing for the input signal.

L/R: The input signal will be sent to the L/R bus.

IFX1...12: The input signal will be sent to the IFX1–12 bus. Choose one of these settings if you want to apply an insert effect while sampling.

1...8: The input signal will be sent to the specified INDIVIDUAL OUTPUT in monaural. The **Pan** setting will be ignored.

1/2...7/8: The input signal will be sent in stereo (including the effect of the **Pan** control) to the specified INDIVIDUAL OUTPUT pair.

Off: The input signal will not be routed directly to the outputs or Insert Effects. However, it may still be routed to an FX Control Bus or REC Bus.

FX Control Bus [Off, 1, 2]

This sends the external audio input signal to an FX Control bus (two stereo channels; FX Ctrl 1 and 2). See "FX Control Buses" on page 790.

REC Bus [Off, 1...4, 1/2, 3/4]

This sends the external audio input signal to the REC buses (four mono channels; 1...4).

Use the REC buses when you want to sample in various modes or to record audio tracks in Sequencer mode. These are dedicated buses for recording.

You can sample these signals by setting **Source Bus** (0–8c) to REC bus.

Normally you will set **Source Bus** (0–8c) to L/R, and sample the signal from the L/R bus. However, you can use the REC buses when you want to play the keyboard or play back an audio CD while sampling only the audio input. You can also mix several audio input sources to the REC buses, or mix the direct sound of an audio input with sound processed by an insert effect and mix them to the REC buses for sampling. See the diagram "Source Bus = REC Bus 1/2" (0–8c).

Off: The external audio signal will not be sent to the REC buses. Normally you will use the Off setting.

1...4: The external audio input signal will be sent to the specified REC bus. The **Pan** setting is ignored, and the signal is sent in monaural.

1/2, 3/4: The external audio input signal will be sent in stereo to the specified pair of REC buses. The **Pan** setting sends the signal in stereo to buses 1 and 2 or buses 3 and 4.

Send1 (to MFX1) [000...127]

Send2 (to MFX2) [000...127]

These adjust the levels at which the external audio input signal is sent to the master effects.

Send1 (to MFX1): Send the signal to master effect 1.

Send2 (to MFX2): Send the signal to master effect 2.

If **Bus Select (IFX/Indiv.)** is set to IFX1–12, the send levels to the master effects are set by the post-IFX1–12 **Send1** and **Send2** (8–5a).

Tip: You can use the control surface to control this parameter. (See "Using the control surface to adjust Audio Input" on page 12)

PLAY/MUTE [Off, On]

This indicates whether the external audio signal being input is in PLAY or MUTE status.

You can use the MIX PLAY/MUTE 1–6 switches to change this.

MUTE: The external audio input signal is muted (silent), and will not be input.

PLAY: The external audio input signal is being input according to the settings of the relevant parameters.

Tip: You can use the control surface to control this parameter. (See "Using the control surface to adjust Audio Input" on page 12)

SOLO On/Off


This indicates the SOLO status of each external audio signal input. You can use the MIX SELECT 1–6 switches to change this.

Sound will be output only from channels for which SOLO is On. Samples, and multisamples will be muted.

The setting of the **Exclusive Solo** page menu command specifies how the Solo function will operate.

Exclusive Solo Off: Selected is off, you can solo multiple audio inputs. The solo status will change each time you press Solo On/Off.

Exclusive Solo On: Selected is on, pressing a Solo button will solo only that audio input.

 The SOLO setting is not memorized when you Write.

Tip: You can hold down the ENTER switch and press numeric key 1 to switch Exclusive Solo on/off.

Tip: You can use the control surface to control this parameter. (See "Using the control surface to adjust Audio Input" on page 12)

Pan [L000...C064...R127]

This specifies the panning of the external audio input signal. When inputting a stereo audio source, you will normally set the inputs to L000 and R127 respectively.

Tip: You can use the control surface to control this parameter. (See "Using the control surface to adjust Audio Input" on page 12.)

Level [0...127]

Specifies the level of the external audio signal that will be input. The default is 127.

For more information on using the inputs and setting levels, please see “Avoiding extraneous noise” on page 14, and “Tips for eliminating distortion when using the analog inputs” on page 15.

Tip: You can use the control surface to control this parameter. (See “Using the control surface to adjust Audio Input” on page 12.)

ADC OVERLOAD !

If the signal level from AUDIO INPUT 1–4 jacks is too high, the “ADC OVERLOAD !” indication will appear. You’ll need to adjust the MIC/LINE gain select switch, the LEVEL knob (AUDIO INPUT 1 and 2 only), or the output level of your external audio source.

0–8b: Recording Level [dB]

Recording Level [-Inf, -72.0...+18.0]

Level Meter

CLIP !

For more information, please see “0–1c: Recording Level [dB]” on page 628.

0–8c: Sampling Setup

Source Bus [L/R, REC1/2...3/4, Audio Input1/2...3/4, S/P DIF L/R, Indiv.1/2...7/8]

You can sample in stereo from any pair of audio inputs, from the two stereo REC busses, or from the signal at any of the 10 outputs (L/R and Individual 1/2-7/8).

When you sample from an output pair or REC bus, you’ll record all audio sent to the output or bus, including internal Programs or Combis, effects, audio inputs, and HDR audio.

When sampling in stereo, the odd-numbered channel (such as 1, 3, 5, or 7) corresponds to the left channel, and the even-numbered channel (such as 2, 4, 6, or 8) corresponds to the right.

For more information, please see “Source Bus” on page 15.

Source Direct Solo [Off, On]

This selects what is heard through the L/R outputs and headphones when Sampling REC is enabled.

On (checked): Only the signal of the selected **Source Bus** will be heard. This lets you hear only the sound that will be sampled.

Off (unchecked): The signal of the selected **Source Bus** will be merged with the main L/R signal. This is the default.


Note: If **Source Bus** is set to L/R, this setting is ignored—since that signal is normally heard at the L/R outputs already!

Pre Trigger REC [000...500ms]

If you want a portion of sound immediately before the start of sampling to be included in the recorded sample, set this parameter to specify the length.

When sampling with **Trigger Threshold**, sampling will start when the input signal exceeds the **Level** threshold level. However if the **Level** setting causes a portion of the attack to be lost, you can set the “Pre Trigger REC” parameter to capture the early attack as well.

When sampling with **Trigger Sampling START SW**, it is best to use “Metronome Precount” so that the instrumental performance etc. is sampled in tempo. If the performance is ahead of the tempo, this Pre Trigger REC parameter lets you sample without losing any of it.


 If you increase this setting, you will always be sampling an unneeded portion ahead of the desired sample. Normally you should set this to 000 ms, and specify the minimum required length when necessary.

Trigger [Sampling START SW, Note On, Threshold]

Specifies how sampling will be initiated.

Sampling START SW: Pressing the SAMPLING REC switch will cause the OASYS to enter sampling-standby mode, and sampling will begin when you press the SAMPLING START/STOP switch.

Note On: Press the SAMPLING REC switch and then press the SAMPLING START/STOP switch to enter sampling-standby mode. Sampling will begin when you play the keyboard.

 Sampling will also begin if a MIDI note-on is received (instead of playing the keyboard).

Threshold: Sampling will begin automatically when the input level exceeds the specified **Threshold Level**.

Using Trigger = Sampling START SW

1. Press the SAMPLING REC switch to enter sampling-standby mode.
2. Use the “Recording Level [dB]” slider to adjust the sampling level.
3. Sampling will begin when you press the SAMPLING START/STOP switch.

(If you are using the “Metronome Precount” function, pressing the SAMPLING START/STOP switch will cause sampling to begin after the metronome sounds a count-down. If Metronome Setup “Bus (Output) Select” (0–8d) is set to L/R, the metronome will stop sounding at the moment that sampling begins.)

4. To stop sampling, press the START/STOP switch once again.
Sampling will also stop automatically if it continues to the specified **Sample Time** (0–1d).

If you want to create a new sample by processing an existing sound through effects (Resampling), set **Trigger** to Sampling START SW, and set **Resample** (0–8c) to Auto.


Using Trigger = Note On

1. Perform steps 1 and 2 described above.

2. Press the SAMPLING START/STOP switch.
3. When you play the keyboard or when a MIDI note-on is received, sampling will start automatically.
4. To stop sampling, perform step 4, above.

Using Trigger = Threshold

1. Press the SAMPLING REC switch to enter sampling-standby mode.
2. Use the "Recording Level [dB]" slider to adjust the sampling level.

 Be careful of changes in the monitoring volume. (Recording Level [dB] 0–8b)

3. Adjust the Level setting. The red triangles at both sides of the "Recording Level [dB]" level bar display will indicate the Level value.

Normally you will set this to a low a level as possible without allowing sampling to be triggered by noise.

4. Press the SAMPLING START/STOP switch. When the input level exceeds the Level you specified, sampling will begin automatically.
5. To stop sampling, press the START/STOP switch once again.

Alternatively, sampling will end automatically if it continues to the time specified for Sample Time (0–1d).

Metronome Precount [Off, 4, 8, 3, 6]

This specifies whether the metronome will sound a count-down before sampling begins. This can be set only if **Trigger** is set to Sampling START SW.

Off: Sampling will begin immediately when you press the SAMPLING START/STOP switch from recording-standby mode.

4, 8, 3, 6: When you press the SAMPLING START/STOP switch from recording-standby mode, the metronome will count the specified number of beats at the system tempo, and then sampling will begin. If you set this to 4, sampling will begin on the count of 0 after a pre-count of 4–3–2–1–0.

The output destination and level of the metronome sound are specified by Metronome Setup (0–8d). If **Bus (Output) Select** is set to L/R, the metronome will stop sounding the instant sampling actually begins.

Resample [Manual, Auto]

Specifies how resampling will occur.

This can be set only if **Trigger** is set to Sampling START SW.


The process of sampling a sample (or samples) is called "resampling."

You can apply effects to a sample and then resample it, or resample a performance of samples that you play.

Manual: This is the normal method. Use this when you want to sample an external input sound. If a sample is already assigned, the sample assigned for playing from the keyboard will be resampled together with the external input sound.

Auto: The sample assigned to the index will be resampled automatically. Use this when you want to apply an effect to a sample and resample it.

1. Set Key to the keyboard location where the sample you that you want to resample is assigned.

 Sampling will not be possible if you specify a key to which a sample has not been assigned.

2. If you want to apply an insert effect, set the P8: Routing page Bus Select (8–1b) parameter to IFX1–12, and select the insert effect you want to use.

If you want to apply a master effect, use the P8: Routing page (OSC MFX Send) **Send1** and **Send2** parameters to adjust the send levels, and use P9: MFX/TFX to select the master effect(s) you want to use. If you want to apply a total effect, use P9: MFX/TFX to select the total effect you want to use.

3. Set Source Bus (0–8c) to L/R.
4. Press the SAMPLING REC switch to enter record-ready mode.
5. When you press the SAMPLING START/STOP switch, the current sample will play back automatically, and the resampling will begin.

If you play the keyboard at this time, the sound you play will be resampled together with the source sample.

6. When the sample assigned to the Key has played back for its full length, resampling will end automatically.

Alternatively, you can stop resampling by pressing the SAMPLING START/STOP switch once again.

Note: When resampling ends, the **Bus Select** (8–1b) setting will automatically be reset to L/R. At the same time, the "MFX1 On/Off," "MFX2 On/Off," "TFX1 On/Off," and "TFX2 On/Off" ("9–1: Routing") settings will automatically be turned off. These settings are made automatically so that the effect will not be applied again (i.e., a second time) when you play back the sample that was resampled with the effect. Please be aware of this if you want to resample once again. The parameters of the newly created sample will be automatically set the same as the source sample when played back.

Key [C-1...G9]

When "Resample" is set to Auto, this specifies the note to which the sample to be resampled is assigned.

This can be set only if **Trigger** is set to Sampling START SW.

For the resampling procedure, see "Resample" Auto.

Threshold Level [–63dB...0dB]

When sampling with **Trigger** set to Threshold, this specifies the level at which sampling will begin. This can be set only when **Trigger** is set to Threshold. See step 3 of the **Trigger** Threshold procedure.

0–8d: Metronome Setup

♪ (Tempo) [040.00...240.00]

This sets the tempo of the count-down when "Metronome Precount" is used.

This tempo is also used by the effects, for tempo-synchronized delays and LFOs. You can also set the tempo by using the TEMPO knob or the TAP TEMPO button.

Bus (Output) Select [L, R, 1...8]

This sets the audio output for the metronome sound played by “Metronome Precount” (0–8c).

L/R: The metronome will be heard in the main stereo outputs (L/Mono and R), the S/P DIF output, and the headphones.

Indiv.1...8: The metronome will be heard only in the selected individual output.

Level [000...127]

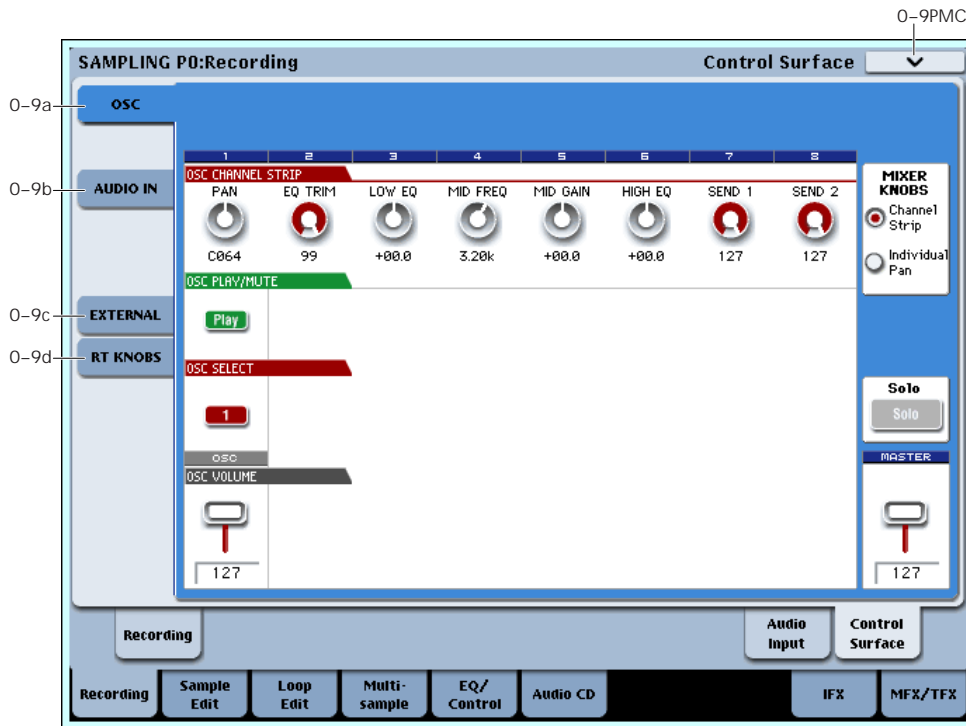
This controls the volume of the metronome sound.

▼ 0–8: Page Menu Commands

The number before each command shows its ENTER + number-key shortcut. For more information on these shortcuts, see “ENTER + 0-9: shortcuts for menu commands” on page 142.

- 0: **Delete Sample.** For more information, see “Delete Sample” on page 672.
- 1: **Copy Sample.** For more information, see “Copy Sample” on page 673.
- 2: **Rename Sample.** For more information, see “Rename Sample” on page 673.
- 3: **Move Sample.** For more information, see “Move Sample” on page 673.
- 4: **Sample Mono To Stereo.** For more information, see “Sample Mono To Stereo (Change Sample Type)” on page 674.
- 5: **Delete MS.** For more information, see “Delete MS (Delete Multisample)” on page 674.
- 6: **Copy MS.** For more information, see “Copy MS (Copy Multisample)” on page 675.
- 7: **Rename MS.** For more information, see “Rename MS (Rename Multisample)” on page 675.
- 8: **Move MS.** For more information, see “Move MS (Move Multisample)” on page 676.
- 9: **Convert MS To Program.** For more information, see “Convert MS (Multisample) To Program” on page 675.
- 10: **MS Mono To Stereo.** This will appear only if the current MS is Mono. For more information, see “MS Mono To Stereo/MS Stereo To Mono (Change Multisample Type)” on page 676.
- 10: **MS Stereo To Mono.** This will appear only if the current MS is Stereo. For more information, see “MS Mono To Stereo/MS Stereo To Mono (Change Multisample Type)” on page 676.
- 11: **Optimize RAM.** For more information, see “Optimize RAM” on page 143.
- 12: **Select Directory.** This applies only when **Save to** is set to **Disk**. For more information, see “Select Directory” on page 144.
- 13: **Auto Sampling Setup.** For more information, see “Auto Sampling Setup” on page 677.

0-9: Control Surface



The Control Surface is the set of 9 sliders, 8 knobs, and 16 switches to the left of the LCD display. It looks like a mixer, but it can do other things as well, including editing sounds, controlling KARMA, and sending MIDI messages to external devices.

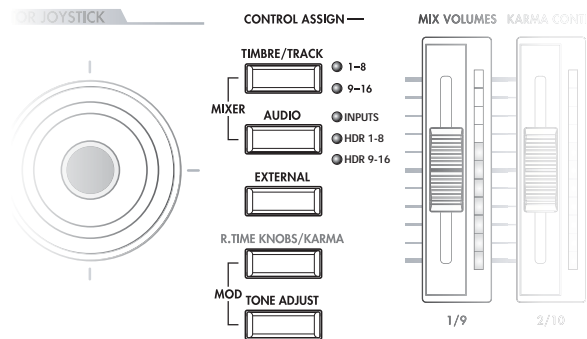
This page shows you the current values for each of the sliders, knobs, and buttons, along with information about what they are controlling. For instance, you can:

- Adjust the Oscillator's (multisample) volume and pan
- Control the Oscillator's (multisample) EQ settings and Master Effects Send levels
- Modulate Oscillators (multisample) and effects using the Real Time Knobs
- Use the sliders and switches to control external MIDI devices.

Control Assign Switches and Tabs

You can switch the Control Surface between its different functions using either the tabs on the left side of the LCD display, or the front-panel Control Assign switches. The tabs and the front-panel switches mirror one another; when you change one of them, the other changes as well.

Control Assign switches



In Sampling mode, you can select one of five different functions:

TIMBRE/TRACK lets you adjust the Oscillator's (multisample) volume, pan, and send levels, along with the EQ.

AUDIO INPUTS lets you adjust the volume, pan, and send levels for the analog and S/P DIF audio inputs.

EXTERNAL lets you send MIDI messages to external MIDI devices.

R.TIME KNOBS/KARMA lets you modulate sounds and effects with the knobs.

Front-panel LEDs for sliders and knobs

There's a vertical column of LEDs next to each slider, and a ring of LEDs around each knob. Similarly, each of the switches has an LED to show whether it's on or off.

As you switch between the different Control Assign settings, you'll notice that the LEDs change to show the current values for all of the controllers.

You can edit these values using either the physical sliders, knobs, and switches, or by selecting the on-screen parameters and using the standard data entry controls. When you edit a value using the LCD and data entry, you'll notice that the LEDs on the sliders, knobs, and switches reflect the change as well.

Jump/Catch

When you change the Control Assign setting, the physical position of the knobs or sliders may be different than the parameter value, as shown by the LEDs.

The **Knob/Slider Mode** parameter, under System Preferences on the Global mode Basic page, determines how and when moving the physical slider or knob will start to edit the parameter value.

When it is set to **Jump**, the parameter will snap to the physical position as soon as you start to move the knob or slider. Use this if you'd like the parameters to respond instantly to controller movements.

When it is set to **Catch**, you need to move the slider or knob so that it "catches" the parameter, by passing through its current value. Until the value is caught, moving the slider or knob has no effect on the parameter. Use this when you'd like parameter edits to be smooth, and always move from the current value.

Reset Controls

The front-panel **RESET CONTROLS** button lets you recall the stored settings for any slider, knob, or switch on the control surface. You can also use it to reset the Vector Joystick to the center position, or to reset all of the parameters in the current KARMA module.

Resetting a single control

To reset a single knob, slider, or switch:

1. **Hold down the RESET CONTROLS button.**
2. **While holding down RESET CONTROLS, move a slider or knob, or press one of the control surface switches.**

The slider, knob, or switch will be reset to the value stored in the Program.

3. **When you're done, release the RESET CONTROLS button.**

Resetting a group of controls

To reset a group of controls at once:

1. **Make sure that the Control Surface is showing the parameters you want to reset.**

As a safety precaution, you can only reset the parameters currently displayed on the Control Surface. This takes into account both the current Control Assign setting, and the MIXER KNOBS button.

For instance, if you want to reset the volume and pan for both Oscillators, make sure that Control Assign is set to **TIMBRE/TRACK**, and that **MIXER KNOBS** is set to **INDIVIDUAL PAN**.

2. **Hold down the RESET CONTROLS button.**

3. **While holding down RESET CONTROLS, press the current Control Assign button again.**

All of the sliders, knobs, and switches shown on the Control Surface will be reset to the values stored in the Program.

Resetting the Vector Joystick

To reset the Vector Joystick to the center position, hold down **RESET CONTROLS** and then move the Vector Joystick.

Resetting KARMA module parameters

You can also reset all of the sliders and switches in the KARMA module, by holding **RESET CONTROLS** and then pressing the **KARMA MODULE CONTROL** button. Similarly, to reset a single KARMA Scene, hold **RESET CONTROLS** and press any of the **SCENE** buttons.

0–9a: OSC Mixer

This Control Assign setting lets you adjust the volume, pan, and FX send settings for Oscillators 1 and 2, along with the Program EQ settings.

If you want to save the sound you've edited here, you can resample it.

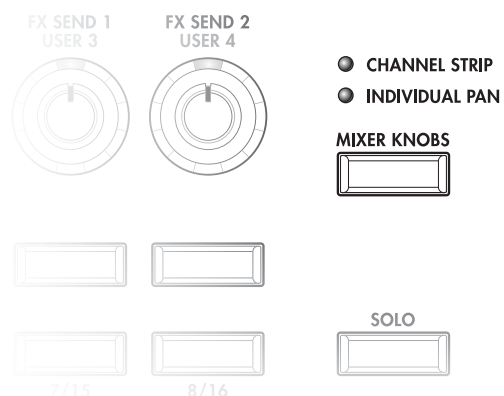
MIXER KNOBS [Channel Strip, Individual Pan]

The Mixer Knobs switch is on the front panel, immediately to the right of the knobs, and is also duplicated in the on-screen display. The eight knobs can control two different sets of parameters, depending on the setting of this switch.

Channel Strip: With this setting, the eight knobs will control the Pan, EQ, and FX Send settings for the selected Oscillator.

Individual Pan: With this setting, the first knob will control the Pan for Oscillator 1. The remaining knobs are unused.

Mixer Knobs switch



Knobs 1–8, Channel Strip

When the Mixer Knobs switch is set to Channel Strip, the knobs provide quick access to the Pan, EQ, and FX Send parameters. The Pan and EQ parameters duplicate the similarly-named parameters found on the Program editing pageS.

PAN [Random, L001...C064...R127]


This controls the stereo pan of the selected Oscillator. A setting of **L001** places the sound at the far left, **C064** in the center, and **R127** to the far right.

Random is available only via the LCD. (Otherwise, it would be difficult to use the knob to sweep smoothly from left to right.) With the **Random** setting, the pan position will be different for each note-on.

EQ TRIM [00...99]

This controls the volume level going into the EQ.

High settings of the Low, Mid, and High Gain controls can cause substantial increases in the overall level. You can compensate for this by turning down the input trim.

 Note: if the EQ page EQ Bypass parameter is turned On, then none of the EQ parameters here will have any effect.

LOW EQ [-18.0...+00.0...+18.0dB]

This controls the gain of the 80Hz Low Shelf EQ, in increments of 0.5dB.

MID EQFREQUENCY [100Hz...10kHz]

This sets the center frequency for the Mid sweep EQ.

MID EQ GAIN [-18.0...+00.0...+18.0dB]

This controls the gain of the Mid Sweep EQ, in increments of 0.5dB.

HIGH EQ [-18.0...+00.0...+18.0dB]

This controls the gain of the 10kHz High Shelf EQ, in increments of 0.5dB.

SEND 1 [000...127]

This controls the send level into FX Send 1. If the Program's **Output Bus** parameter is set to L/R or OFF, it scales the Oscillator send levels. If the **Output Bus** is set to IFX 1-12, it directly controls the post-IFX send levels.

SEND 2 [000...127]

This controls the send level into FX Send 2. For more details, see "SEND 1," above.

Knobs 1-2, Individual Pan

When the Mixer Knobs switch is set to Individual Pan, knobs 1 and 2 control the pan settings for Oscillators 1 and 2, respectively. The other 6 knobs have no effect.

These duplicate the Pan parameters of the Oscillators 1 and 2 Amp pages; changing them here will change them in the editing pages, and vice-versa.

Pan (1) [Random, L001...C064...R127]

This controls the stereo pan of Oscillator 1. A setting of **L001** places the sound at the far left, **C064** in the center, and **R127** to the far right.

Random is available only via the LCD. (Otherwise, it would be difficult to use the knob to sweep smoothly from left to right.) With the **Random** setting, the pan position will be different for each note-on.

Pan (2) [Random, L001...C064...R127]

This controls the stereo pan of Oscillator 2. For more details, see "Pan (1)," above.

MIX PLAY/MUTE 1

The top row of switches allow you to turn Oscillators 1 on and off, which can be convenient when editing sounds.

Play/Mute [Off, On]

The oscillator will sound if this switch is on (LED = lit). When the switch is off (LED = off), Oscillator 1 will be muted.

Solo switch and MIX SELECT switch 1

Solo [Off, On]

Solo lets you isolate one or more Oscillators or Audio Inputs, so that you hear them by themselves.

When Solo is **Off** (LED = Off), the Select switches select the current Oscillator; when Solo is **On** (LED = On or blinking), the Select switches let you solo one or both Oscillators.

When Solo is **On**, and one or more Oscillators or Audio Inputs are soloed, the Solo LED will blink on and off to remind you that solo is in use.

Clearing all solos

To turn off **Solo** for all Oscillators and Audio Inputs at once:

1. Press and hold the **RESET CONTROLS** button.
2. While holding **RESET CONTROLS**, press the **SOLO** button.

Note: The main Solo button merely changes the functions of the Select/Solo switches. It does not enable or clear the individual solo states.

Exclusive Solo menu parameter

The menu's **Exclusive Solo** parameter also affects the way that Solo works. When **Exclusive Solo** is **Off** (unchecked), you can solo multiple oscillators and inputs at once.

When **Exclusive Solo** is **On** (checked), only one oscillator or input can be soloed at a time. In this mode, pressing a Solo switch automatically disables any previous solos.

You can also toggle **Exclusive Solo** by holding **ENTER** and pressing **1** on the numeric keypad.

OSC Select/Solo [Off, On]

This switch either selects or solos Oscillator, depending on the Solo switch. For more details, see "Solo," above.

MIX VOLUMES sliders 1

This adjusts the overall oscillator output level.

OSC Volume [000...127]

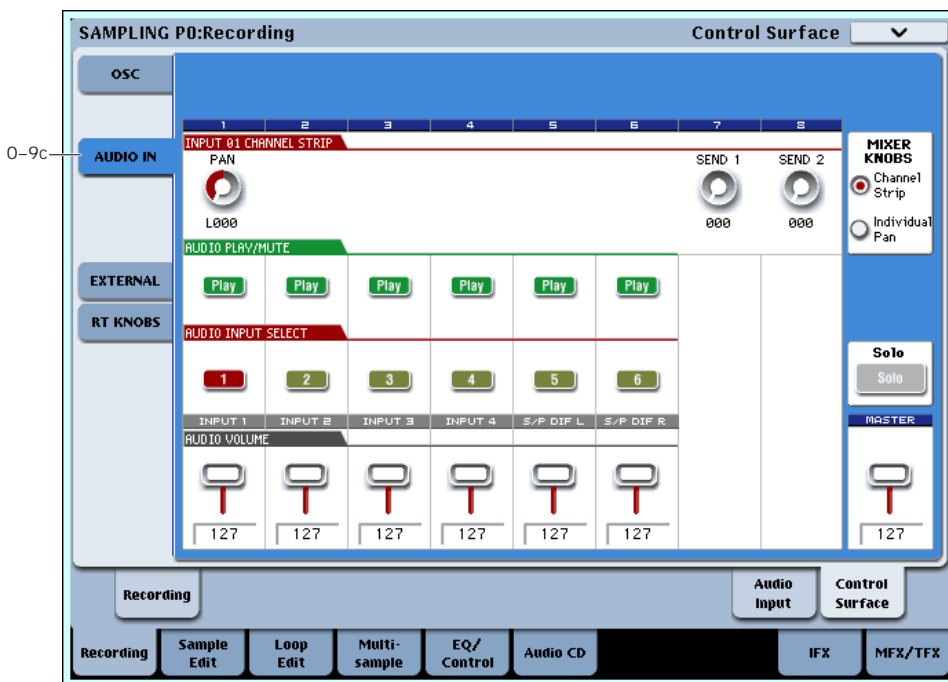
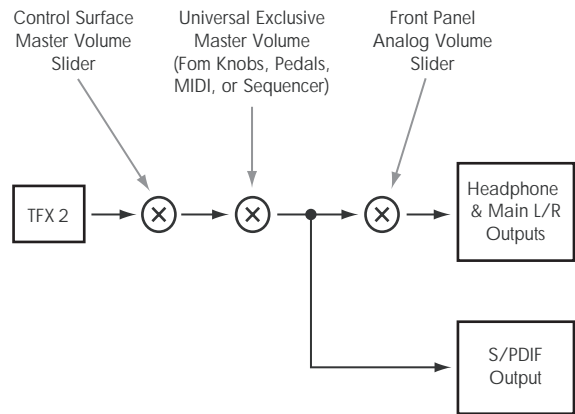
This adjusts the oscillator volume level.

Master Volume Slider

Master Volume [000...127]

This controls the volume of the main stereo outputs, after the Total Effects. It does not affect Individual Outputs 1–8.

Master Volume



0–9c: Audio Inputs

This Control Assign setting lets you adjust the volume, pan, and FX send settings for each of the six audio inputs: Analog 1–4, and S/P DIF left and right.

Mixer Knobs [Channel Strip, Individual Pan]

This switch controls whether the knobs show the pan settings for all 6 inputs at once (Individual Pan), or the pan and FX Send levels for the selected input (Channel Strip). For more information, please see “Mixer Knobs” on page 639.

Knobs 1–8, Channel Strip

When the Mixer Knobs switch is set to Channel Strip, the knobs provide quick access to the selected input’s Pan and FX Send parameters.

Pan [L000...C064...R127]

This controls the stereo pan of the selected input. A setting of **L000** places the sound at the far left, **C064** in the center, and **R127** to the far right.

Send 1 [000...127]

This controls the send level into FX Send 1. If the input’s **Output Bus** parameter is set to L/R or OFF, it scales the programmed send level. If the **Output Bus** is set to IFX 1–12, it directly controls the post-IFX send levels, overwriting any previous setting.

Send 2 [000...127]

This controls the send level into FX Send 2. For more details, see “Send 1,” above.

Knobs 1–6, Individual Pan

When the Mixer Knobs switch is set to Individual Pan, knobs 1–4 control the pan settings for analog inputs 1–4, respectively, and knobs 5–6 control the pan settings for the left and right S/P DIF inputs.

Audio Input Pan (1–6) [L000...C064...R127]

These control the pan for Analog Inputs 1–4 and S/P DIF Left and Right, respectively. A setting of **L000** places the sound at the far left, **C064** in the center, and **R127** to the far right.

Play/Mute switches 1–6

The top row of switches allow you to mute any or all of the audio inputs.

Play/Mute (1–6) [Off, On]

When this switch is on (LED = on), the input will be enabled. When the switch is off (LED = off), the input will be muted.

Solo switch and Select switches 1–6

Solo [Off, On]

Solo lets you isolate one or more Oscillators or Audio Inputs, so that you hear them by themselves. It does this by temporarily muting all non-soloed Oscillators and Audio Inputs.

The Select switches can show and control either which audio input is currently selected, or which inputs are soloed. The main Solo button lets you switch back and forth between the two views.

When Solo is **Off** (LED = Off), the Select switches select the current input; when Solo is **On** (LED = On or blinking), the Select switches let you solo one or more inputs.

When Solo is **On**, and one or more Oscillators or Audio Inputs are soloed, the Solo LED will blink on and off to remind you that solo is in use.

Note: The main Solo button merely changes the functions of the Select/Solo switches. It does not enable or clear the individual solo states.

For more information, see “Clearing all solos” on page 638, and “Exclusive Solo menu parameter” on page 638.

Select/Solo (1–6) [Off, On]

This switch either selects or solos the input, depending on the Solo switch setting. For more details, see “Solo,” above.

MIX VOLUMES sliders 1–6

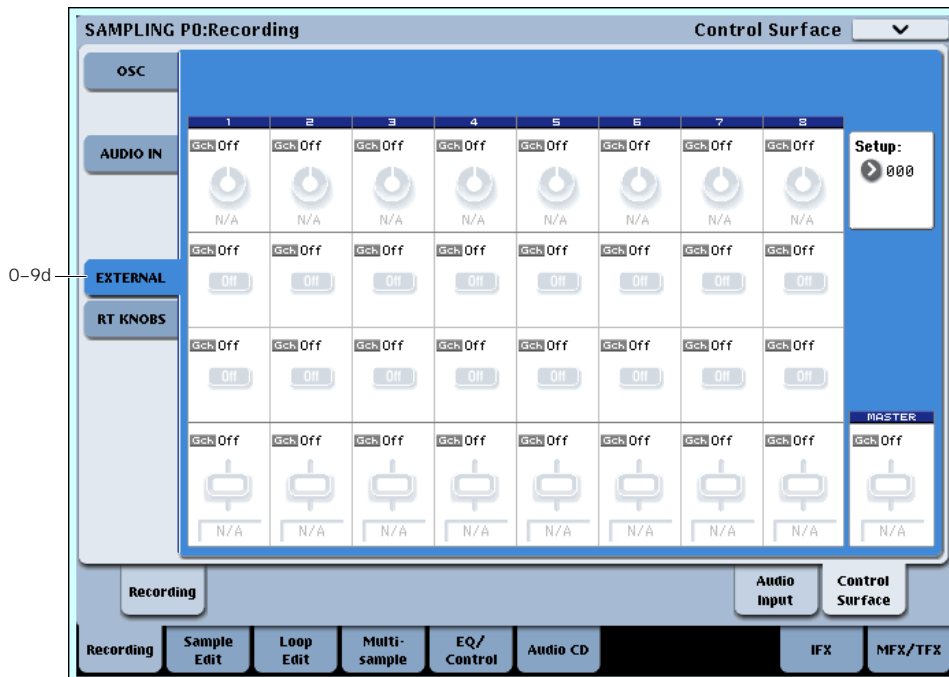
Audio Input Volume (1–6) [000...127]

These sliders adjust the volume levels of the audio inputs.

Master Volume Slider

Master Volume [000...127]

This controls the volume of the main stereo outputs, after the Total Effects. It does not affect Individual Outputs 1–8. For more information, see the diagram “Master Volume” on page 639.



0–9d: External

This Control Assign setting lets you send MIDI messages to external devices. Each slider, knob, and switch can be assigned to a separate MIDI controller and MIDI channel. The eight drum pads also have separate settings which apply only when Control Assign is set to External.

In Global mode, you can create up to 128 different External Setups. For instance, you might make one setup for controlling several different pieces of MIDI

gear on stage, another for controlling a software synthesizer (such as one of Korg’s Legacy Collection synths), and so on. For more information, see “1–2: External 1” on page 714.

These External Setups are completely separate from the Program. You can think of External mode as being a separate control surface which just happens to share OASYS’s sliders, knobs, switches, and drum pads.

When you select an External Setup, it stays selected even when you change Programs, or switch to Combi or Sequencer modes. This makes it easy to select different OASYS sounds without disrupting any external MIDI control, and vice-versa.

Setup [000...127]

This selects the Global setup for the knobs, sliders, switches, and drum pads.

Note: this selection is not stored with the Program.

Knobs 1–8

MIDI Channel (1–8) [(01...16, Gch)]

This read-only parameter shows the MIDI Channel assigned to the knob. Each can send on a different channel, if desired.

Gch means that the knob will transmit on the Global MIDI Channel, as set in Global mode. This allows you to re-direct any number of sliders, knobs, switches, and pads to a different channel at once, without editing the individual controls.

CC# Assign (1–8) [(Off, 000...119)]

This read-only parameter shows the MIDI CC sent by the knob.

Value (1–8) [000...127]

This is the current value of the knob’s MIDI CC.

Switches 1–16

MIDI Channel (1–16) [(01...16, Gch)]

This read-only parameter shows the MIDI Channel for the switch. Each can send on a different channel, if desired.

Gch means that the slider will transmit on the Global MIDI Channel, as set in Global mode.

CC# Assign (1–16) [(Off, 000...119)]

This read-only parameter shows the MIDI CC sent by the switch.

Switch On/Off (1–16) [On, Off]

When the switch is turned on, it sends a value of 127; when it is turned off, it sends a value of 0.

Sliders 1–8 & Master Slider

MIDI Channel (1–8) [(01...16, Gch)]

This read-only parameter shows the MIDI Channel for the slider. Each can send on a different channel, if desired.

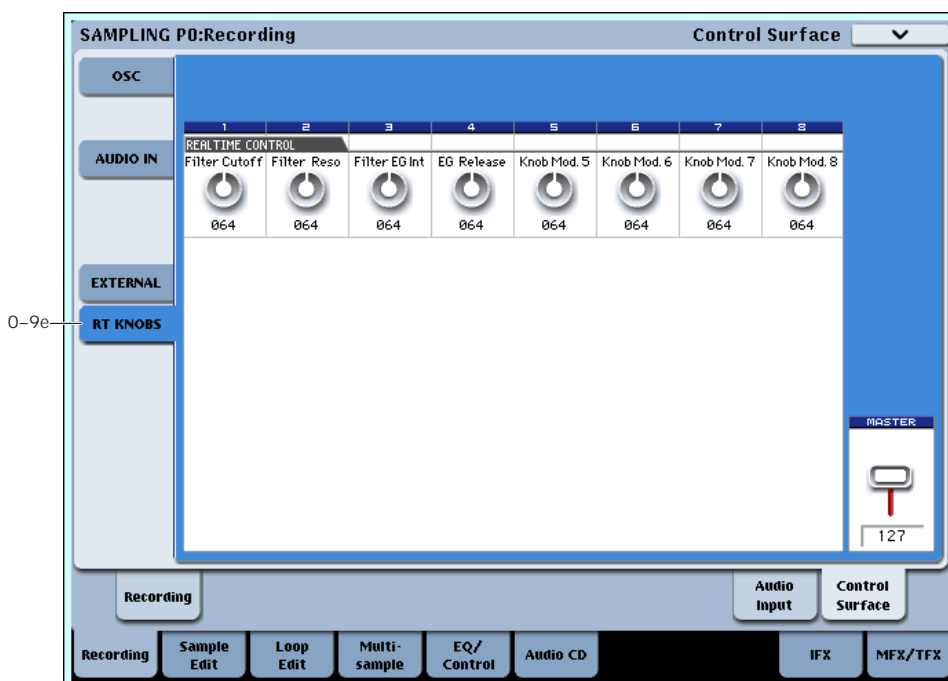
Gch means that the slider will transmit on the Global MIDI Channel, as set in Global mode.

CC# Assign (1–8) [(Off, 000...119)]

This read-only parameter shows the MIDI CC sent by the slider.

Value (1–8) [000...127]

This is the current value of the slider’s MIDI CC.



0–9e: R. Time Knobs AMSource

This Control Assign setting lets you modulate Oscillators and Effects parameters with the eight knobs.

If you want to save the sound you’ve edited here, you can resample it.

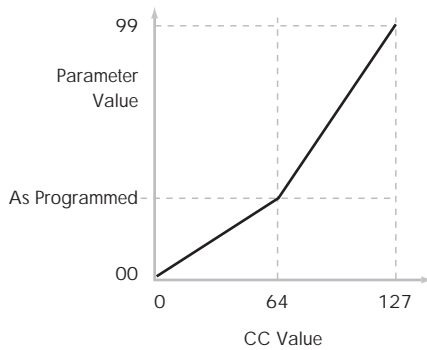
Knobs 1–8

Knobs 1–4 all have dedicated functions which correspond to MIDI CCs. Knobs 5–8 can be assigned to a wide variety of functions, many of which also have corresponding MIDI CCs.

When you move a knob, it sends out the corresponding MIDI CC. Also, when the CC is received via MIDI or generated by KARMA, the knob value changes to match the CC value.

Unless otherwise noted, “scaling” means that the parameters are at their programmed values when the controller is at 64, at their minimum when the controller is at 0, and at their maximum when the controller is at 127. For another look at this, see the diagram below.

CC parameter scaling



Knob 1: CUTOFF (CC#74) [000...127]

This knob scales the cutoff frequencies of Filters A and B, and transmits and receives MIDI CC #74.

Knob 2: RESONANCE (CC#71) [000...127]

This knob scales the resonance of Filters A and B, and transmits and receives MIDI CC #71.

Knob 3: Filter EG Intensity (CC#79) [000...127]

This knob scales the effect of the Filter EG on the cutoff frequencies of Filters A and B. It also transmits and receives MIDI CC#79.

Knob 4: EG Release (CC#72) [000...127]

This knob scales the release time of the Filter and Amp EGs, and transmits and receives MIDI CC#72.

Knob 5–8 [000...127]

This is the current value of the knob and its MIDI CC.

You can set knobs 5–8 to a wide variety of modulation functions, using the Controller Setup page (P1–8).

Many of the functions scale a particular set of Program parameters. All of the settings also correspond to MIDI messages—usually CCs.

▼ 0–9: Page Menu Commands

The number before each command shows its ENTER + number-key shortcut. For more information on these shortcuts, see “ENTER + 0-9: shortcuts for menu commands” on page 142.

- 0: **Delete Sample**. For more information, see “Delete Sample” on page 672.
- 1: **Copy Sample**. For more information, see “Copy Sample” on page 673.
- 2: **Rename Sample**. For more information, see “Rename Sample” on page 673.

- 3: **Move Sample**. For more information, see “Move Sample” on page 673.
- 4: **Sample Mono To Stereo**. For more information, see “Sample Mono To Stereo (Change Sample Type)” on page 674.
- 5: **Delete MS**. For more information, see “Delete MS (Delete Multisample)” on page 674.
- 6: **Copy MS**. For more information, see “Copy MS (Copy Multisample)” on page 675.
- 7: **Rename MS**. For more information, see “Rename MS (Rename Multisample)” on page 675.
- 8: **Move MS**. For more information, see “Move MS (Move Multisample)” on page 676.
- 9: **Convert MS To Program**. For more information, see “Convert MS (Multisample) To Program” on page 675.
- 10: **MS Mono To Stereo**. This will appear only if the current MS is Mono. For more information, see “MS Mono To Stereo/MS Stereo To Mono (Change Multisample Type)” on page 676.
- 10: **MS Stereo To Mono**. This will appear only if the current MS is Stereo. For more information, see “MS Mono To Stereo/MS Stereo To Mono (Change Multisample Type)” on page 676.
- 11: **Optimize RAM**. For more information, see “Optimize RAM” on page 143.
- 12: **Select Directory**. This applies only when **Save to** is set to **Disk**. For more information, see “Select Directory” on page 144.
- 13: **Auto Sampling Setup**. For more information, see “Auto Sampling Setup” on page 677.

Sampling P1: Sample Edit

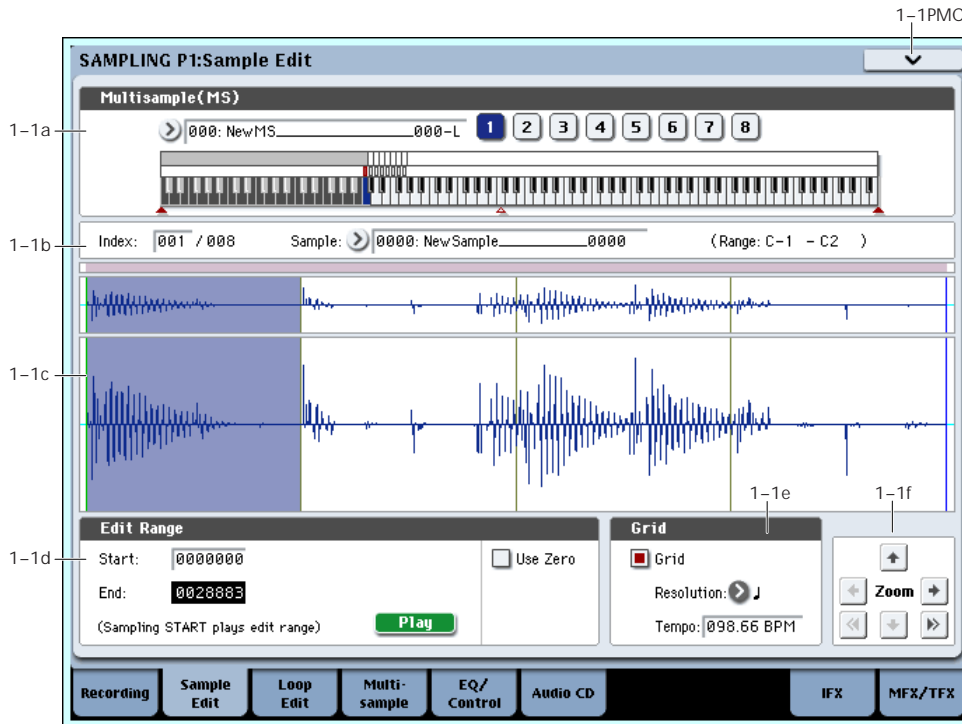
In this page you can edit sample data (waveform data). You can make detailed edits while watching the sample waveform display. Here are the main operations you will perform in this page.

- Truncate (delete unwanted regions), copy, paste, move, normalize (boost the level as high as possible without distortion), rate convert (lower the

sampling frequency), reverse (backward playback), and link (connect two samples)

- When performing the above operations, you can automatically detect zero-crossing points, or display a grid (vertical lines) and edit according to BPM values or beats

1-1: Sample Edit



1-1a: Multisample Select (MS)

Multisample Select [000...999]

Selects the multisample that contains the sample you wish to edit.

Keyboard & Pads

For more information, please see "0-1a: Multisample Select (MS)" on page 625.

1-1b: Index, Sample Select, Range

Index [xxx (001...128)/yyy (001...128)]

Selects the index of the sample you wish to edit. Your editing will affect the sample of the index that you select here, and the waveform will appear in the **Sample waveform display** (0-1a).

Note: An index can also be selected by holding down the ENTER switch and playing a note on the keyboard or pad. The index that includes this note will be selected. The key you played will be the base key, and will be displayed in blue in "Keyboard & Pads" ("Keyboard & Pads" 0-1a).

Sample Select [----: ---No Assign---, 0000...3999]

Range [C-1...B9 - C-1...B9]

This shows the sample number and name for the selected index, and the range. If you modify "Sample Select," the sample you specify here will be assigned to this index (0-1b). The range of the index is shown at the right.

1-1c: Sample waveform display

Sample waveform display

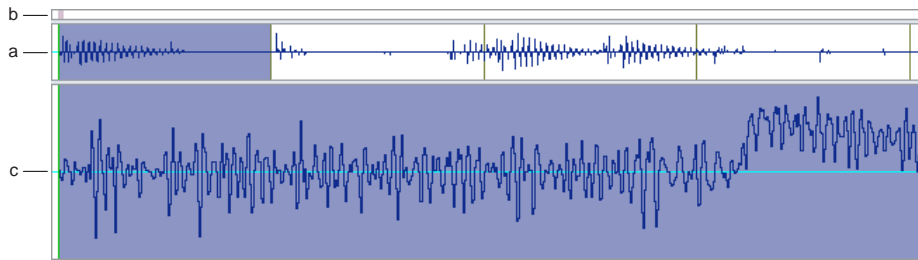
This displays the waveform of the selected sample. The horizontal axis is the sample address (time axis), and the vertical axis is the sample level.

In the following diagram, "a" indicates the entire sample. "b" indicates the portion of the entire sample that is shown in "c". As you zoom-in on the time axis, this shows you where the magnified portion lies within the overall sample. You can use the ZOOM buttons to magnify (zoom-in) or shrink (zoom-out) the portion shown in the "c" waveform display.

Sampling mode

If you have selected a stereo multisample or sample, the L channel and R channel of the sample data will be shown above and below.

Sample waveform display



1-1d: Edit Range

Start [00000000...]

End [00000000...]

This specifies the range (start address and end address) of the sample that will be edited by page menu commands. (This is shown in sample address units.)

The range you specify here will be highlighted in the Sample waveform display.

To audition the selected range, press the SAMPLING START/STOP switch or Play button. The sample in the area between **Start** and **End** will sound at the pitch of the currently selected key (displayed in blue) ("Keyboard & Pads" 0-1a).

Use Zero [Off, On]

On (checked): When setting **Start** and **End**, it will be possible to select these only to locations where the waveform level is ± 0 (i.e., where the waveform crosses the center line of the **Sample waveform display**). You can use the VALUE slider, VALUE dial, and Δ/∇ switches 0-9 to automatically search for zero-cross addresses. By using the numeric keys you can search for the zero-cross address nearest to the value that you input.

Off (unchecked): **Start** and **End** can be set in increments of one. This is the normal setting.

Edit Range PLAY/STOP

The "Edit Range" will play back when you press the Play button. During playback, this is shown as STOP.

1-1e: Grid

Grid [Off, On]

On (checked): A grid (vertical lines) is superimposed on the sample waveform display. Use "Resolution" and **Tempo** to adjust the grid spacing. Use this setting when you want to cut or edit sample data in units of BPM values or beats.

The starting point of the grid is specified by the Sample Start setting in P2: Loop Edit. If Loop is off, the grid is displayed starting at the **Start** address. If Loop is on, the grid is displayed starting at the **Loop Start** address. The grid indicates the state of the sample when it is played at the currently selected base key (displayed in blue). ("Keyboard & Pads" 0-1a)

Resolution



This specifies the resolution of the grid. The grid is defined by this setting and "Tempo."

Tempo [040.00...480.00]

This specifies the spacing of the grid. The grid is defined by this setting and **Resolution**.

You can also set this by using the TAP TEMPO switch.

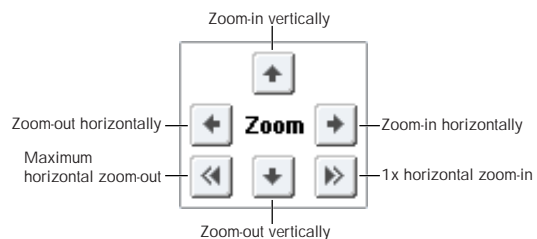
Tip: If you don't know the tempo of the sample, set the tempo by pressing the TAP TEMPO switch several times in rhythm with the playback.

Note: 240.00 is the maximum value that you can set using the TAP TEMPO switch.

1-1f: ZOOM


ZOOM

These buttons let you zoom-in and zoom-out the **Sample waveform display** along the horizontal axis (sample addresses) or vertical axis (sample level).



By zooming-in on the horizontal direction, you can move from the overall display where the waveform is shown as a solid line (1X magnification) to 2X or 4X magnification. (With 1X magnification, the display resolution of the LCD will be the same as the resolution of the sample addresses. For example if you change the sample address by one, the vertical line in the LCD that indicates the sample address will move in steps of one pixel.) In the vertical axis, you can zoom-in from 1X (full range display) to 512X (or 1024X in the case of stereo display).

Zoom-In/zoom-out will occur starting at the **Start** or **End** points you specify. (If a different parameter is selected when you zoom-in or -out, the zoom-in/out will be based on the last-selected point. If you re-select the **Start** or **End** points when the display is zoomed in or out, the display range will be adjusted so as to show the selected point.)

 If the zoom ratio is low (1X or less), the **Sample waveform display** may differ slightly from the displayed waveform before and after waveform editing, but this does not affect the playback sound. If this occurs, raising the zoom ratio will make the display accurate.

▼ 1-1: Page Menu Commands

The number before each command shows its ENTER + number-key shortcut. For more information on these shortcuts, see “ENTER + 0-9: shortcuts for menu commands” on page 142.

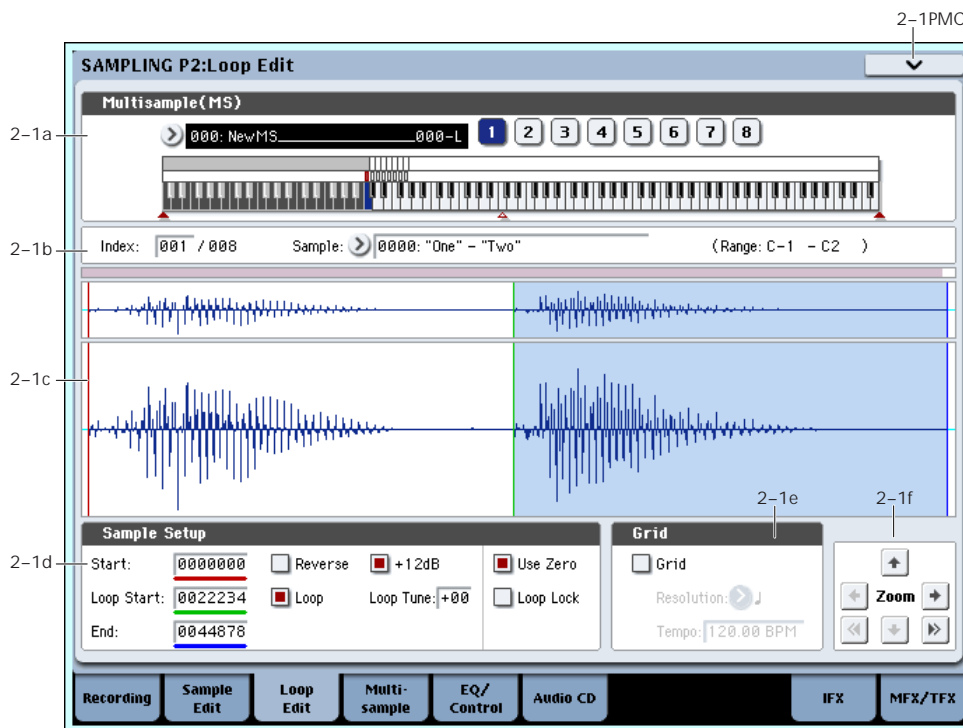
- 0: **Delete Sample**. For more information, see “Delete Sample” on page 672.
- 1: **Copy Sample**. For more information, see “Copy Sample” on page 673.
- 2: **Rename Sample**. For more information, see “Rename Sample” on page 673.
- 3: **Move Sample**. For more information, see “Move Sample” on page 673.
- 4: **Sample Mono To Stereo**. For more information, see “Sample Mono To Stereo (Change Sample Type)” on page 674.
- 5: **Delete MS**. For more information, see “Delete MS (Delete Multisample)” on page 674.
- 6: **Copy MS**. For more information, see “Copy MS (Copy Multisample)” on page 675.
- 7: **Rename MS**. For more information, see “Rename MS (Rename Multisample)” on page 675.
- 8: **Move MS**. For more information, see “Move MS (Move Multisample)” on page 676.
- 9: **Convert MS To Program**. For more information, see “Convert MS (Multisample) To Program” on page 675.
- 10: **MS Mono To Stereo**. This will appear only if the current MS is Mono. For more information, see “MS Mono To Stereo/MS Stereo To Mono (Change Multisample Type)” on page 676.
- 10: **MS Stereo To Mono**. This will appear only if the current MS is Stereo. For more information, see “MS Mono To Stereo/MS Stereo To Mono (Change Multisample Type)” on page 676.
- 11: **Optimize RAM**. For more information, see “Optimize RAM” on page 143.
- 12: **Select Directory**. This applies only when **Save to** is set to **Disk**. For more information, see “Select Directory” on page 144.
- 13: **Auto Sampling Setup**. For more information, see “Auto Sampling Setup” on page 677.
- 14: **Truncate**. For more information, see “Truncate (for Sample Edit)” on page 680.
- 15: **Cut**. For more information, see “Cut” on page 680.
- 16: **Clear**. For more information, see “Clear” on page 680.
- 17: **Copy**. For more information, see “Copy” on page 681.
- 18: **Insert**. For more information, see “Insert” on page 681.
- 19: **Mix**. For more information, see “Mix” on page 681.
- 20: **Paste**. For more information, see “Paste” on page 682.
- 21: **Insert Zero**. For more information, see “Insert Zero” on page 682.
- 22: **Normalize/Level Adjust**. For more information, see “Normalize/Level Adjust” on page 683.
- 23: **Volume Ramp**. For more information, see “Volume Ramp” on page 683.
- 24: **Rate Convert**. For more information, see “Rate Convert” on page 684.
- 25: **Reverse**. For more information, see “Reverse” on page 684.
- 26: **Link**. For more information, see “Link” on page 684.

Sampling P2: Loop Edit

In this page you can specify the region of the sample that will play and the portion that will loop. You can edit the waveform down to the level of individual samples while watching the sample waveform display. Here are the main operations you will perform in this page.

- Specify the looping locations (start address, loop start address, end address)
- Truncate (delete unwanted regions), copy, paste, move
- When performing the above operations, you can automatically detect zero-crossing points, or display a grid (vertical lines) and edit according to BPM values or beats
- Make settings for reverse (backward) playback
- Use the **Time Slice** or Time Stretch functions to automatically edit the sample according to BPM values or beats

2-1: Loop Edit



2-1a: Multisample Select (MS)

Multisample Select [000...999]

Here you can select the multisample to edit.

Keyboard & Pads

For more information, please see "0-1a: Multisample Select (MS)" on page 625.

2-1b: Index, Sample Select, Range

Index [xxx (001...127)/yyy (001...127)]

Selects the index whose loop and other sample parameters you wish to edit. Your edits will apply to the sample of the index selected here, and the waveform will appear in the **Sample waveform display** (0-1a).

You can also select an index by holding down the ENTER switch and playing a note on the keyboard or pad. The index that includes this note will be selected.

The note you played will be the base key, and will be shown in blue in "Keyboard & Pads." ("Keyboard & Pads" 0-1a)

Sample Select [----: ---No Assign----, 0000...3999]

Range [C-1...G9 - C-1...G9]

This selects the sample of the index. If you change "Sample Select," the sample you specify will be assigned to this index (0-1b). The sample you select here will appear in the "Sample waveform display."

The range of the index is displayed at the right.

2-1c: Sample waveform display

Sample waveform display

This shows the waveform of the selected Sample. For more information, please see "1-1c: Sample waveform display" on page 643.

2-1d: Sample Setup

Start (Start Address) [00000000...]

This specifies the start point for sample playback, in single-sample units.

Loop Start (Loop Start Address) [00000000...]

This specifies the loop start point, in single-sample units. This applies only when **Loop** is **On**.

The **Loop Start** must be between the **Start** and **End** points. For more information, see "Start Offset" on page 52.

End (End Address) [00000000...]

This specifies the end point for sample playback, in single-sample units. When **Loop** is **On**, this is the end point of the loop.

Loop (Loop On) [Off, On]

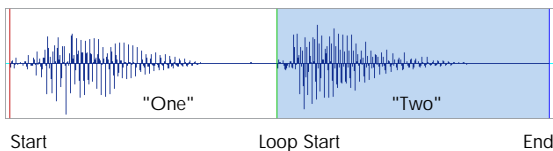
Specifies whether or not the sample will be looped.

On (checked): When played, the sample will loop repeatedly between the **Loop Start** and **End** points.

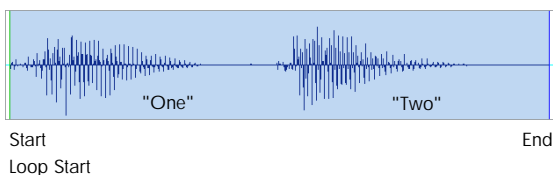
For instance, **Start**→ **End**→ **Loop Start**→ **End**→ **Loop Start**→ ...

Off (unchecked): The sample will play once from **Start** to **End**, and then stop. This is sometimes called one-shot playback.

If you sample with **Auto Loop On (0-1d)** checked, **Loop** will be enabled automatically.



- Loop** "One" - "Two" - "Two" - "Two" - ...
- Loop** "One" - "Two"



- Loop** "One" - "Two" - "One" - "Two" - "One" - "Two" - ...
- Loop** "One" - "Two"

Reverse [Off, On]

On (checked): The sample will be played backward, from the **End** to the **Loop Start**.

+12dB [Off, On]

On playback, samples are normally reduced in volume by 12dB, to reduce the chance of clipping when playing many voices simultaneously. This parameter lets you defeat this volume reduction for individual samples, when desired.

On (checked): The sample playback level will be approximately +12 dB louder than if this setting were **Off (unchecked)**.

Off (unchecked): The sample will play back at the normal level. This is the same standard level as the playback level for ROM multisamples and drum samples.

Changing this on/off setting will not affect the sample data itself; it only affects the way that the sample is played back.

You can enable this automatically during sampling by enabling the **Auto +12 dB** check-box. For more information, see "Auto +12dB On" on page 630.

These settings will be preserved if you save the sample as a Korg format sample file (.KSC, .KMP, .KSF). However, these settings are ignored by Korg-format-compatible devices previous to the TRITON STUDIO. For more information, see "About KORG format files" on page 1084.

+12 dB will be turned **On** when you load an AKAI, AIFF, or WAVE format sample in Disk mode. Note that since it does not affect the sample data itself, this parameter is ignored when exporting to other formats, such as AIFF or WAVE.

Loop Tune [-99...+99]

When you loop a sample, the pitch of the looped portion may sometimes be slightly different from the sustained portion. Use this parameter to compensate for such cases.

This parameter adjusts the playback pitch of the loop over a range of ±99 cents.

Use Zero [Off, On]

On (checked): **Start**, **End** and **Loop Start** can be set these only to locations where the waveform level is ±0 (i.e., "zero-cross" addresses where the waveform crosses the center line of the **Sample waveform display**). (1-1d)

Off (unchecked): **Start**, **End** and **Loop Start** can be set in steps of one unit. This is the normal setting.

Loop Lock [Off, On]

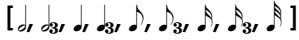
This fixes the length of the loop being edited.

On (checked): This links the **Loop Start** and **End** points. When one of these points is edited, the other will be adjusted automatically to keep the loop length the same. This is convenient when you are creating a rhythm loop to match a specific tempo.

2-1e: Grid

Grid [Off, On]

On: A grid (vertical lines) is superimposed on the sample waveform display. Use **Resolution** and **Tempo** to adjust the grid spacing. For more information, see "1-1e: Grid" on page 644.

Resolution 
Tempo [040.00...480.00]

- 16: **Time Stretch**. For more information, see “Time Stretch” on page 691.
- 17: **Crossfade Loop**. For more information, see “Crossfade Loop” on page 695.

2-1f: ZOOM

ZOOM

This allows you to zoom-in/out in horizontal and vertical directions of the **Sample waveform display** (1-1f).

▼ 2-1: Page Menu Commands

The number before each command shows its ENTER + number-key shortcut. For more information on these shortcuts, see “ENTER + 0-9: shortcuts for menu commands” on page 142.

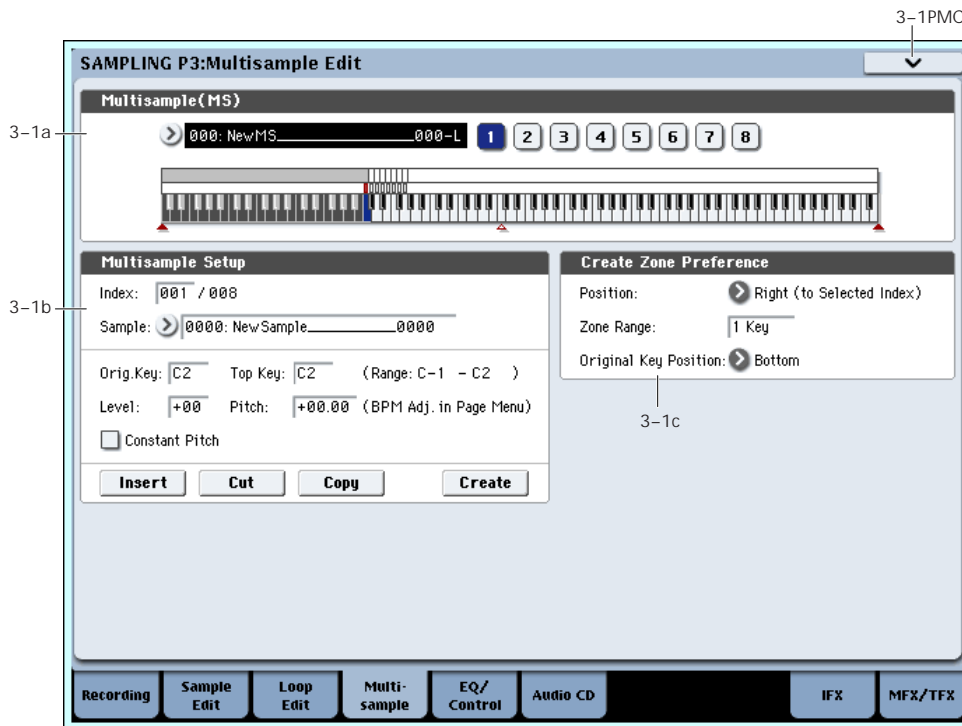
- 0: **Delete Sample**. For more information, see “Delete Sample” on page 672.
- 1: **Copy Sample**. For more information, see “Copy Sample” on page 673.
- 2: **Rename Sample**. For more information, see “Rename Sample” on page 673.
- 3: **Move Sample**. For more information, see “Move Sample” on page 673.
- 4: **Sample Mono To Stereo**. For more information, see “Sample Mono To Stereo (Change Sample Type)” on page 674.
- 5: **Delete MS**. For more information, see “Delete MS (Delete Multisample)” on page 674.
- 6: **Copy MS**. For more information, see “Copy MS (Copy Multisample)” on page 675.
- 7: **Rename MS**. For more information, see “Rename MS (Rename Multisample)” on page 675.
- 8: **Move MS**. For more information, see “Move MS (Move Multisample)” on page 676.
- 9: **Convert MS To Program**. For more information, see “Convert MS (Multisample) To Program” on page 675.
- 10: **MS Mono To Stereo**. This will appear only if the current MS is Mono. For more information, see “MS Mono To Stereo/MS Stereo To Mono (Change Multisample Type)” on page 676.
- 10: **MS Stereo To Mono**. This will appear only if the current MS is Stereo. For more information, see “MS Mono To Stereo/MS Stereo To Mono (Change Multisample Type)” on page 676.
- 11: **Optimize RAM**. For more information, see “Optimize RAM” on page 143.
- 12: **Select Directory**. This applies only when **Save to** is set to **Disk**. For more information, see “Select Directory” on page 144.
- 13: **Auto Sampling Setup**. For more information, see “Auto Sampling Setup” on page 677.
- 14: **Truncate**. For more information, see “Truncate (for Sample Edit)” on page 680.
- 15: **Time Slice**. For more information, see “Time Slice” on page 686.

Sampling P3: Multisample Edit

In this page you can edit multisamples. You can create, delete, copy, and paste indexes, and assign samples to indexes. You can also edit detailed settings such as level and pitch for each index. Here are the main operations you will perform in this page.

- Create and edit multisamples and indexes
- Edit the playback level and pitch of samples
- Delete, copy, and paste indexes

3-1: Multisample Edit



3-1a: Multisample Select (MS)

Multisample Select (MS) [000...999]

Select the multisample that you wish to edit.

Keyboard & Pads

For more information, please see “0-1a: Multisample Select (MS)” on page 625.

3-1b: Multisample Setup

Index [xxx (001...128)/yyy (001...128)]

Selects the index (the sample key zone within the Multisample) that you wish to edit.

You can also select an index by holding down the ENTER switch and playing a note on the keyboard. The index that includes this note will be selected. The selected key will be the base key, and will be displayed in blue in “Keyboard & Pads.”

Sample Select [----: ---No Assign---, 0000...3999]

This indicates the number and name of the sample that is assigned to the selected index. You can also select the sample here. (0-1b)

Stereo

This area will indicate “Stereo” if a stereo multisample or sample is selected, or if you sampled with a setting of Stereo in **Mode** (0-1d).

Original Key [C-1...G9]

Specifies the original key of the sample (0-1b).

Top Key [C-1...G9]

Specifies the highest key in the zone of the index. The zone is defined by this **Top Key** (0-1b).

Range [C-1...G9]

This shows the range of the zone that is determined by the **Top Key** setting. The selected sample data will playback within this area. Zone settings for an index can also be viewed in “Keyboard & Pads” (0-1a).


Level [-99...+99]

Adjusts the playback level of the sample. Use this when you need to adjust the level balance between samples within a multisample.

0: Unity level

-: The level will be lowered.

+: The level will be raised.

 Since in Sampling mode the playback unity level will normally be the maximum level, adjustments in the + direction will have no effect. If Volume (CC#07) or Expression (CC#11) has been assigned to the ASSIGNABLE PEDAL or as the Realtime Modulation knob 5–8 and these controllers have been operated, or if these MIDI messages have been received to lower the playback unity level, then adjustments in the + direction will be valid. (Program, Sample Parameters: Level)

Note: The playback level will also be affected by the **+12 dB** (2–1d) setting. If **+12 dB** is on, the sample will play back approximately +12 dB louder.

Pitch (BPM Adj. In Page Menu) [-64.00...+63.00]

Adjusts the playback pitch of the sample in one-cent steps.

0: The sample will sound at the original pitch when the original key is played.

-: The pitch will be lowered. At a setting of -12.00 the pitch will be one octave lower.

+: The pitch will be raised. At a setting of +12.00 the pitch will be one octave higher.

You can also use **Pitch** to make fine adjustments in the length of a rhythm loop. For example with a setting of +12.00, the playback speed will be doubled, and the loop playback time will be 1/2. (Program, Sample Parameters: Pitch)

Note: The **Pitch BPM Adjust** page menu command lets you set the playback time in terms of a BPM value.


Constant Pitch


On (checked): All notes in the zone of the index will sound at the pitch of the original key. Use this setting when you have sampled a drum sound or a rhythm loop, and want it to always playback at the original pitch.

Off (unchecked): The pitch will change in semitone steps, based on the original key. Use this setting when you have sampled a musical instrument sound etc. and would like to play it conventionally from the keyboard.

Insert

This creates an index. When you press the Insert button, a new index will be created according to the **Position** setting (0–1e, 3–1c). At this time, the contents of the index that was cut or copied by **Cut** or **Copy** (i.e., the **Zone Range**, **Original Key Position**, **Level** and **Pitch**) will be assigned at the same time. (The sample will automatically be copied or assigned to a different number.)

 If it is not possible to create a new index when you execute **Create** or “Insert,” a dialog box will appear. If this occurs, see **Create** (0–1b).

 If you have not yet executed **Cut** or **Copy**, such as immediately after power-on, the new index will be created according to the Create Zone Preference settings (0–1e, 3–1c) **Position**, **Zone Range**, and **Original Key Position**.

Cut

This deletes the selected index. At the same time, the contents of the deleted index are copied to the **Insert** buffer.

Copy

This copies the content of the selected index to the **Insert** buffer.

Create

This creates an index. When you press the Create button, a new index will be created according to the settings of **Position**, **Zone Range**, and **Original Key Position**. (3–1c, 0–1e) (0–1b).

3–1c: Create Zone Preference

Position [Right (to Selected Index), Left (to Selected Index)]

Zone Range [1 Key... 127 Keys]

Original Key Position [Bottom, Center, Top]

Here you can specify the default settings for indices that are created by executing **Create** (3–1b, 0–1b). New indexes will be created according the settings you specify here. You are free to modify the settings of an index later. Also, when you execute **Insert** (3–1b), the **Position** setting specified here will be used. (Create Zone Preference: 0–1e)

▼ 3–1: Page Menu Commands

The number before each command shows its ENTER + number-key shortcut. For more information on these shortcuts, see “ENTER + 0–9: shortcuts for menu commands” on page 142.

- **0: Delete Sample.** For more information, see “Delete Sample” on page 672.
- **1: Copy Sample.** For more information, see “Copy Sample” on page 673.
- **2: Rename Sample.** For more information, see “Rename Sample” on page 673.
- **3: Move Sample.** For more information, see “Move Sample” on page 673.
- **4: Sample Mono To Stereo.** For more information, see “Sample Mono To Stereo (Change Sample Type)” on page 674.
- **5: Delete MS.** For more information, see “Delete MS (Delete Multisample)” on page 674.
- **6: Copy MS.** For more information, see “Copy MS (Copy Multisample)” on page 675.
- **7: Rename MS.** For more information, see “Rename MS (Rename Multisample)” on page 675.
- **8: Move MS.** For more information, see “Move MS (Move Multisample)” on page 676.
- **9: Convert MS To Program.** For more information, see “Convert MS (Multisample) To Program” on page 675.
- **10: MS Mono To Stereo.** This will appear only if the current MS is Mono. For more information, see

“MS Mono To Stereo/MS Stereo To Mono (Change Multisample Type)” on page 676.

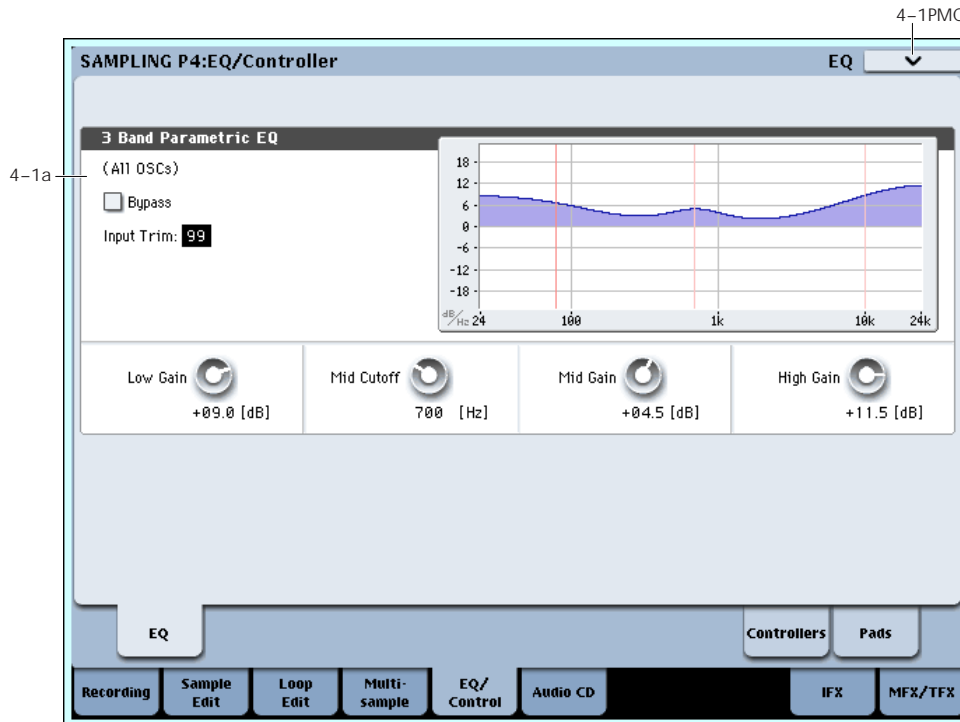
- 10: **MS Stereo To Mono**. This will appear only if the current MS is Stereo. For more information, see “MS Mono To Stereo/MS Stereo To Mono (Change Multisample Type)” on page 676.
- 11: **Optimize RAM**. For more information, see “Optimize RAM” on page 143.
- 12: **Select Directory**. This applies only when **Save to** is set to **Disk**. For more information, see “Select Directory” on page 144.
- 13: **Auto Sampling Setup**. For more information, see “Auto Sampling Setup” on page 677.
- 14: **Pitch BPM Adjust**. For more information, see “Pitch BPM Adjust” on page 696.

Sampling P4: EQ/Controller

In this page you can edit a mid-sweepable three-band EQ that is applied to the output of the multisample.

You can also assign the functions of the SW1 and SW2 switches and Modulation 5–8 knobs, and the note number and velocity that are produced by pads 1–8.

4–1: EQ



Here you can edit the mid-sweepable three-band EQ that is applied to the output of the multisample.

4–1a: 3 Band Parametric EQ

In addition to editing these parameters in the screen, you can use the control surface to edit all EQ parameters other than “Bypass.” These can also be controlled from the mixer section of the front panel, or from the P0– Control Surface page of the LCD screen. Here’s the procedure for editing these settings from the front panel.

1. Press the CONTROL ASSIGN MIXER TIMBRE/TRACK switch to make 1–8 light.
2. Press the MIXER KNOBS switch to make CHANNEL STRIP light.
3. Use the MIX CHANNEL STRIP knobs 2–6 to control “EQ TRIM,” “LOW EQ,” “MID FREQ,” “MID EQ,” and “HIGH EQ.”

(All OSCs)

Bypass [Off, On]

When Bypass is checked, all of the EQ will be disabled, including the Input Trim.

Bypass can be convenient for comparing the results of the EQ with the original signal.

Input Trim [00...99]

This adjusts the level of the signal going into the EQ. A setting of 50 corresponds to –6 dB, and a setting of 25 corresponds to –12 dB.

High settings of the Low, Mid, and High Gain controls can cause substantial increases in the overall level. You can compensate for this by turning down the input trim.

(Freq Response Graphic)

Low Gain [–18.0...+00.0...+18.0dB]

This controls the gain of the 80Hz Low Shelf EQ, in increments of 0.5dB.

Mid Frequency
[100...500 (10Hz step) ... 1.0k (20Hz step) ...
2.0k (50Hz step) ... 10.0k (100Hz step)]

This sets the center frequency for the Mid sweep EQ.

Mid Gain [–18.0...+00.0...+18.0dB]

This controls the gain of the Mid Sweep EQ, in increments of 0.5dB.

High Gain [–18.0...+00.0...+18.0dB]

This controls the gain of the 10kHz High Shelf EQ, in increments of 0.5dB.

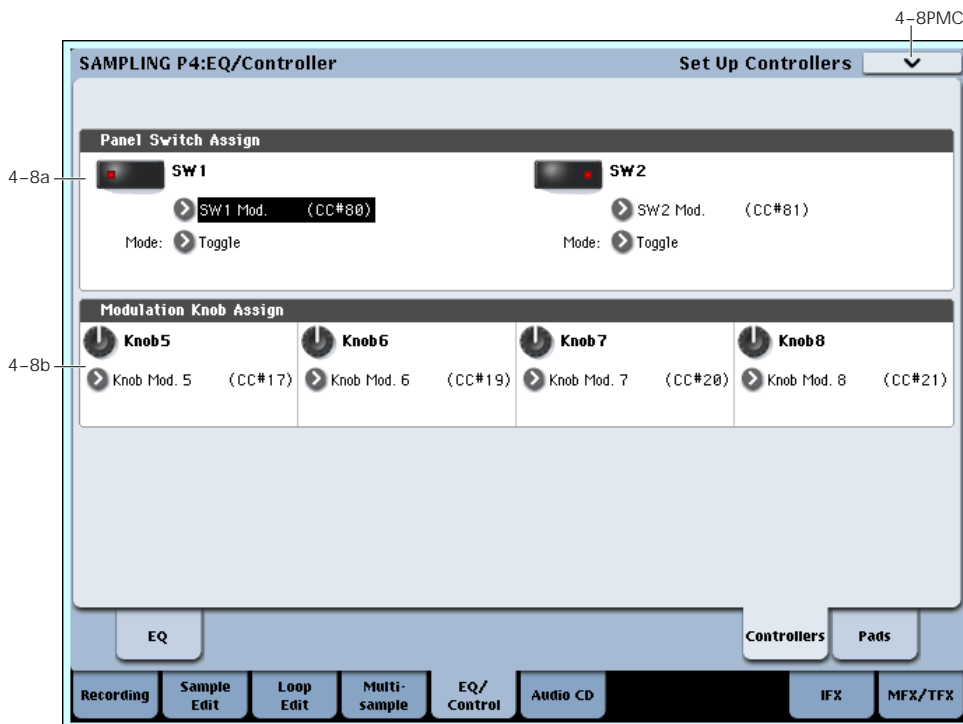
▼ 4-1: Page Menu Commands

The number before each command shows its ENTER + number-key shortcut. For more information on these shortcuts, see “ENTER + 0-9: shortcuts for menu commands” on page 142.


- 0: **Delete Sample.** For more information, see “Delete Sample” on page 672.
- 1: **Copy Sample.** For more information, see “Copy Sample” on page 673.
- 2: **Rename Sample.** For more information, see “Rename Sample” on page 673.
- 3: **Move Sample.** For more information, see “Move Sample” on page 673.
- 4: **Sample Mono To Stereo.** For more information, see “Sample Mono To Stereo (Change Sample Type)” on page 674.
- 5: **Delete MS.** For more information, see “Delete MS (Delete Multisample)” on page 674.
- 6: **Copy MS.** For more information, see “Copy MS (Copy Multisample)” on page 675.

- 7: **Rename MS.** For more information, see “Rename MS (Rename Multisample)” on page 675.
- 8: **Move MS.** For more information, see “Move MS (Move Multisample)” on page 676.
- 9: **Convert MS To Program.** For more information, see “Convert MS (Multisample) To Program” on page 675.
- 10: **MS Mono To Stereo.** This will appear only if the current MS is Mono. For more information, see “MS Mono To Stereo/MS Stereo To Mono (Change Multisample Type)” on page 676.
- 10: **MS Stereo To Mono.** This will appear only if the current MS is Stereo. For more information, see “MS Mono To Stereo/MS Stereo To Mono (Change Multisample Type)” on page 676.
- 11: **Optimize RAM.** For more information, see “Optimize RAM” on page 143.
- 12: **Select Directory.** This applies only when **Save to** is set to **Disk**. For more information, see “Select Directory” on page 144.
- 13: **Auto Sampling Setup.** For more information, see “Auto Sampling Setup” on page 677.

4-8: Set Up Controllers



Specifies the functions that the SW1 switch, SW2 switch, and the Realtime Modulation knobs 5-8 will have in Sampling mode.

 In Sampling mode, it is not possible to use AMS to control program parameters.

4-8a: Panel Switch Assign

Assigns the functions of the SW1 and SW2 switches. For details on the functions that you can assign, see “SW1/2 Assignments” on page 1033.

SW1 [Off, ..., After Touch Lock]

Assigns the function of the SW1 switch. The on/off status is also saved. When you change the assignment, the status is reset to off.

Mode [Toggle, Momentary]

Specifies how on/off operation will occur when you press the SW1 switch.

Toggle: On/off will alternate each time you press the SW1 switch.

Momentary: The assigned function will be on only while you hold down the SW1 switch.

SW2 [Off, ..., After Touch Lock]

Mode [Toggle, Momentary]

Assigns the function of the SW2 switch. The functions that can be assigned to SW2 are the same as for SW1 except that SW2 Mod.:CC#81 replaces SW1 Mod.:CC#80. The rest is the same as for the SW1 switch.

4–8b: Modulation Knob Assign

These settings assign the functions of realtime modulation knobs 5–8. Most of the assignable functions are types of control change. For details, see “Realtime Knobs 5–8 Assignments” on page 1034.

The functions you assign here will be controlled when you operate realtime modulation knobs 5–8.

Knob 5 [Off, ..., MIDI CC#119]

Knob 6 [Off, ..., MIDI CC#119]

Knob 7 [Off, ..., MIDI CC#119]

Knob 8 [Off, ..., MIDI CC#119]

These controllers can be used to make realtime changes in effect dynamic modulation functions etc. while you sample.

Example settings)

In this example, we’ll use realtime modulation knob 5 to control the “Wet/Dry” parameter of the 079: Stereo/Cross Delay assigned to IFX1, and use knob 6 to control the post-IFX “Pan.” Then we’ll sample an audio signal from an external source while controlling these parameters in realtime.

1. Set “Bus Select (IFX/Indiv.)” (0–8a) to IFX1.
2. Select 079: Stereo/Cross Delay for “IFX1.”
3. Set the IFX1 page “Wet/Dry” setting to Dry, “Source” to Knob Mod.5[+], and “Amt” to +50.
4. In the Modulation Knob Assign area, assign “Knob5” to Knob Mod.5 (CC#17) and “Knob6” to Post IFX Pan (CC#08).
5. Rotate knob 5, 6 and the panning of the delay level and the delay will change. You can sample the sound while you modify it.

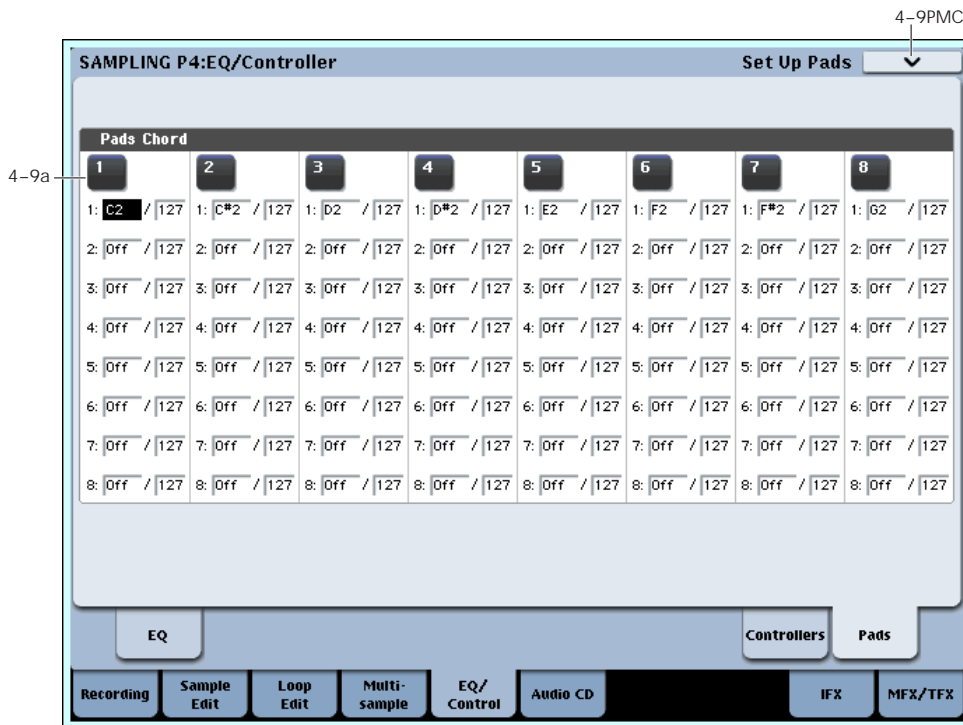
▼ 4–8: Page Menu Commands

The number before each command shows its ENTER + number-key shortcut. For more information on these shortcuts, see “ENTER + 0-9: shortcuts for menu commands” on page 142.

- 0: **Delete Sample.** For more information, see “Delete Sample” on page 672.

- 1: **Copy Sample.** For more information, see “Copy Sample” on page 673.
- 2: **Rename Sample.** For more information, see “Rename Sample” on page 673.
- 3: **Move Sample.** For more information, see “Move Sample” on page 673.
- 4: **Sample Mono To Stereo.** For more information, see “Sample Mono To Stereo (Change Sample Type)” on page 674.
- 5: **Delete MS.** For more information, see “Delete MS (Delete Multisample)” on page 674.
- 6: **Copy MS.** For more information, see “Copy MS (Copy Multisample)” on page 675.
- 7: **Rename MS.** For more information, see “Rename MS (Rename Multisample)” on page 675.
- 8: **Move MS.** For more information, see “Move MS (Move Multisample)” on page 676.
- 9: **Convert MS To Program.** For more information, see “Convert MS (Multisample) To Program” on page 675.
- 10: **MS Mono To Stereo.** This will appear only if the current MS is Mono. For more information, see “MS Mono To Stereo/MS Stereo To Mono (Change Multisample Type)” on page 676.
- 10: **MS Stereo To Mono.** This will appear only if the current MS is Stereo. For more information, see “MS Mono To Stereo/MS Stereo To Mono (Change Multisample Type)” on page 676.
- 11: **Optimize RAM.** For more information, see “Optimize RAM” on page 143.
- 12: **Select Directory.** This applies only when **Save to** is set to **Disk**. For more information, see “Select Directory” on page 144.
- 13: **Auto Sampling Setup.** For more information, see “Auto Sampling Setup” on page 677.

4-9: Set Up Pads



Here you can specify the note numbers (and their velocities) that will be produced by pads 1-8 in Sampling mode. You can assign up to eight note numbers (and their velocities) to each pad.

4-9a: Pads 1

1	[Off, C-1...G9 / 001...127]
2	[Off, C-1...G9 / 001...127]
3	[Off, C-1...G9 / 001...127]
4	[Off, C-1...G9 / 001...127]
5	[Off, C-1...G9 / 001...127]
6	[Off, C-1...G9 / 001...127]
7	[Off, C-1...G9 / 001...127]
8	[Off, C-1...G9 / 001...127]

Off: Choose this if you don't want the pad to play a note.

C-1...G9: Specify the note number you want to play.

001...127: Specify the velocity value.

For details on these settings and how to use the pads, see "1-9: Pads."

4-9b: Pads 2...8

The parameters are identical to those for Pads 1, as described under "4-9a: Pads 1" on page 655.

▼ 4-9: Page Menu Commands

The number before each command shows its ENTER + number-key shortcut. For more information on these shortcuts, see "ENTER + 0-9: shortcuts for menu commands" on page 142.

- 0: **Delete Sample.** For more information, see "Delete Sample" on page 672.
- 1: **Copy Sample.** For more information, see "Copy Sample" on page 673.
- 2: **Rename Sample.** For more information, see "Rename Sample" on page 673.
- 3: **Move Sample.** For more information, see "Move Sample" on page 673.
- 4: **Sample Mono To Stereo.** For more information, see "Sample Mono To Stereo (Change Sample Type)" on page 674.
- 5: **Delete MS.** For more information, see "Delete MS (Delete Multisample)" on page 674.
- 6: **Copy MS.** For more information, see "Copy MS (Copy Multisample)" on page 675.
- 7: **Rename MS.** For more information, see "Rename MS (Rename Multisample)" on page 675.
- 8: **Move MS.** For more information, see "Move MS (Move Multisample)" on page 676.
- 9: **Convert MS To Program.** For more information, see "Convert MS (Multisample) To Program" on page 675.
- 10: **MS Mono To Stereo.** This will appear only if the current MS is Mono. For more information, see "MS Mono To Stereo/MS Stereo To Mono (Change Multisample Type)" on page 676.

- 10: **MS Stereo To Mono**. This will appear only if the current MS is Stereo. For more information, see “MS Mono To Stereo/MS Stereo To Mono (Change Multisample Type)” on page 676.
- 11: **Optimize RAM**. For more information, see “Optimize RAM” on page 143.
- 12: **Select Directory**. This applies only when **Save to** is set to **Disk**. For more information, see “Select Directory” on page 144.
- 13: **Auto Sampling Setup**. For more information, see “Auto Sampling Setup” on page 677.

Sampling P5: Audio CD

You can use the internal CD-R/RW drive, or a USB-connected CD-R/RW drive, to sample directly from an audio CD.

You can even send the live audio from the CD through Insert or Master Effects, to the REC and FX Control Buses, and control pan and level separately for the left and right channels, just as you can with the audio inputs. For more information, see the diagram “Audio input/output” on page 628.

The sampling procedure is essentially the same as when sampling from the audio inputs. Normally, you will set the CD-R/RW Drive Audio Input **Bus Select (IFX/Indiv.)** to L/R (or IFX1-12 if you want to apply an insert effect), and set **Source Bus** to L/R (0-8c).

When ripping, the audio signal from the audio CD is sampled while it's still in digital form.

Use the **Destination** page menu command to execute ripping. See “Destination (Audio CD Ripping)” on page 696.

- ⚠ Ripping may not be supported by some external CD-R/RW drives, such as drives that do not support reading of CD-DA data. In such cases, you'll see the message “Error in reading from medium.”

- ⚠ Be aware that if you play the keyboard or controllers while the CD-R/RW drive is operating, the vibration may cause data skips or read errors, making it impossible to play the CD successfully.

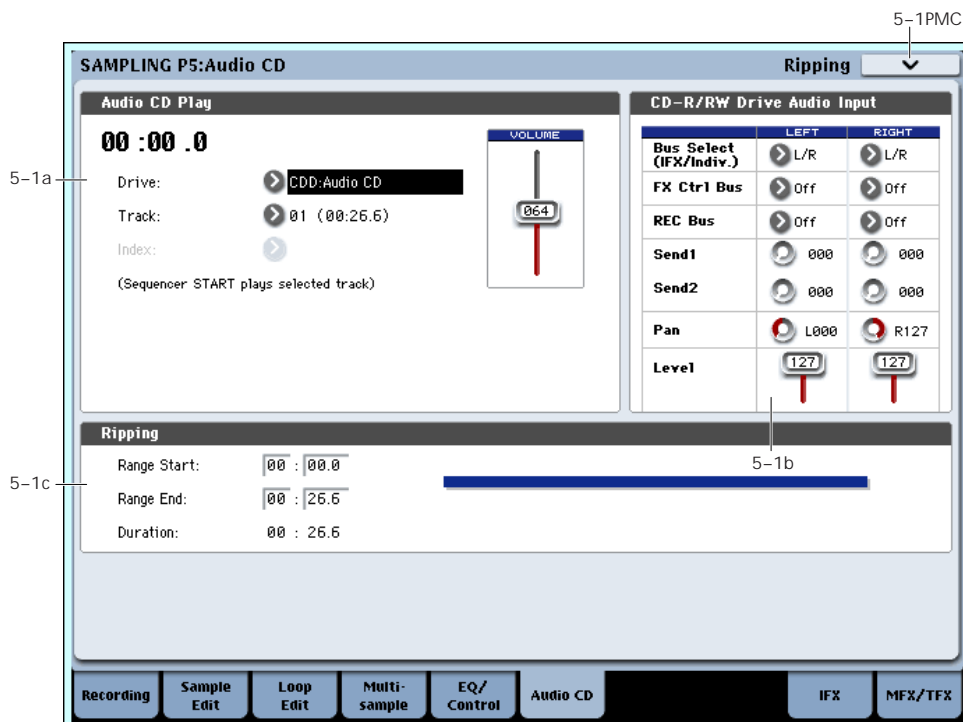
Use the SEQUENCER buttons to play the CD

While you're on the Audio CD page, you can use the SEQUENCER buttons to control the CD, as described below.

(Seq) START/STOP	Play/Stop
FF>>	Fast-forward
<<REW	Rewind
PAUSE	Pause
LOCATE	Return to the beginning of the track

If the cursor is located at **Range Start** or **Range End**, only the range between the two points will be played back.

5-1: Audio CD



5-1a: Audio CD Play

Location [(00:00.0...)]

Indicates the current location within the selected **Track**. When stopped, this indicates the location at which playback will begin. If you re-select **Track** or **Index**, the **Location** will be reset to 00:00.0.

Drive

[CDD: Name]

Selects the CD-R/RW drive to use. If you have multiple CD-R/RW drives connected, select the one that contains the audio CD that you want to use.

- ⚠ Drives other than a CD-R/RW drive cannot be selected here.

Track [01...]

Selects the track of the audio CD that you want to play or sampling.

Index [01...]

Selects the index of the audio CD that you want to play or sampling.

This can be selected only if you have selected a track that contains index data.

In the case of some CD-R/RW drives, index information cannot be obtained.

Volume [0...127]

Adjusts the volume of the audio signal that is output from the CD-R/RW drive.

Some CD-R/RW drives do not support this, meaning that this adjustment may not affect the volume.

5-1b: CD-R/RW Drive Audio Input

This specifies the output destination for the signal from an audio CD played back on the internal CD-R/RW drive or a USB-connected CD-R/RW drive. Make settings for the L and R channels.

Note: The CD-R/RW Drive Audio Input settings are linked with the Disk mode "1-2b: CD-R/RW Drive Audio Input" settings.

LEFT

RIGHT

Bus Select (IFX/Indiv.) [L/R, IFX1...12, 1...8, 1/2...7/8, Off]

This specifies the main bus for the CD-R/RW's audio output.

L/R: The CD-R/RW's audio will be sent to the L/R bus. This is the default setting, and allows you to hear the CD using the headphone and/or the main outputs.

IFX1...12: The CD-R/RW's audio will be sent to the IFX1-12 bus. Choose one of these settings if you want to apply an insert effect.

1...8: The CD-R/RW's audio will be sent to the specified INDIVIDUAL OUTPUT in monaural. The **Pan** setting will be ignored.

1/2...7/8: The CD-R/RW's audio will be sent in stereo (including the effect of the **Pan** control) to the specified pair of INDIVIDUAL OUTPUTs.

Off: The CD-R/RW's audio will not be routed directly to the outputs or Insert Effects. However, it may still be routed to an FX Control Bus or REC Bus.

FX Ctrl Bus (FX Control Bus) [Off, 1, 2]

This sends the audio signal from the CD-R/RW drive to the FX Control buses (two stereo channels; FX Ctrl1, 2). For more information, see "FX Control Bus" on page 632.

REC Bus [Off, 1...4, 1/2, 3/4]

This sends the audio signal from the CD-R/RW drive to the REC buses (four mono channels 1...4). If you want to use the REC buses for sampling, set **Source Bus** (0-8c) to REC 1/2 or REC 3/4.

The REC buses are used to sample in each mode, and to record audio tracks in Sequencer mode. They are dedicated buses for recording.

Off: The audio signal will not be sent to the REC bus. Normally you will use the Off setting.

1...4: The audio signal from the CD-R/RW drive will be sent to the corresponding REC bus. The **Pan** setting will be ignored, and the signal will be sent in monaural.

1/2, 3/4: The audio signal from the CD-R/RW drive will be sent to the corresponding REC buses. The signal will be sent via the **Pan** setting to buses 1 and 2 or 3 and 4 in stereo.

Send1 (to MFX1) [000...127]

Send2 (to MFX2) [000...127]

These specify the level at which the audio signal from the CD-R/RW drive is sent to the master effects.

Send1 (to MFX1): Send the signal to master effect 1.

Send2 (to MFX2): Send the signal to master effect 2.

If **Bus Select (IFX/Indiv.)** is set to IFX1-12, the send levels to the master effects are set by the post-IFX1-12 **Send1** and **Send2** (8-5a).

Pan [L000...C064...R127]

This specifies the panning of the audio signal from the CD-R/RW drive. Normally you will set Left and Right to L000 and R127 respectively.

Level [000...127]

This specifies the level of the audio signal sent from the CD-R/RW drive. Normally you will set this to 127.

5-1c: Ripping

Makes settings for ripping data from a CD.

If the cursor is located at **Range Start** or **Range End**, CD playback will occur from **Range Start** to **Range End**.

Ripping is executed in the page menu command **Destination**.

Range Start [00:00.0...]

Specify the starting location of the data that will be ripped.

When you re-select **Track** or **Index**, this will be reset to 00:00.0.

Note: If the **Range Start** or **Range End** edit cell is highlighted, you can press the ENTER switch during playback to set **Range Start** or **Range End** to the timing location at that moment. If you press the ENTER switch more than once, the location of the last press will be used.

If an edit cell other than **Range Start** or **Range End** is highlighted, pressing the ENTER switch once will specify the "Range Start," and press it once again will

specify the **Range End**. If you press the ENTER switch three or more times, the **Range Start** and **Range End** will be set to the locations of the last press and the last-but-one press.

Range End [00:00.0...]

Specifies the ending location of the data that will be ripped.

When you re-select **Track** or **Index**, this will be reset to the ending time of the selected track or index.

Duration [00:00.0...]

Displays the length of time between **Range Start** and **Range End**.

Range Graphic

This graphic shows the selected range within the current Track and Index, as set by the **Range Start** and **Range End** parameters.

▼ 5-1: Page Menu Commands

The number before each command shows its ENTER + number-key shortcut. For more information on these shortcuts, see “ENTER + 0-9: shortcuts for menu commands” on page 142.

- 0: **Destination**. For more information, see “Destination (Audio CD Ripping)” on page 696.

Sampling P8: Insert Effect

Here you can make insert effect settings for use in Sampling mode.

If you want to apply an insert effect IFX1–12 to the external audio signal while you sample it, choose IFX1–12 as the **Bus Select (IFX/Indiv.)** (0–8a) parameter for Input1–4 or S/P DIF L,R, and adjust the parameters of the insert effect.


If you want to apply effects to a previously-sampled sample or a sample you loaded, and resample the result, set the P8: Insert Effect page “Bus Select (All OSCs to)” (8–1b) parameter to IFX1–12, and adjust the effect settings. (“Resample” 0–8c)

For instance, you can:

- Send the output of a multisample to an insert effect
- Route a sound to an insert effect

- Make detailed settings for insert effects
- Make common LFO settings for effects

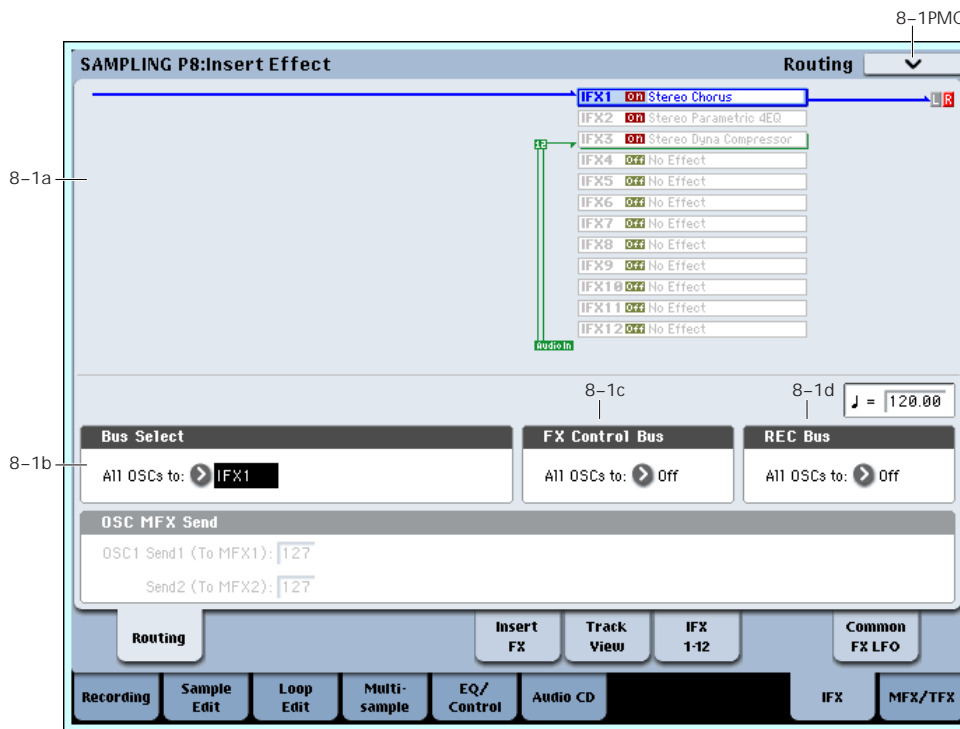
For details on insertion effects, see “Effect Guide” on page 787.

 Insert effect settings for sampling mode will revert to the default settings when the power is turned off.

Use “Copy Insert Effect” if you want to keep your insert effect settings. Select a program or combination, copy the insert effect settings of Sampling mode, and save them. Write the program or combination to save it in internal memory. Then in Sampling mode, use “Copy Insert Effect” to load the effect settings from the program or combination so that they can be used in Sampling mode.

You can also use the “Save to User Preset” menu command to save effects individually.

8–1: Routing



8–1a: Routing Map

Routing Map

This displays the status of the insert effect settings.

This indicates the input buses being sent to the insert effects, the effects that are assigned, their on/off status, chaining, and the output bus that follows the insert effect.

Use the P8- Insert FX page to select insert effects, turn them on/off, and make chain settings.

8–1b: Bus Select

Bus Select (IFX/Indiv.Out Assign) (All OSCs to) [L/R, IFX1...12, 1...8, 1/2...7/8, Off]

Selects the bus.

If you want to apply an effect to a sample (multisample) that you sampled or loaded, select IFX1–12. (“Resample” 0–8c)

Note: After you resample, L/R will automatically be selected as the “Bus Select (All OSCs to)” setting. These settings are made automatically so that the effect will not be applied again (i.e., a second time) when you play back the sample that was resampled with the IFX.

(In the same way, the on/off settings for MFX1, 2 and TFX1, 2 will also be turned off.) Be aware of this if you want to sample once again.

8-1c: FX Control Bus

FX Control Bus [Off, 1, 2]

This sends the output of the oscillator (multisample) to a FX Control bus (stereo 2-channel; FX Ctrl1, 2)

Use the FX Control buses when you want to use a separate sound to control the input of an effect. You can use the two (stereo 2-channel) buses to control effects freely.

For more information, please see “FX Control Bus” on page 632.

8-1d: REC Bus

REC Bus (All OSCs to) [Off, 1...4, 1/2, 3/4]

This sends the output of the oscillator (multisample) to the REC buses (four mono channels; 1...4). If you want to resample from the REC buses, set **Source Bus** to REC1/2 or REC3/4.

The REC buses are used to sample in each mode, and to record audio tracks in Sequencer mode. They are dedicated buses for recording.

Off: The oscillator output will not be sent to the REC buses. Normally you will leave this Off.

1...4: The oscillator output will be sent in monaural to the corresponding REC bus.

1/2, 3/4: The oscillator output will be sent in stereo to the corresponding pair of REC buses.

8-1e: OSC MFX Send

Send1 (to MFX1) [000...127]

Send2 (to MFX1) [000...127]

This sets the send levels at which the output of the oscillator (multisample) is sent to the master effects. The master effects are sent to the L/R bus. Set the Source Bus to L/R if you want to use master effects while resampling.

MIDI You can use CC#93 to control the Send 1 level and CC#91 to control the Send 2 level. The global MIDI channel specified by **MIDI Channel** (Global 1-1a) is used for these messages.

8-1f: Tempo

♪ (Tempo) [040.00...240.00, EXT]

This is the Global tempo, as used for controlling effects, etc.

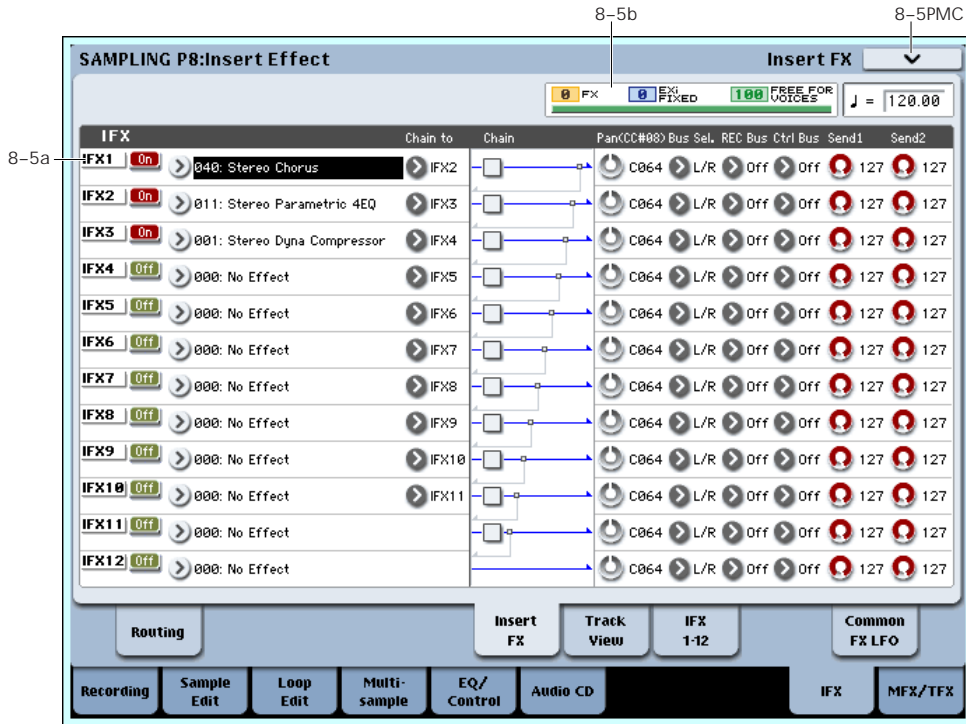
▼ 8-1: Page Menu Commands

The number before each command shows its ENTER + number-key shortcut. For more information on these shortcuts, see “ENTER + 0-9: shortcuts for menu commands” on page 142.

- **0: Copy Insert Effect.** For more information, see “Copy Insert Effect” on page 153.
- **1: Swap Insert Effect.** For more information, see “Swap Insert Effect” on page 154.

For more information, please see “Sampling: Page Menu Commands” on page 672.

8-5: Insert FX



In this page you can select the effect types for the insert effects, turn them on/off, and make chaining settings.

8-5a: IFX

Here you can select the type of effect for each insert effect 1-12, turn it on/off, make chaining settings, and make post-IFX mixer settings. For insert effects, the direct (Dry) sound is always stereo-in/out. The configuration of the effect sound (Wet) will depend on the type of effect.

IFX 1

IFX 1 [000...185]

This selects the effect type for insert effect 1.

Category/IFX Select menu

When you press the popup button, the Category/IFX Select menu will appear, letting you select effects by category. Use the tabs to select a category, and then select an effect within that category. Press the OK button to execute your selection, or press the Cancel button to cancel.

IFX 1 On/Off [Off, On]



Switches the insert effect on/off.

If this is off, the input will simply be passed to the output. (Turning on 000:No Effect is the same as the Off setting.)

The setting will alternate between on and off each time you press this.

MIDI Separately from this setting, you can use control change #92 to turn all insert effects off. A value of 0 turns them off, and values of 1-127 restore the original setting. The global MIDI channel specified by **MIDI Channel** is used for this message.

Chain to [IFX2...IFX12]

You can chain up to twelve insert effects together in series, to create more complex effects. Set up the chain using this parameter, and then enable it using the **Chain** check box, below.

Effects must be chained in ascending numeric order. For example, IFX1 can be chained to any of IFX2 through IFX12, and IFX2 can be chained to IFX3 through IFX12.

You can chain two or more effects into the same downstream effect. For instance, both IFX1 and IFX2 can be chained to IFX6.

Effects can also join a chain in the middle. For instance, you can chain IFX3 to IFX4 to IFX9, and then chain IFX2 to IFX9 as well.

The **Pan (CC#8)**, **Bus Select**, **REC Bus**, and **Send1/2** settings apply only to the last effect in the chain. However, any effect in the chain can be sent to the FX Control buses.

Chain [Off, On]

This enables the chain, as set up by the **Chain to** parameter, above.

Pan (CC#8) (Post IFX PanCC#8)
[L000...C064...R127]

Specifies the panning immediately after the insert effect.

MIDI You can use CC#8 to control this.

Bus Sel. (Bus Select) [L/R, 1...8, 1/2...7/8, Off]

Specifies the bus to which the signal will be sent immediately after the insert effect.

L/R: The signal will be output to the L/R bus. Then after passing through TFX1 and TFX2, it will be output to AUDIO OUTPUT L/R. This is the normal setting.

1...8: The signal will be output in monaural to the selected AUDIO OUTPUT (INDIVIDUAL).

1/2...7/8: The signal will be panned by the “Pan (CC#8)” setting and sent in stereo to the selected AUDIO OUTPUT (INDIVIDUAL) pair.

Off: The signal will not be sent directly to the L/R or Individual buses. Use this setting if you want to apply **Send1** and **Send2** and then send the signal directly to the master effects.

FX Control Bus [Off, 1, 2]

Sends the post-IFX signal to the FX Control buses. See “8-1d: REC Bus” on page 661.

REC Bus [Off, 1...4, 1/2, 3/4]

Sends the post-IFX signal to the REC buses. See “8-1d: REC Bus” on page 661. If you want to resample via the REC buses, set **Source Bus** (0-8c) to REC 1/2 or REC 3/4.

Send1 [000...127]

Send2 [000...127]

These adjust the level at which the post-IFX signal is sent to master effects 1 and 2. This is valid if **Bus Select** (8-5a) is set to L/R or Off.

MIDI You can use CC#93 to control the Send 1 level, and CC#91 to control the Send 2 level. The global MIDI channel specified by **MIDI Channel** is used for these messages.

IFX2...12

Here you can specify each insert effect’s effect type, on/off status, chaining, and mixer settings following the insert effect. With the exception of **Chain to** and **Chain**, the parameters are the same as for IFX1. See “IFX1” on page 662.

IFX2: Chain to [IFX3...IFX12]

IFX3: Chain to [IFX4...IFX12]

IFX4: Chain to [IFX5...IFX12]

IFX5: Chain to [IFX6...IFX12]

IFX6: Chain to [IFX7...IFX12]

IFX7: Chain to [IFX8...IFX12]

IFX8: Chain to [IFX9...IFX12]

IFX9: Chain to [IFX10...IFX12]

IFX10: Chain to [IFX11...IFX12]

IFX11: Chain to [(IFX12)]

These specify the chain destination for each insert effect. If **Chain** (check box) is on, the insert effect will be connected in series to the IFX specified by the **Chain to** setting.

8-5b: Resource Meter and Tempo

FX

EXi FIXED

FREE FOR VOICES

The number of voices you can play is affected by how effects and EXi are being used. This meter shows the resource allocation as an approximate percentage (%) of the total processing power.

For more information, see “CX-3 & STR-1: Limitations on EXi fixed resources” on page 382, and “About effects resources” on page 787.

♪ (Tempo) [040.00...240.00, EXT]

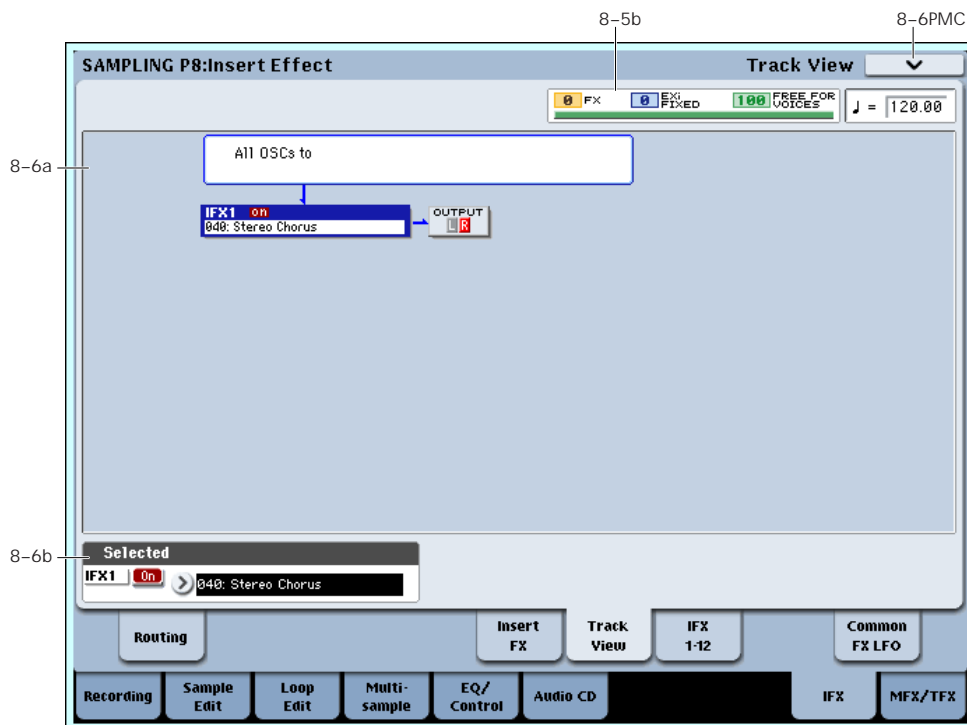
This specifies the tempo. This setting is used for controlling effects, etc.

▼ 8-5: Page Menu Commands

The number before each command shows its ENTER + number-key shortcut. For more information on these shortcuts, see “ENTER + 0-9: shortcuts for menu commands” on page 142.

- 0: **Copy Insert Effect**. For more information, see “Copy Insert Effect” on page 153.
- 1: **Swap Insert Effect**. For more information, see “Swap Insert Effect” on page 154.
- 2: **Insert IFX Slot**. For more information, see “Insert IFX Slot” on page 154.
- 3: **Cut IFX Slot**. For more information, see “Cut IFX Slot” on page 155.
- 4: **Clean Up IFX Routings**. For more information, see “Clean Up IFX Routings” on page 156.

8-6: Track View



- 4: **Clean Up IFX Routings.** For more information, see “Clean Up IFX Routings” on page 156.

8-6a: Track View

This shows the oscillator output and insert effect routing.

The selected slot is shown in dark blue. In the “Selected” area below, you can specify the “Effect Type” and “On/Off” status. The “Insert IFX Slot” and “Cut IFX Slot” page menu commands will apply to the slot you select here.

If you move from this page to the P8-IFX1-12 page, the IFX you choose here will be selected.

8-6b: Selected

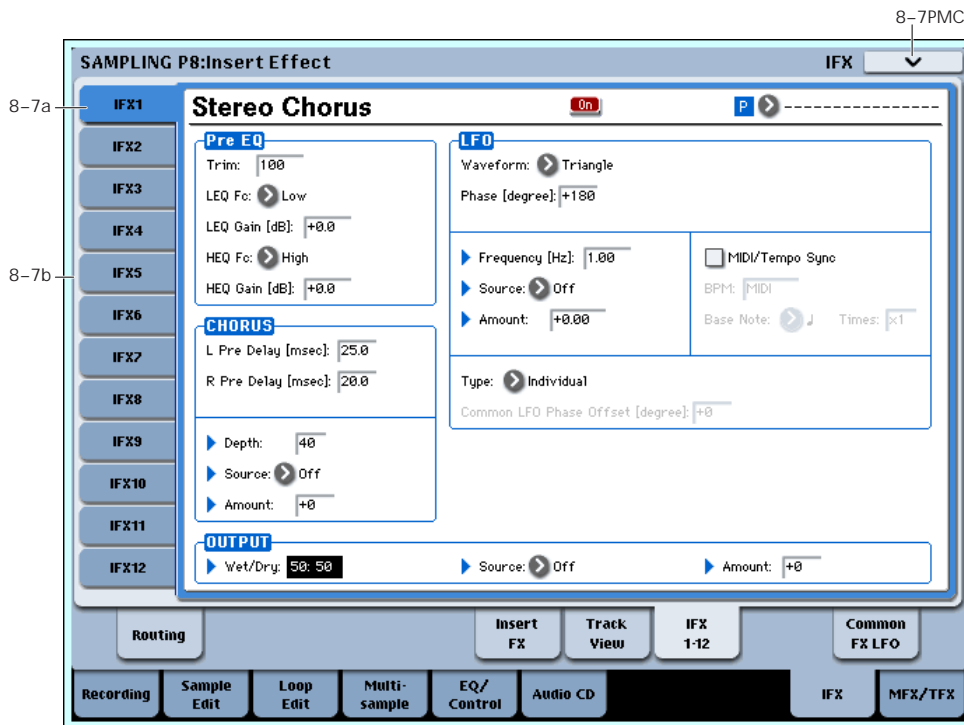
Here you can specify the “Effect Type” and “On/Off” status of the insert effect slot selected by Track Select. See “8-6a: Track View,” above.

▼ 8-6: Page Menu Commands

The number before each command shows its ENTER + number-key shortcut. For more information on these shortcuts, see “ENTER + 0-9: shortcuts for menu commands” on page 142.

- 0: **Copy Insert Effect.** For more information, see “Copy Insert Effect” on page 153.
- 1: **Swap Insert Effect.** For more information, see “Swap Insert Effect” on page 154.
- 2: **Insert IFX Slot.** For more information, see “Insert IFX Slot” on page 154.
- 3: **Cut IFX Slot.** For more information, see “Cut IFX Slot” on page 155.

8-7: IFX 1-12



This page lets you edit the detailed parameters of the twelve insert effects. Use the tabs at left to select IFX1 through IFX12.

To select different effects types, use the Insert FX or Track View pages. For more information, see “8-5: Insert FX” on page 662 and “8-6: Track View” on page 664.

Note that edits to effects parameters are automatically stored with the Program—you don’t need to store them as an Effect Preset. Presets just make it easier to re-use your favorite settings.

For instance, you can save an Effect Preset while working on a particular Program, and then later use the same Effect Preset in a different Program, Combi, or Song.

P00: Initial Set: These are the default settings that are recalled when you select an effect type in the Insert FX page. You can’t save your own settings here.

P01...P15: These contain preset data that Korg plans to provide in the future. We recommend that you store your settings in U00-U15.

U00...U15: These are areas in which you can store your own settings.

-----: This shows that no Effect Preset has been selected. You’ll see this if you’ve just selected an effect, written a program, or selected a new Program. Selecting this setting from the menu will not have any effect.

Note: Programs save the effects parameter settings, but they don’t save the number of the selected Effect Preset. If you select an Effect Preset, and then save the Program, the Effect Preset setting will revert to “-----.”

For more details, see “Using Effect Presets” on page 135.

IFX1 Parameters

Here you can edit the parameters of the insert effect selected in the Insert FX page.

For details on the insert effects, please see the “Effect Guide,” beginning on page 787.

8-7a: IFX1

MIDI Effect dynamic modulation (Dmod) is controlled on the global MIDI Channel (Global 1-1a).

IFX1 On/Off [Off, On]



This turns the insert effect on/off. It is linked with the on/off setting in the Insert FX page.

P (Effect Preset) [P00, P01...15, U00...15, -----]



Effect Presets let you easily store and recall all of the settings for an individual effect. You can store up to 16 user presets for each effect type, in addition to 15 re-writable factory presets.

The same presets appear in all of the modes (Program, Combi, Sequence, and Sampling), and sets of presets can be saved to and loaded from disk.

8-7b: IFX2...12

Here you can edit the parameters of the insert effects selected in the P8- Insert FX page.

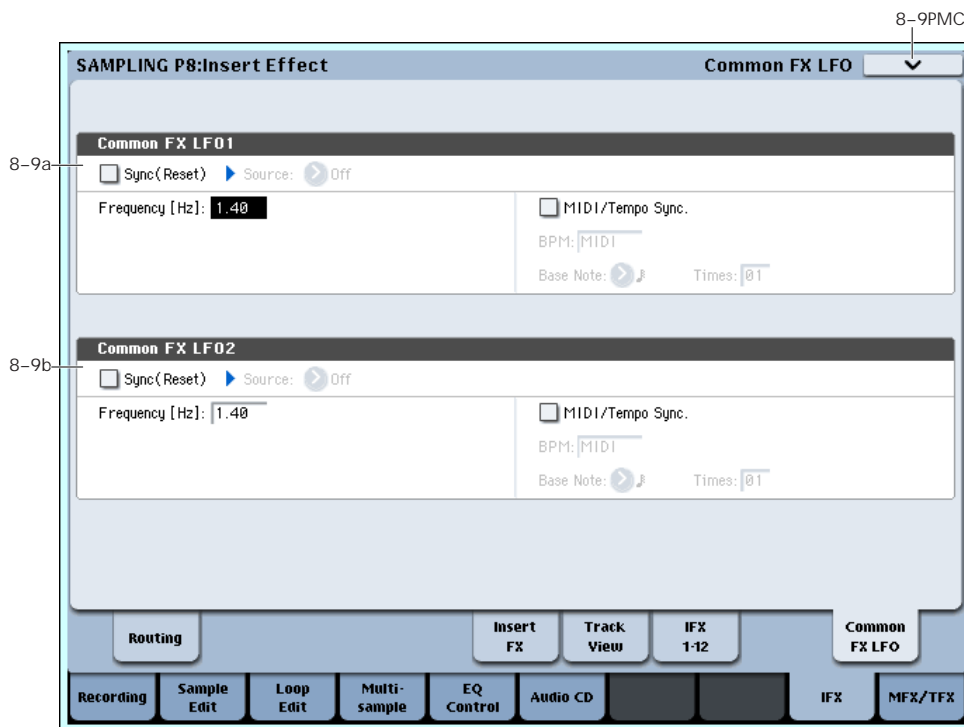
The parameters for IFX2-IFX12 are the same as for IFX1. See “8-7b: IFX2...12,” above.

▼ 8-7: Page Menu Commands

The number before each command shows its ENTER + number-key shortcut. For more information on these shortcuts, see “ENTER + 0-9: shortcuts for menu commands” on page 142.

- 0: **Copy Insert Effect.** For more information, see “Copy Insert Effect” on page 153.
- 1: **Swap Insert Effect.** For more information, see “Swap Insert Effect” on page 154.
- 2: **Write FX Preset.** For more information, see “Write FX Preset” on page 158.

8-9: Common FX LFO



The two Common FX LFOs allow you to synchronize LFO-based modulation for multiple effects, such as phasers, flangers, filters, and so on.

The Common LFOs control only the frequency, MIDI synchronization, and reset options; each individual effect still has its own settings for the LFO waveform and phase.

Within the individual effects, you can choose whether to use one of the Common LFOs, or to use the individual effect’s frequency, sync, and/or reset settings instead. This is done via the effect’s **LFO Type** parameter; select **Individual** to use the effect’s settings, or **Common 1** or **2** to use the Common LFOs.

MIDI Dmod (Dynamic Modulation) is controlled on the global MIDI channel specified in Global mode P1.

♪ **(Tempo)** [040.00...240.00, EXT]

This specifies the tempo. This setting is used for controlling effects, etc.

8-9a: Common FX LFO1

Frequency	[0.02...20.00 (Hz)]
Sync (Reset)	[Off, On]
Src (Dmod Src)	[List of Dmod Sources]
MIDI/Tempo Sync	[Off, On]
BPM	[MIDI, 040.00...240.00]
Base Note	♪... ♪
Times	[01...32]

These parameters are the same as in Program mode. See “8-9a: Common FX LFO1” on page 136.

8-9b: Common FX LFO2

The parameters are identical to those for Common FX LFO1.

▼ 8–9: Page Menu Commands

The number before each command shows its ENTER + number-key shortcut. For more information on these shortcuts, see “ENTER + 0-9: shortcuts for menu commands” on page 142.

- **0: Copy Insert Effect.** For more information, see “Copy Insert Effect” on page 153.
- **1: Swap Insert Effect.** For more information, see “Swap Insert Effect” on page 154.

Sampling P9: Master/Total Effect

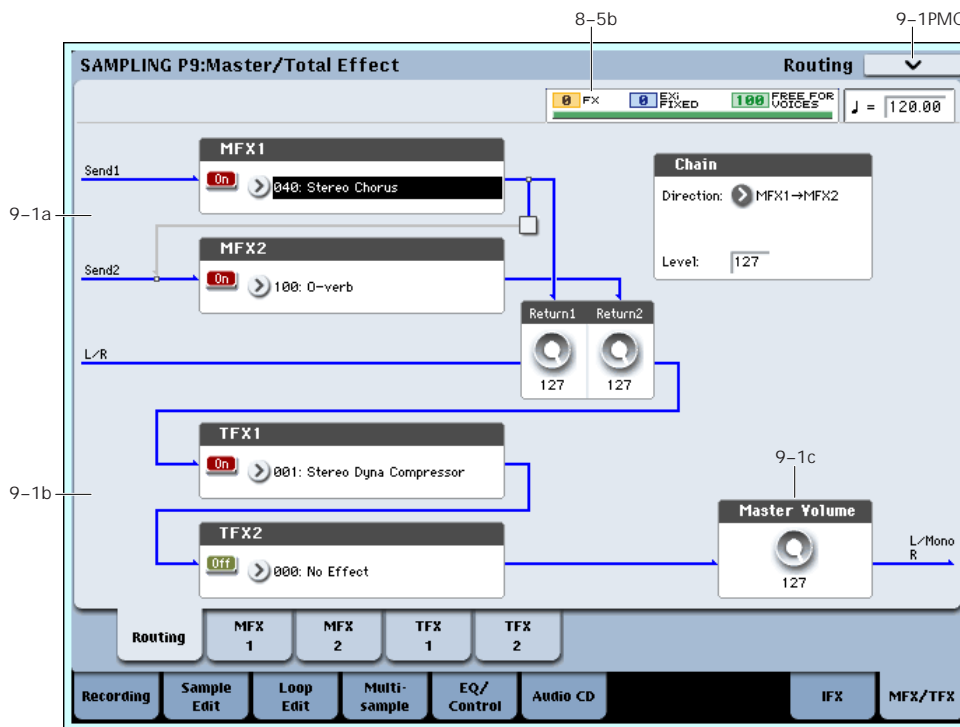
Here you can select the effect types for the master effects and total effects, and turn them on/off.

The master effects are output to the L/R bus. The total effects are inserted in the L/R bus. If you want to use these while sampling, set **Source Bus** to L/R.

For more information, please see the “Effect Guide,” beginning on page 787.

Note: When you sample, **MFX1 On/Off**, **MFX2 On/Off**, **TFX1 On/Off**, and **TFX2 On/Off** are automatically turned off. This is done so that the effect will not be applied again (i.e., a second time) when you play back the sample that was resampled with the MFX1/2 and TFX1/2. (In the same way, the **Bus Select (All OSCs)** parameter will automatically be set to L/R.) Be aware of this if you want to sample again.

9-1: Routing



9-1a: MFX

The master effect does not output the direct sound (Dry). Adjust the **Return 1** and **Return 2** levels to return the signal to the L/R bus and mix it with the L/R bus signal.

The master effects are stereo-in/out, but depending on the selected effect type, the output may be monaural. See “In/Out” on page 794.

MFX1

MFX1 [000...185]

This selects the effect type for master effect 1. Choose from 000:No Effect – 185: Mt.BPM Dly // Mt.BPM Dly. If you choose 000:No Effect, the output from the master effect is muted.

Category/MFX Select menu

When you press the popup button, the Category/MFX Select menu will appear, letting you select effects by category. Use the tabs to select a category, and then

select an effect within that category. Press the OK button to execute your selection, or press the Cancel button to cancel.

MFX1 On/Off [Off, On]



Switches the master effects 1 on/off. When off, the output will be muted. This will alternate between on and off each time it is pressed.

MIDI Separately from the settings here, you can use control change #94 to turn master effects 1 and 2 off. A value of 0 turns them off, and values of 1–127 restore the original setting. The global MIDI channel specified by **MIDI Channel** (Global 1–1a) is used for this message.

Return 1 [000...127]

This specifies the return level from the master effect to the L/R bus (after which it passes through TFX1 and 2, and is sent from L/MONO and R).

MFX2

MFX2	[000...185]
MFX2 On/Off	[Off, On]
Return 2	[000...127]

These parameters specify the effect type for master effect 2, its on/off status, and the return level from master effect 2 to the L/R bus. See “MFX1” on page 668.

Chain

Chain On/Off	[Off, On]
---------------------	-----------

On (checked): Chain (series connection) will be turned on for MFX1 and MFX2.

Chain Direction	[MFX1->MFX2, MFX2->MFX1]
------------------------	--------------------------

Specifies the direction of the connection when MFX1 and MFX2 are chained.

MFX1→MFX2: Connect from MFX1 to MFX2.

MFX2→MFX1: Connect from MFX2 to MFX1.

Chain Level	[000...127]
--------------------	-------------

When chain is On, this sets the level at which the sound is sent from the first master effect to the next master effect.

9-1b: TFX1, 2

These are the parameters for total effect 1 and 2, which are placed at the final stage of the L/R bus. After passing through the total effects, the sound is output to AUDIO OUTPUT (MAIN OUT) L/MONO and R.

For the total effects, the direct sound (Dry) is always stereo-in/out. The input/output configuration of the effect sound (Wet) will depend on the selected effect type.

The total effects are stereo-in and stereo-out, but the output may be monaural depending on the type of effect you select.

TFX1

TFX1	[000...185]
-------------	-------------

This selects the effect type for total effect 1. Choose from 000:No Effect – 185: Mt.BPM Dly // Mt.BPM Dly.

Category/TFX Select menu


When you press the popup button, the Category/TFX Select menu will appear, letting you choose effect types by category. Use the tabs to select an effect category, and then choose an effect within that category. Press the OK button to execute your choice, or press the Cancel button to cancel.

TFX1 On/Off	[Off, On]
--------------------	-----------

 Off

 On

This turns total effect 1 on/off. If this is off, the input will be passed directly through. The setting will alternate between on/off each time you press this.

 Separately from this setting, you can use control change #95 to turn both total effects off. A value of 0 turns them off, and values of 1–127 restore the original setting. The global MIDI channel specified by **MIDI Channel** (Global 1–1a) is used for this message.

TFX2

TFX2	[000...185]
-------------	-------------

TFX2 On/Off	[Off, On]
--------------------	-----------

These parameters specify the effect type and on/off status for total effect 2. See “TFX1,” above.

9-1c: Master Volume

Master Volume	[000...127]
----------------------	-------------

This specifies the final level of the audio output that has passed through total effects 1 and 2, and output from AUDIO OUTPUT (MAIN OUT) L/MONO and R.

Note: You can control the master volume from the control surface. You can also control this setting from the P0– Control Surface page.

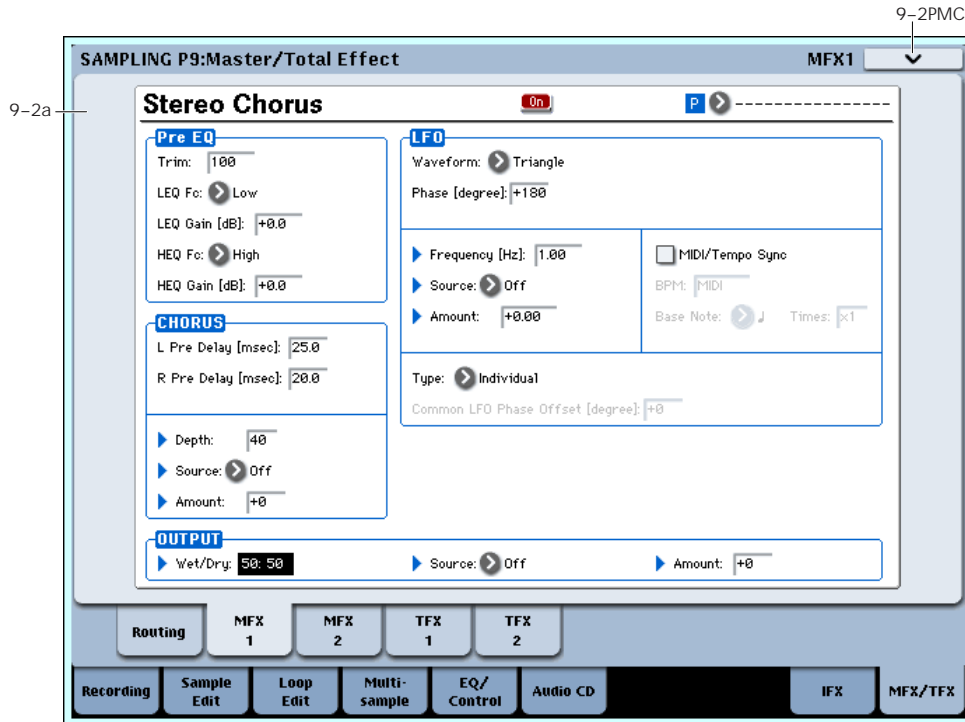
1. Press the **CONTROL ASSIGN MIXER AUDIO switch to turn it on (lit)**.
2. Use the **MASTER slider to control the level**.

▼ 9-1: Page Menu Commands

The number before each command shows its ENTER + number-key shortcut. For more information on these shortcuts, see “ENTER + 0-9: shortcuts for menu commands” on page 142.

- 0: **Copy MFX/TFX**. For more information, see “Copy MFX/TFX” on page 157.
- 1: **Swap MFX/TFX**. For more information, see “Swap MFX/TFX” on page 158.

9-2: MFX1



9-2a: MFX1

Here you can edit the parameters of the effect you choose for MFX1 in the P9- Routing page.

MIDI Effect dynamic modulation (Dmod) is controlled on the global **MIDI Channel** (Global 1-1a).

MFX1 On/Off [Off, On]



This turns master effect 1 on/off. It is linked with the on/off setting in the P9: Master/Total Effect - Routing page.

P (Effect Preset) [P00, P01...15, U00...15, -----]



This lets you select presets for the current effect. For more information, please see "P (Effect Preset)" on page 665.

MFX1 Parameters

Here you can edit the parameters of the master effect selected in the P9- Routing page.

For more details, please see "Master Effects (MFX1, 2)" on page 807.

▼ 9-2: Page Menu Commands

The number before each command shows its ENTER + number-key shortcut. For more information on these shortcuts, see "ENTER + 0-9: shortcuts for menu commands" on page 142.

- 0: **Copy MFX/TFX**. For more information, see "Copy MFX/TFX" on page 157.
- 1: **Swap MFX/TFX**. For more information, see "Swap MFX/TFX" on page 158.
- 2: **Write FX Preset**. For more information, see "Write FX Preset" on page 158.

9-3: MFX2

9-4: TFX1

9-5: TFX2

These pages let you edit the parameters of Master Effect 2 and Total Effects 1 and 2. To select different effects types, use the Routing page, as described under

"9-1: Routing" on page 668.

The parameters for MFX2, TFX1, and TFX2 are the same as for MFX1. For more information, see “9-2: MFX1” on page 670.

Sampling: Page Menu Commands

ENTER + 0-9: shortcuts for menu commands

Each page has a set of menu commands, which provide access to different utilities, commands, and options, depending on the page you're currently on. You can use the menu commands entirely from the touch-screen, by pressing the menu button in the upper right-hand corner of the screen and then selecting an option from the menu that appears.

Even though each page may have its own unique menu commands, the menus are standardized as much as possible. For instance, WRITE is almost always the first menu item in Program, Combination, and Sequence modes.

You can take advantage of this standardization by using a shortcut to access any of the first ten menu items:

1. Hold down the ENTER key.
2. Press a number (0-9) on the numeric keypad to select the desired menu command, starting with 0.

For instance, press 0 for the first menu command, 1 for the second, and so on.

If the menu command just toggles an option on and off (such as Exclusive Solo), then you're done. If the command calls up a dialog box, the dialog will appear on the LCD, and you can proceed just as if you'd selected the command from the touch-screen.

Remarks on editing stereo samples

- For stereo samples, the L channel and R channel samples are edited simultaneously. If you wish to edit only the L channel or R channel, select a mono multisample, and select either the L channel or R channel sample for editing.
- For stereo samples, the display will indicate "Save to No.(L)" and "(R)." These respectively specify the writing-destination sample numbers for the L and R channels.
- If you Copy a mono sample into the buffer, and then Insert, Mix, or Paste it to a stereo sample, the data will be inserted, mixed, or pasted into both the L and R sides. (The result is that a stereo sample will be created.)

If you Copy a stereo sample into the buffer, and then Insert, Mix, or Paste it to a mono sample, the L- and R-side data in the buffer will be mixed to mono, and then inserted, mixed, or pasted. (The result is that a mono sample will be created.)

You can also use these commands if you wish to mono-mix a stereo sample and use it as a mono sample. However, be aware that once a sample has been mixed to mono, it is no longer possible to return it to a stereo sample.

Start and End settings

When using the P1: Sample Edit parameters **Truncate** – "Volume Ramp" and the P2: Loop Edit parameter **Truncate** to edit the waveform data of a sample, you must first use **Start** and **End** to specify the region that you want to edit, and then select and execute a page menu command.

- ⚡ There is no compare function that lets you return the edited result to the state before editing. If you wish to preserve the unedited sample, uncheck the **Overwrite***1 item in the dialog box of each page menu command before you execute.

Note: To edit the **Start**, **Loop Start**, or **End** points, use P2: Loop Edit.

If the above parameters are located within an area of sample addresses that are deleted or moved by your editing, they will automatically be moved.

- ⚡ The **Loop Start** and **End** (2–1d) must be at least eight samples apart. If you try to use the **Truncate**, **Cut**, or **Rate Convert** commands, but the results of the commands would cause the **Loop Start** and **End** to be separated by less than eight samples, you'll see the error message "Sample length is shorter than minimum." Please set the **Start** and **End** appropriately.

About Overwrite

When **Overwrite** is **unchecked**: When the command is executed, the edited sample will be saved in a different sample number. The unedited sample will remain without change.

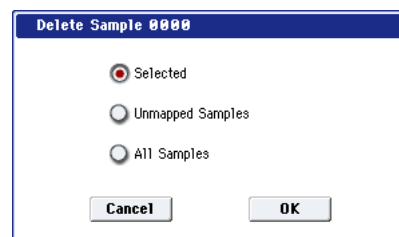
When **Overwrite** is **checked**: When the command is executed, the edited sample will be overwritten onto the original sample (number). The original sample will be modified.

Note: Normally, you will leave "Save to No." at its default setting, and execute without checking **Overwrite**. When you execute, both the data before and after editing will be preserved, and the sample number of the edited data will be assigned as the sample of that index.

Delete Sample

This command deletes all samples, the currently selected sample, or unused samples (samples not mapped to a multisample).

1. Select "Delete Sample" to open the dialog box.




2. Use the radio buttons to specify which samples will be deleted.

Selected: The currently selected sample will be deleted. The sample assignment for **Index** (0–1b) will change to ---No Assign---

Unmapped Samples: All samples that are not mapped (used) in a multisample or drum kit will be deleted.

All Samples: All samples in memory will be deleted. The sample assignments of all multisamples will change to ---No Assign---

3. To execute the Delete Sample command, press the OK button. To cancel, press the Cancel button.

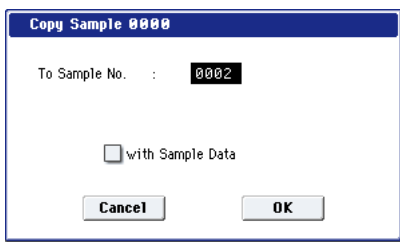
 If the sample data (waveform data) of the sample you delete is being used by another sample, the sample data itself will not be deleted. Only the sample will be deleted.

Copy Sample

This command copies the currently selected sample to another sample.

Note: The copy destination sample number will automatically be included in the resulting sample name. If necessary, use the **Rename Sample** menu command to rename it. When doing so, make sure that the name is not identical to any other sample name. For more information, please see "About stereo multisamples and stereo samples" on page 627.

1. Use Sample Select (0-1b) to select the copy-source sample.
2. Select Copy Sample to open the dialog box.



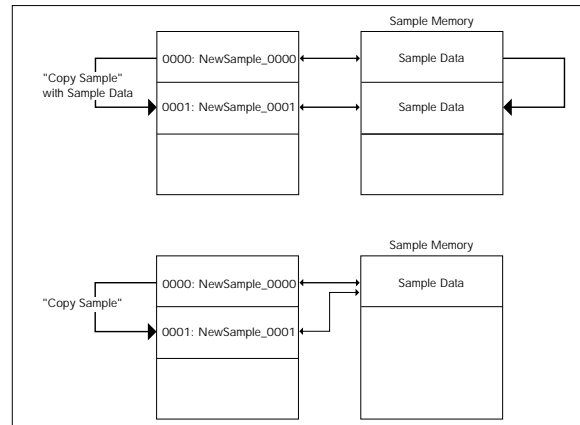
3. Specify the sample number of the copy destination.

[Stereo] When copying a stereo sample, specify both the L and R channels for the copy destination sample number.

4. If you check "with Sample Data": Executing the copy will simultaneously copy the sample data (waveform data) as well.

The copy source and copy destination samples will exist as completely independent samples. For example, you would use this when you wish to start with the same sample data, and edit it separately in P1: Sample Edit to create two or more different types of sample.

If you do **not** check "with Sample Data": Executing the copy will not copy the sample data (waveform data). The newly created sample will share the sample data of the copy source sample. For example, you would use this when you wish to use P2: Loop Edit to create two or more versions of the same sample data with different loop addresses. Sample memory area will not be consumed by this type of copy. If you use P1: Sample Edit to edit the sample data, the results will affect all samples that share this sample data.

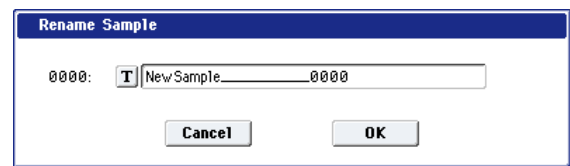


5. To execute the Copy Sample command, press the OK button. To cancel, press the Cancel button.

Rename Sample

This command lets you modify the name of the currently selected sample.

1. Use Sample Select (0-1b) to select the sample whose name you want to edit.
2. Select Rename Sample to open the dialog box.



3. Press the text edit button to open the text edit dialog box, and input the desired sample name (up to 24 characters).

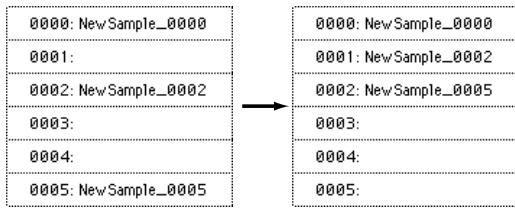
[Stereo] If the multisample is stereo and a stereo sample is selected, you can input up to 22 characters for the sample name. This is because the last two characters are reserved for -L and -R. If you rename up to 22 characters of the sample of either the L or the R channel, the other sample will automatically be renamed.

4. To execute the Rename Sample command, press the OK button. To cancel, press the Cancel button.

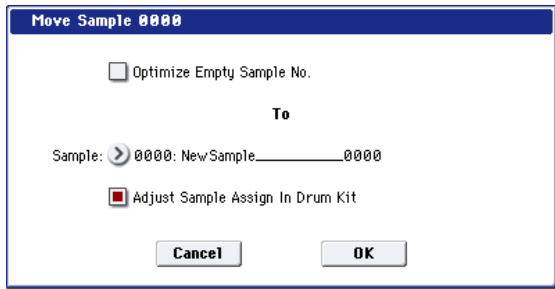
Move Sample

This command lets you move the currently selected sample to the specified number (i.e., to change the sample number), or to rearrange the sample numbers so that they start from 0000 after samples have become discontinuous as a result of creating or editing. (See diagram below)

When you reassign the sample numbers, the sample numbers within the multisamples and drum kits (according to the setting of step 4) that use these sample will also be automatically reassigned. (This means that the samples of the multisamples and drum kits need not be reassigned following this operation.)



1. Use Sample Select (0-1b) to select the copy source sample.
2. Select "Move Sample" to open the dialog box.



3. Use To Sample to specify the move destination sample number.

[Stereo] When moving a stereo sample, you must move the samples individually.

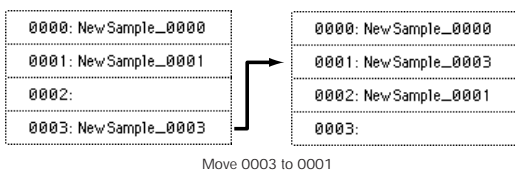
If you wish to reassign (pack) all sample numbers starting at 0000, check **Optimize Empty Sample No.**

4. If "Adjust Sample Assign in Drum Kit" is checked, and if the samples being moved are mapped to (used by) a drum kit, those sample numbers will also be automatically modified. Normally you will leave this checked.

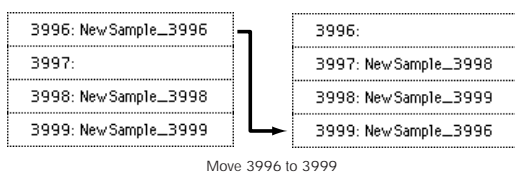
Samples mapped to (used by) multisamples will be automatically changed to the new sample numbers regardless of this setting.

5. To execute the Move Sample operation, press the OK button. To cancel without executing, press the Cancel button.

Example) If data already exists at the move destination sample number, the sample will not be overwritten; instead, all subsequent samples will be renumbered upward.



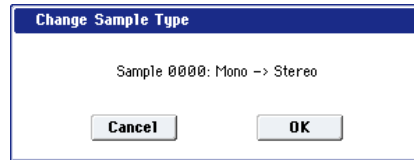
Example) If there is no empty sample number and forward movement is not possible, samples will be renumbered downward.



Sample Mono To Stereo (Change Sample Type)

This command converts a mono sample to stereo. This can be executed when a mono sample is selected.

1. Use Sample Select (0-1b) to select the sample that you want to change to stereo.
2. Select Sample Mono To Stereo to open the dialog box.



3. To execute the Change Sample Type command, press the OK button. To cancel, press the Cancel button.

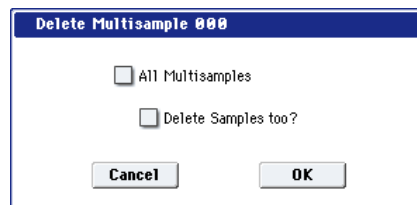
When you execute this command, the sample type will change as follows.

- The selected sample will be changed to stereo. The last two characters of the sample name will be overwritten as "-L".
- A new sample will be created with the same name except that the last two characters of the sample name will be "-R". Also, if the selected multisample is mono, it will change to stereo.
- The last two characters of the multisample name will be overwritten as "-L".
- A new multisample will be created with the same name, but whose last two characters are "-R".
- The stereo sample that was created will be assigned automatically.

Delete MS (Delete Multisample)

This command deletes the currently selected multisample or all multisamples.

1. Use Multisample Select (MS) (0-1a) to select the multisample that you want to delete.
2. Select "Delete MS" to open the dialog box.



3. All Multisamples: Check this if you wish to delete all multisamples.
4. Delete Samples too?: Check this if you also wish to delete the samples included in the deleted multisample(s).

However, samples that are mapped to (used by) other multisamples or drum kits will not be deleted.

- To execute the Delete Multisample command, press the OK button. To cancel, press the Cancel button.

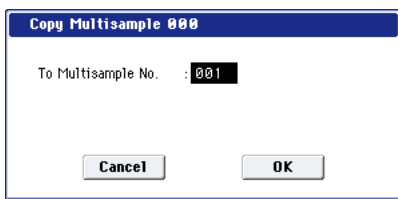
Even if you also choose to delete the samples that are included in the deleted multisample(s), any sample data (waveform data) used by these samples that is shared with other samples will not be deleted. Only the sample itself will be deleted.

Copy MS (Copy Multisample)

This command copies the selected multisample to another multisample.

Note: The copy destination multisample number will automatically be included in the resulting multisample name. If necessary, use the **Rename MS** menu command to rename it. When doing so, make sure that the name is not identical to any other multisample name. For more information, please see "About stereo multisamples and stereo samples" on page 627.

- Use Multisample Select (MS) (0-1a) to select the copy-source multisample.
- Select Copy MS to open the dialog box.



- Specify the copy destination multisample number.

[Stereo] When copying a stereo multisample, copy both the L and R channels of the copy destination multisample number.

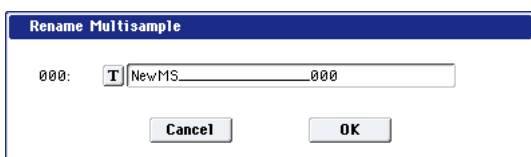
- To execute the Copy Multisample command, press the OK button. To cancel, press the Cancel button.

When a multisample is copied, the samples assigned to the multisample will also be copied at the same time. At this time, they will be automatically copied to vacant sample numbers. The sample data (waveform data) will be shared between the copy source and copy destination. (Additional sample memory area will not be consumed.)

Rename MS (Rename Multisample)

This command modifies the name of the currently selected multisample.

- Use Multisample Select (MS) (0-1a) to select the multisample whose name you want to edit.
- Select Rename MS to open the dialog box.



- Press the text edit button to move to the text edit dialog box, and input a multisample name of up to 24 characters.

[Stereo] If the selected multisample is stereo, up to 22 characters can be input as the multisample name. This is because the last two characters are reserved for -L and -R. If you rename up to 22 characters of the multisample of either the L or the R channel, the other multisample name will automatically be renamed.

- To execute the Rename Multisample command, press the OK button. To cancel, press the Cancel button.

Convert MS (Multisample) To Program

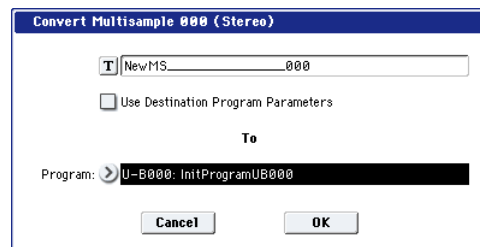
This command converts the selected multisample into a program.

If you have recorded a sample or created a multisample and would like to play it in Program mode, Combination mode, or Sequencer mode, you must create a program that uses that multisample for its oscillator.

If you've created a multisample in Sampling mode and want to use it as a program, go to Program P2: OSC Pitch and set the OSC1 Multisample/Wave Sequence and OSC2 Multisample/Wave Sequence "Bank" parameters (if "Type" = Multisample) to RAM Mono or RAM Stereo. A multisample that you created in Sampling mode can be used in the program, and then to make program settings to specify how the multisample will be sounded.

However by executing the **Convert MS To Program** command, you can quickly and easily convert the Sampling mode settings into a new program, without having to make any Program mode settings as described above.

- Use Multisample Select (MS) (0-1a) to select the multisample that you want to convert to a program.
- Select Convert MS To Program to open the dialog box.



- Press the text edit button to open the text edit dialog box, and input a new program name (up to 24 characters).

By default, the multisample name will be used.


- If Use Destination Program Parameters is unchecked:

Executing the command will replace the multisample of the convert destination program with the multisample selected here, and will initialize the remaining program parameters.

The multisample will be converted into a single-oscillator Program.

If **Use Destination Program Parameters** is checked:

Executing this command will replace the multisample of the destination program with the multisample selected here, and will not initialize the remaining program parameters. Use this setting if you wish to use the parameter settings of an existing preset program, etc.

 **Note:** **Use Destination Program Parameters** requires that the **Oscillator Mode** of the destination program be Single. If it is a Double or Drum program, the message "Oscillator Mode conflicts" will appear.

5. In To Program, select the convert destination program.

When the edit cell is selected, you can use the numeric keys 0–9, the VALUE dial, the VALUE slider, and Δ/∇ switches to make a selection. When you press the popup button, the Program Select menu will appear. Here you can select a program by bank.

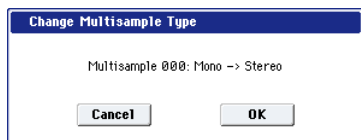
It is recommended that you use USER-B as the program bank for Sampling mode.

6. To execute the Convert Multisample To Program command, press the OK button. To cancel, press the Cancel button.

MS Mono To Stereo/MS Stereo To Mono (Change Multisample Type)

This command converts a mono multisample to stereo, or a stereo multisample to mono. If the selected multisample is mono, the dialog box will allow you to execute **MS Mono To Stereo**. If the selected multisample is stereo, the dialog box will allow you to execute **MS Stereo To Mono**.

1. Use **Multisample Select (MS) (0–1a)** to select the multisample that you want to change to stereo or mono.
2. Choose either **MS Mono To Stereo** or **MS Stereo To Mono** to open the dialog box.



3. To execute the **Change Multisample Type** command, press the OK button. To cancel, press the Cancel button.

When you execute this command, the multisample type and sample assignment will change as follows.

MS Mono To Stereo

- The selected multisample will be converted to stereo. The last two characters of the multisample name will be overwritten as -L.
- An identical multisample will be newly created, but with the last two characters of the multisample name overwritten as -R.

- Mono samples assigned to the original multisample will be assigned to both -L and -R multisamples.
- If samples assigned to the original multisample are part of a stereo pair of samples, the -L and -R samples will be assigned to the -L and -R multisamples.

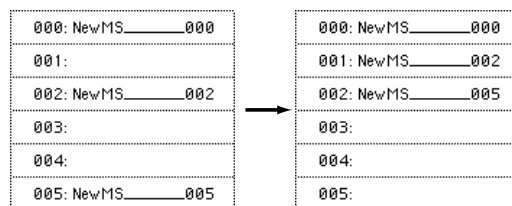
[Stereo]: MS Stereo To Mono

- The selected multisample will be converted to mono. The -L or -R at the end of the multisample name will be deleted.
- Multisamples that are stereo pairs of the selected multisample will be deleted.

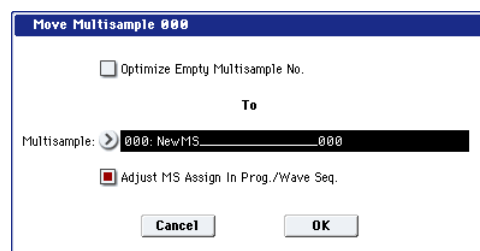
Move MS (Move Multisample)

This command lets you move the currently selected multisample to the specified number (i.e., to change the multisample number), or to rearrange the multisample numbers so that they start from 000 after multisamples have become discontinuous as a result of creating or editing. (See diagram below)

When you reassign the multisample numbers, the multisample numbers within the programs that use these multisamples will also be automatically reassigned (according to the setting of step 4). (This means that you do not need to reselect the multisamples in Program mode following this operation.)



1. Use **Multisample Select (MS) (0–1a)** to select the multisample that you wish to move.
2. Select "Move MS" to open the dialog box.



3. In **To Multisample**, specify the move destination multisample number.

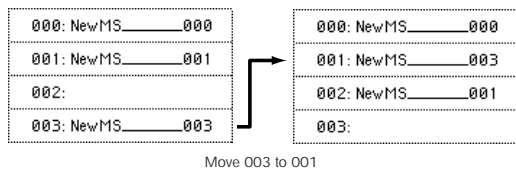
[Stereo] When moving a stereo multisample, you will need to move each part separately.

If you wish to rearrange all multisamples consecutively, check "Optimize Empty Multisample No."

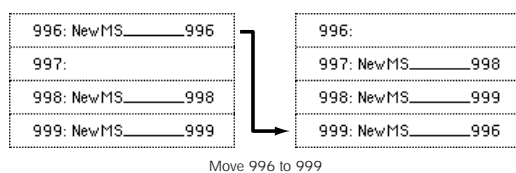
4. If **Adjust Multisample Assign in Program** is checked and if the multisamples being moved are used in programs, the multisample numbers of the programs will also be reassigned automatically. Normally you will leave this checked.

5. To execute the Move Multisample command, click the OK button. If you decide not to execute, click the Cancel button.

Example: If data already exists at the move destination multisample number, the multisample will not be overwritten; instead, all subsequent multisamples will be renumbered upward.



Example: If there is no empty multisample number and forward movement is not possible, multisamples will be renumbered downward.



Optimize RAM

This command optimizes the RAM memory.

When you execute the optimize command, any memory areas containing unused data will be rearranged, allowing you to utilize all of the remaining memory.

If you run out of memory, try using **Optimize RAM**.

The remaining amount of RAM can be checked under “0–1f: Free Sample Memory/Locations,” as described on page 630.

1. Select **Optimize RAM** to open the dialog box.



2. Press the OK button to execute the optimize command, or press the Cancel button to cancel without executing.

Note: If **Auto Optimize RAM** (Global 0–1d) is checked, RAM will be optimized automatically.

Select Directory

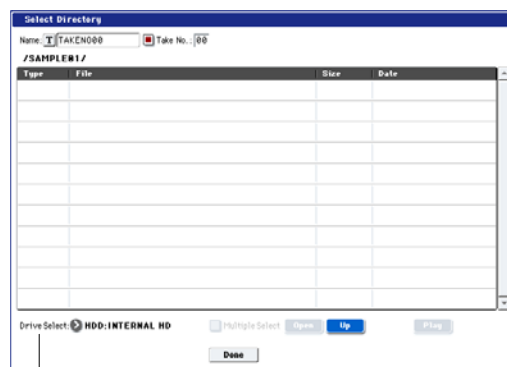
This command lets you specify the save-destination disk, directory, and filename for the WAVE file that will be created by sampling.

You can also use this **Select Directory** command to listen to audio from a WAVE file that was saved to disk.

The **Select Directory** command is available when **Save to** is set to DISK.

Specifying the save-destination for a WAVE file

1. Choose **Select Directory** to open the dialog box.



Drive Select

2. Use **Drive Select** to select the disk into which the data will be written during sampling.

3. Use the **Open** button and **Up** button to move between directories.

4. In the **Name** field, specify a name for the WAVE file that will be written during sampling.

If you check **Take No.**, a two digit “take number” will be added at the end of the filename when it is saved. The number will automatically increment each time you sample. When sampling repeatedly, this is convenient since it allows each file to be saved with a different filename.

If **Take No.** is not checked, up to eight characters can be entered in the **Name** field. If **Take No.** is checked, up to six characters can be entered.

5. Press the **Done** button to complete the settings.

Playing back a WAVE file

1. Choose **Select Directory** to open the dialog box.

2. Use **Drive Select**, the **Open** button, and the **Up** button to select the disk and directory, and select the WAVE file that you want to play.

Note: you can only play 48kHz WAVE files.

3. Press the **SAMPLING START/STOP** switch or **Play** button.

The selected WAVE file will play.


4. Press the **SAMPLING START/STOP** switch once again to **Stop** button.

⚠ If the WAVE file is mono, the same sound will be output to L and R.

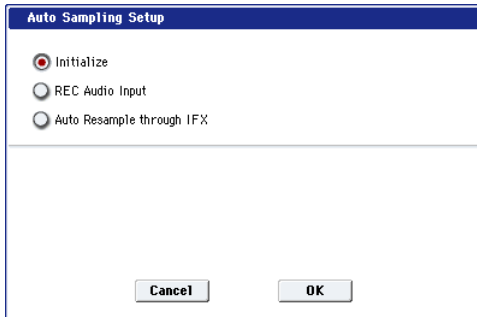
Auto Sampling Setup

This command automatically sets various sampling-related parameters for Sampling mode operations. You can use this command when you want to sample an external audio source, or when you want to apply an effect to a sample and resample it. You can also use this command to initialize the settings.

⚠ When you execute this command, the applicable parameters will be set automatically. You cannot use the **COMPARE** switch to recall the previous settings.

-  The settings are automatically made for the most typical applications. After executing the auto setup operation, you can further adjust any of the settings to suit your needs as described in the “*Note:*” paragraphs of each section.

1. Select Auto Sampling Setup to open the dialog box.



2. Use the radio buttons to select the type of settings you want to make.

Initialize: Initialize the sampling-related parameters to their default values.

REC Audio Input: Make settings for sampling an external audio source.

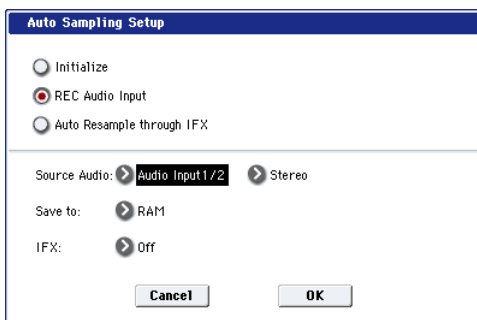
Auto Resample through IFX: Make settings for applying an effect to a sample and resampling it.

3. Specify the conditions. These will depend on what you select in step 2.

If you select Initialize:

Press the OK button to initialize the settings, or press the Cancel button if you decide not to execute. For more information, please see “Auto Sampling Setup: Automatically-set parameters and their values” on page 679.

If you select REC Audio Input:



1) Use “Source Audio” to select the external audio input source.

Analog 1/2: An analog audio source such as a musical instrument connected to the AUDIO INPUT 1 and 2 jacks will be input to the OASYS.

Analog 3/4: An analog audio source such as a musical instrument connected to the AUDIO INPUT 3 and 4 jacks will be input to the OASYS.

S/P DIF: Selects the digital audio output from an instrument or DAT etc. connected to the S/P DIF IN jack. (0–8a “Audio Input”)

2) Use “Mono-L/Mono-R/Stereo” to select the input source, and either mono or stereo as the number of channels that will be sampled.

Mono-L: Settings will be made for sampling to L-MONO from Input 1 (if you’ve selected Analog 1/2) or from Input 3 (if you’ve selected Analog 3/4).

Mono-R: Settings will be made for sampling to R-MONO from Input 2 (if you’ve selected Analog 1/2) or from Input 4 (if you’ve selected Analog 3/4).

Stereo: Settings will be made for sampling in stereo from Input 1/2 or 3/4.

3) Use Save to to specify the destination to which the sampled data will be written. RAM writes the data into RAM memory. DISK creates a Wave file from the sampled data and saves it to disk.

4) If you want to apply an insert effect to the external audio input source while it is being sampled, use “IFX” to specify the insert effect that you want to use. If you don’t want to use an insert effect, set this Off.

5) Press the OK button to execute the REC Audio Input command, or press the Cancel button if you decide not to execute.

For more information, please see “Auto Sampling Setup: Automatically-set parameters and their values” on page 679.

Note: When you are ready to sample (after executing REC Audio Input), press the SAMPLING REC switch and then the SAMPLING START/STOP switch to begin sampling. (This is because **Trigger** is set to Sampling START SW.) When you’ve finished performing, press the SAMPLING START/STOP switch to stop sampling.

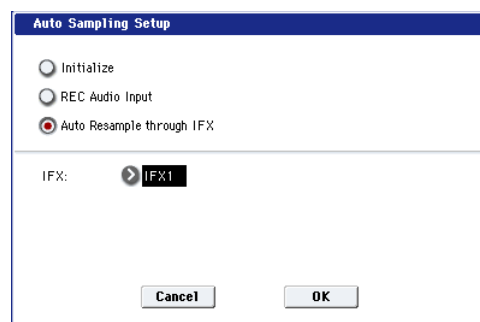
Note: Here’s how to check the data you just sampled. If you specified **Save to** RAM, play the C2 note of the keyboard to hear the sample. If you specified **Save to** DISK, use the menu command **Select Directory** to hear the sample.

Note: If you specified **Save to** DISK and want to change the save-destination for the Wave files, use the menu command **Select Directory**.

Note: If you want to change the way in which sampling is initiated, change the **Trigger** setting.

Note: If you selected S/P DIF for “Source Audio,” use **System Clock** (Global 0–1d) to change the system clock.

If you select Auto Resample through IFX:



1) Use “IFX” to select the effect that you want to apply to the sample.

2) Press the OK button to execute Auto Sampling Setup (Auto Resample through IFX), or press the Cancel button if you decide not to execute. For more information, please see “Auto Sampling Setup:

Automatically-set parameters and their values” on page 679.

Note: When you are ready to resample (after executing Auto Resample through IFX), perform the following steps.

- 1) Use **Key** (0–8c) to specify the key to which the sample you want to resample is assigned.
- 2) Use P8: Insert Effect to make effect settings. To hear the sound, play the note you specified in **Key**.
- 3) To begin resampling, press the SAMPLING REC key and then the SAMPLING START/STOP switch.

(This is because **Trigger** is set to Sampling START SW.) The sample will play, and when playback ends, it will be resampled.

Note: To check the resampled data, play the note you specified in the **Key** parameter.

- ▲ To prevent the insert effect from being applied “in duplicate” when you listen to the resampled data, “Bus Select All OSCs to” (8–1b) will automatically be set to L/R when resampling ends. If you want to apply IFX and resample once again, you will need to change this setting back to the same IFX.

Auto Sampling Setup: Automatically-set parameters and their values

		[Initialize]	[REC Audio Input]	[Auto Resampling through IFX]
Input (Input Source)*1		Input1, 2, 3, 4 S/P DIF	[Source Audio]*2	Input1, 2, 3, 4 S/P DIF
Input1, 3, S/P DIF-L	Bus Select	Off	[IFX] ³	Off
	FX Ctrl Bus	Off	Off	Off
	REC Bus	Off	Off	Off
	Send1/2	000	000	000
	Pan	L000	L000	L000
	Level	127	127	127
Input2, 4, S/P DIF-R	Bus Select	Off	[IFX] ³	Off
	FX Ctrl Bus	Off	Off	Off
	REC Bus	Off	Off	Off
	Send1/2	000	000	000
	Pan	R127	R127	R127
	Level	127	127	127
Sampling Setup (Name)	Source Bus	L/R	L/R	L/R
	Source Direct Solo	(N/A)	(N/A)	(N/A)
	Trigger	Sampling START SW	Sampling START SW	Sampling START SW
	Metronome Precount	(N/A)	(N/A)	(N/A)
	Pre Trigger REC	–	–	–
	Resample	Manual	Manual	Auto
REC Sample Setup	Save to	RAM	[Save to]	RAM
	Mode	Stereo	[Source Audio] ⁴	Stereo
	Rec Level	+0.0	+0.0	+0.0
	Auto +12dB On	On	On ⁵	On
	Auto Loop On	On	–	–
Select Directly	–	–	–	–
Routing	Bus Select (All OSCs to)	L/R	–	[IFX]
	FX Ctrl Bus	Off	–	Off
	REC Bus	Off	–	Off
	Send1/2	127	–	000
Insert FX	Bus Select (Post IFX)	–	L/R ⁶	L/R ⁶

–: Not set automatically

[]: Set automatically according to the parameter settings in the dialog box

*1Edit sampling mode parameters

*2Uses the input source specified as Source Audio.

*3:If IFX is Off this will be L/R. If IFX1...12 is selected this will be IFX1...12.

*4L-Mono if the Source Audio is Mono-L, R-Mono if it is Mono-R, and Stereo if it is Stereo

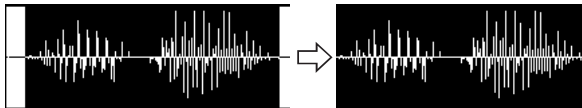
*5When Save to=RAM

*6Specify the BUS Select of that IFX1...12. If effects are chained, specify the last IFX in the chain.

Truncate (for Sample Edit)

This command deletes unwanted data that lies outside the **Start** and **End** points. Use this command when you wish to delete silence at the beginning or end of the sample.

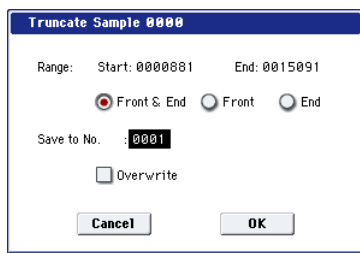
Note: If you wish to delete unneeded (unplayed) sample data after setting the **Start**, **Loop Start**, and **End** (2-1d), use the “Truncate (for Loop Edit)” page menu command found in P2: Loop Edit.



1. Use **Sample Select (1-1b)** to select the sample that you wish to edit, and use **Start** and **End** to specify the editing range.

You can press the **SAMPLING START/STOP** switch or **Play** button to hear the portion that will be left by the **Truncate** command.

2. Select **Truncate** to open the dialog box.



3. The editing range will be shown in **Range Start** and **End**.
4. Use the radio buttons to select the portion that will be deleted.

Front & End: The sample data that lies before the **Start** and after the **End** will be deleted.

Front: The sample data that lies before the **Start** will be deleted.

End: The sample data that lies after the **End** will be deleted.

5. In **Save to No.**, specify the save destination sample number.

By default, an unused sample number will be selected.

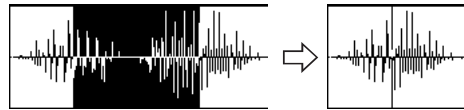
If **Overwrite** is checked, the sample number will be fixed to the current sample, and cannot be changed. See “About Overwrite” on page 672.

[Stereo] For stereo samples, use “Save to No.(L)” and “(R)” to specify the save-destination of the L and R channels.

6. To execute the **Truncate** command, press the **OK** button. To cancel, press the **Cancel** button.

Cut

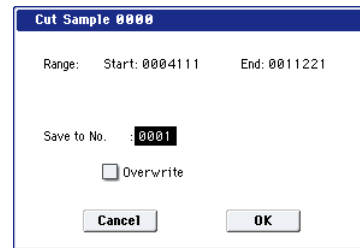
This command deletes the data between the **Start** and **End** points. Sample data located after the deleted portion will be moved toward the beginning of the sample.



1. Use **Sample Select (1-1b)** to select the sample that you wish to edit, and use **Start** and **End** to specify the editing range.

You can press the **SAMPLING START/STOP** switch or **Play** button to hear the portion that will be deleted by the **Cut** command.

2. Select **Cut** to open the dialog box.



3. The range to be edited is shown by **Range Start** and **End**.
4. In **Save to No.**, specify the save destination sample number. By default, an unused sample number will be selected.

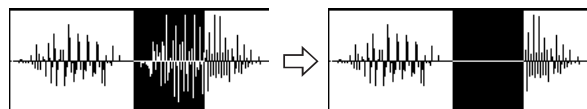
If **Overwrite** is checked, the sample number will be fixed to the current sample, and cannot be changed. See “About Overwrite” on page 672.

[Stereo] For stereo samples, use “Save to No.(L)” and “(R)” to specify the save-destination of the L and R channels.

5. To execute the **Cut** command, press the **OK** button. To cancel, press the **Cancel** button.

Clear

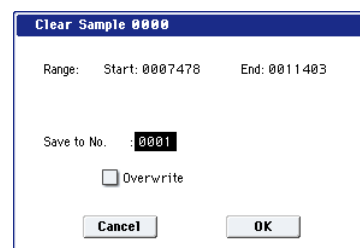
This command converts the data between the **Start** and **End** points to zero values. Sample data before and after the edited range will not move.



1. Use **Sample Select (1-1b)** to select the sample that you wish to edit, and use **Start** and **End** to specify the editing range.

You can press the **SAMPLING START/STOP** switch or **Play** button to hear the portion that will be changed to zero-level by the “Clear” command.

2. Select “Clear” to open the dialog box.



3. The range to be edited is shown by Range Start and End.
4. In Save to No., specify the save destination sample number. By default, an unused sample number will be selected.

If Overwrite is checked, the sample number will be fixed to the current sample, and cannot be changed. See "About Overwrite" on page 672.

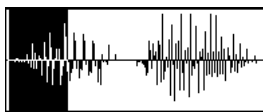
[Stereo] For stereo samples, use "Save to No.(L)" and "(R)" to specify the save-destination of the L and R channels.

5. To execute the Clear command, press the OK button. To cancel, press the Cancel button.

Copy

This command copies the sample data from the area between the **Start** and **End** points into the sample data buffer. This data can then be used by the **Insert**, **Mix**, or **Paste** commands.

- When you execute **Copy**, the data that is copied into the buffer actually consists only of the source sample number and the **Start** and **End** locations—not the data itself. Do not delete the source sample until you finish executing the **Insert**, **Mix**, or **Paste** command.



1. Use Sample Select (1–1b) to select the sample that you wish to edit, and use Start and End to specify the editing range.

You can press the SAMPLING START/STOP switch or Play button to hear the portion that will be copied by the **Copy** command.

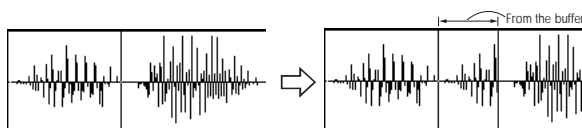
2. Select Copy to open the dialog box.



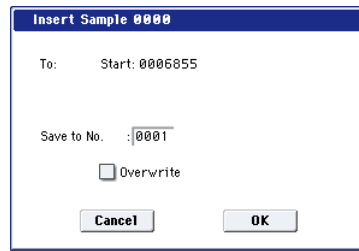
3. The range to be copied is shown by Range Start and End.
4. To execute the Copy command, press the OK button. To cancel, press the Cancel button.

Insert

When you execute this command, the sample data placed in the buffer by executing **Copy** in the Sampling mode Sample Edit page will be inserted at the **Start** address. The data that follows this address will be moved toward the end of the sample.



1. Use Sample Select (1–1b) to select the sample that you wish to edit, and set Start to specify the starting address. The End setting is ignored.
2. Select Insert to open the dialog box.



3. To Start will indicate the starting address at which the data will be inserted.
4. In Save to No., specify the save destination sample number. By default, an unused sample number will be selected.

If Overwrite is checked, the sample number will be fixed to the current sample, and cannot be changed. See "About Overwrite" on page 672.

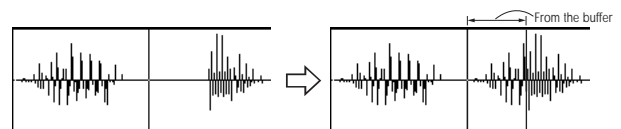
[Stereo] For stereo samples, use "Save to No.(L)" and "(R)" to specify the save-destination of the L and R channels.

5. To execute the Insert command, press the OK button. To cancel, press the Cancel button.

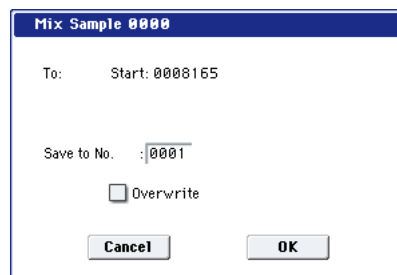
- If the buffer into which data was placed by the **Copy** command contains no data, the display will show the message, "Source sample is empty."

Mix

When you execute this command, the sample data placed in the buffer by executing **Copy** in the Sampling mode Sample Edit page will be mixed with the selected sample data, starting at the **Start** address.



1. Use Sample Select (1–1b) to select the sample that you wish to edit, and set Start to specify the starting address. The End setting is ignored.
2. Select Mix to open the dialog box.



3. To Start will indicate the starting address at which the data will be mixed.
4. In Save to No., specify the save destination sample number. By default, an unused sample number will be selected.

If Overwrite is checked, the sample number will be fixed to the current sample, and cannot be changed. See "About Overwrite" on page 672.

[Stereo] For stereo samples, use "Save to No.(L)" and "(R)" to specify the save-destination of the L and R channels.

5. To execute the Mix command, press the OK button. To cancel, press the Cancel button.

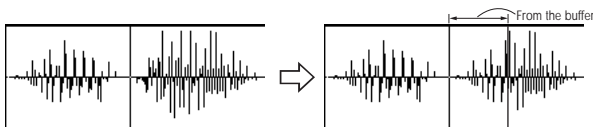
▲ If the buffer into which data was placed by the Copy command contains no data, the display will indicate "Source sample is empty."

Paste

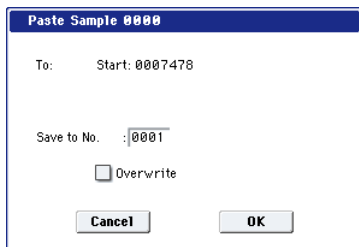
When you execute this command, the sample data placed in the buffer by executing Copy in the Sampling mode Sample Edit page will be placed in the sample starting at the Start address. The original data will be deleted, and overwritten by the sample data from the buffer.

You can also place sample data into a blank sample. This is convenient when you wish to Copy part of a sample and create a new sample based on it.

Pasting to a sample that contains sample data



1. Use Sample Select (1-1b) to select the sample that you wish to edit, and set Start to specify the starting address. The End setting is ignored.
2. Select "Paste" to open the dialog box.



3. To Start will indicate the starting address at which the data will be pasted.
4. In Save to No., specify the save destination sample number. By default, an unused sample number will be selected.

If Overwrite is checked, the sample number will be fixed to the current sample, and cannot be changed. See "About Overwrite" on page 672.

[Stereo] For stereo samples, use "Save to No.(L)" and "(R)" to specify the save-destination of the L and R channels.

5. To execute the Paste command, press the OK button. To cancel, press the Cancel button.

▲ If the buffer into which data was placed by the Copy command contains no data, the display will indicate "Source sample is empty."

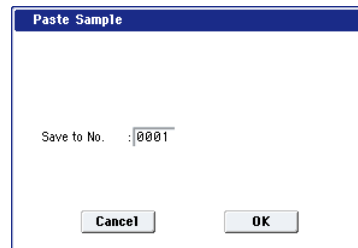
Pasting to a sample that contains no sample data

1. Select the vacant sample number that you wish to paste.

If you select ----:---No Assign---- for Sample Select and then open the dialog box for this command, a vacant sample number will be selected automatically.

▲ The Start and End settings will be ignored, and will have no effect. The beginning of the sample will be placed at address 0.

2. Select "Paste" to open the dialog box.



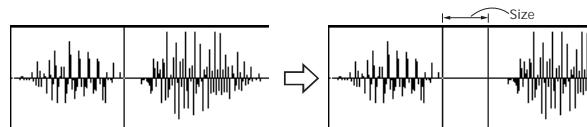
3. In Save to No., specify the save destination sample number. If you wish to change it, re-specify the desired number.

[Stereo] For stereo samples, use "Save to No.(L)" and "(R)" to specify the save-destination of the L and R channels.

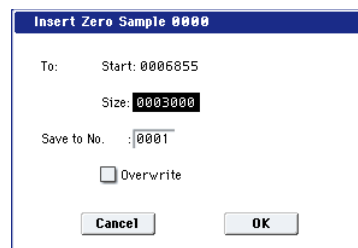
4. To execute the "Paste" command, press the OK button. To cancel without executing, press the Cancel button.

Insert Zero

This command inserts zero-level sample data (silence), beginning at the Start address. The data that previously occupied that location will be moved toward the end of the sample.



1. Use Sample Select (1-1b) to select the sample that you wish to edit, and set Start to specify the starting address. The End setting is ignored.
2. Select "Insert Zero" to open the dialog box.



3. To Start will indicate the starting address at which the data will be inserted.
4. In "Size," specify the length of the data that will be inserted.
5. In Save to No., specify the save destination sample number. By default, an unused sample number will be selected.

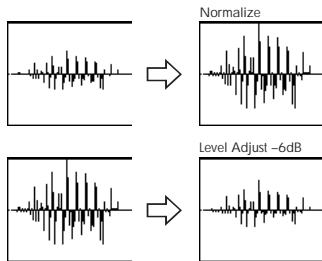
If Overwrite is checked, the sample number will be fixed to the current sample, and cannot be changed. See "About Overwrite" on page 672.

[Stereo] For stereo samples, use “Save to No.(L)” and “(R)” to specify the save-destination of the L and R channels.

- To execute the **Insert Zero** command, press the **OK** button. To cancel, press the **Cancel** button.

Normalize/Level Adjust

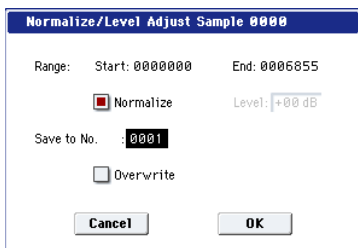
This command uniformly modifies the data values (volume) of the data between the **Start-End**. **Normalize** will amplify the level of the sample data as far as possible without allowing it to clip (distort). If the level of the sampled data is too low, you can execute this command to increase the dynamic range. **Level** allows you to raise or lower the level as desired.



- Use **Sample Select (1-1b)** to select the sample that you wish to edit, and use **Start** and **End** to specify the editing range.

You can press the **SAMPLING START/STOP** switch or **Play** button to hear the portion that will be normalized or level-adjusted.

- Select **Normalize/Level Adj.** to open the dialog box.



- The range to be edited is shown by **Range Start** and **End**.
- If you check **Normalize** and execute, the data will be normalized. In this case, the **Level** setting will be ignored.

If you wish to specify **Level** to modify the level of the sample data, do not check **Normalize**. Each increase of +6 dB will approximately double the height of the waveform shown in the LCD. +12 dB will be an increase of approximately 4X, and +18 dB will be approximately 8X. Conversely, each decrease of -6 dB will halve the level, so that -6 dB will be 1/2X and -12 dB will be approximately 1/4X. Executing the **Level** command with positive (+) settings may cause the sound to clip (i.e., distort at the point that amplification beyond the maximum level is impossible). Once the sample data has been boosted beyond the clipping point, re-executing this command with negative (-) settings of **Level** will simply lower the overall level of the clipped signal – the waveform will remain distorted.

Also, if executing **Level** with negative (-) settings causes any portion of the sample data to reach a zero level, the zero data will not return to its original state even if you re-execute **Level** with positive (+) settings.

- In **Save to No.**, specify the save destination sample number. By default, an unused sample number will be selected.

If **Overwrite** is checked, the sample number will be fixed to the current sample, and cannot be changed. See “About Overwrite” on page 672.

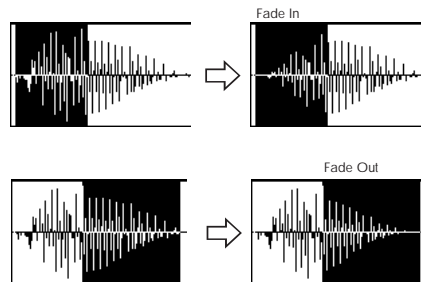
[Stereo] For stereo samples, use “Save to No.(L)” and “(R)” to specify the save-destination of the L and R channels.

- To execute the **Normalize/Level Adjust** command, press the **OK** button. To cancel, press the **Cancel** button.

⚠ Be aware that if sample data of an extremely low level is normalized, any noise included in the sample will also be amplified.

Volume Ramp

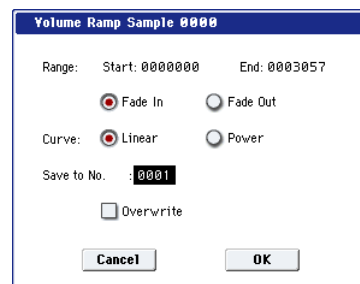
This command modifies the data values (volume) between the **Start** and **End**. You can make the volume gradually increase (**Fade In**) or decrease (**Fade Out**) from the **Start** to the **End**.



- Use **Sample Select (1-1b)** to select the sample that you wish to edit, and use **Start** and **End** to specify the editing range.

You can press the **SAMPLING START/STOP** switch or **Play** button to hear the portion on which “Volume Ramp” will be executed.

- Select “**Volume Ramp**” to open the dialog box.



- The range to be edited is shown by **Range Start** and **End**.
- Use the radio buttons to select the type of volume ramp.

Fade In: The volume at **Range Start** will be zero, and will gradually increase toward **End**.

Fade Out: The volume will gradually decrease from the Range **Start** volume until it reaches zero at **End**.

5. In **Curve**, specify the way in which the volume will change.

Linear: The volume will change linearly. For normal fade-in or fade-out, select **Linear**.

Power: The volume will change non-linearly. When you use the **Mix** menu command to combine a faded-in waveform with a different faded-out waveform (i.e., crossfade), using a **Linear** fade-in/out may produce an impression that the volume has dropped in the middle of the curve. In such cases, use **Power** to perform the fade-in/out.

6. In **Save to No.**, specify the save destination sample number. By default, an unused sample number will be selected.

If **Overwrite** is checked, the sample number will be fixed to the current sample, and cannot be changed. See "About Overwrite" on page 672.

[Stereo] For stereo samples, use "Save to No.(L)" and "(R)" to specify the save-destination of the L and R channels.

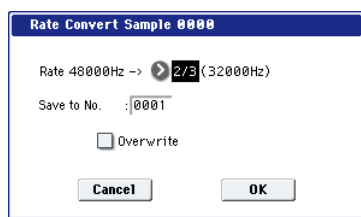
7. To execute the **Volume Ramp** command, press the **OK** button. To cancel, press the **Cancel** button.

Rate Convert

This command lowers the sampling rate (frequency) of the sampled data by $2/3$, $1/2$, $1/3$, $1/4$, or $1/6$. You can use this command to create "down-sampling" effects. The sample data is thinned to convert it to the lower sampling frequency.

The **Rate Convert** command is always executed on all waveform data of the selected sample, regardless of the **Start** and **End** settings.

1. Use **Sample Select (1-1b)** to select the sample that you wish to edit.
2. Select **Rate Convert** to open the dialog box.



3. The sampling rate of the selected sample is shown at the right of "Rate." At the right of the "→" you can select the desired amount of the sampling rate conversion: $2/3$, $1/2$, $1/3$, $1/4$, $1/6$. The sampling rate following conversion will be displayed in Hz.
4. In **Save to No.**, specify the save destination sample number. By default, an unused sample number will be selected.

If **Overwrite** is checked, the sample number will be fixed to the current sample, and cannot be changed. See "About Overwrite" on page 672.

[Stereo] For stereo samples, use "Save to No.(L)" and "(R)" to specify the save-destination of the L and R channels.

5. To execute the **Insert Zero** command, press the **OK** button. To cancel, press the **Cancel** button.

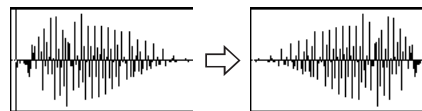
This command cannot be executed on a sample whose sampling rate is 192Hz or less.

The left and right channels of a Stereo sample must have the same sampling rate. Although it is possible to select mono multisamples for -L and -R and convert their sampling rate separately, the system will then no longer be able to handle the pair as a stereo sample.

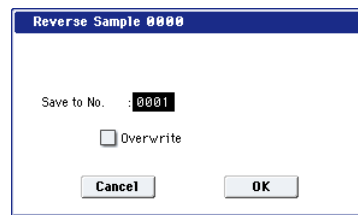
Reverse

This command reverses the sample data (i.e., exchanges the beginning and end).

The **Reverse** command is always executed on all waveform data of the selected sample, regardless of the **Start** and **End** settings.



1. Use **Sample Select (1-1b)** to select the sample that you wish to edit.
2. Select **Reverse** to open the dialog box.



3. In **Save to No.**, specify the save destination sample number. By default, an unused sample number will be selected.

If **Overwrite** is checked, the sample number will be fixed to the current sample, and cannot be changed. See "About Overwrite" on page 672.

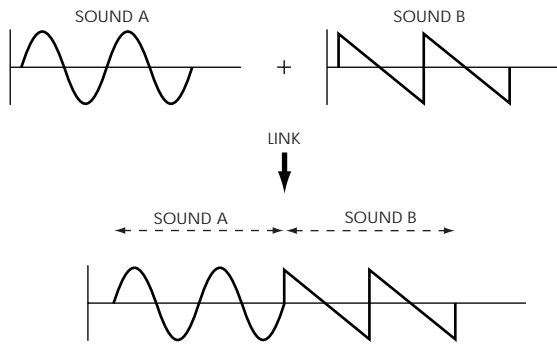
[Stereo] For stereo samples, use "Save to No.(L)" and "(R)" to specify the save-destination of the L and R channels.

4. To execute the **Reverse** command, press the **OK** button. To cancel, press the **Cancel** button.

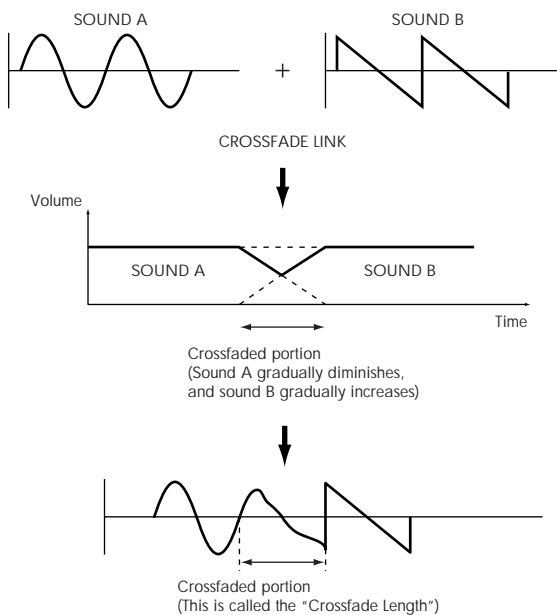
Note: When you execute this command, all of the sample data will be rewritten to reverse its direction. The P2: Loop Edit also contains a **Reverse (2-1d)** command, which simply reverses the playback direction without affecting the sample data itself.

Link

This command connects the currently selected sample with another sample.

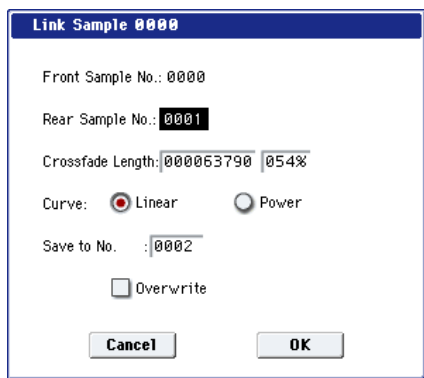


The volume of the two samples can be changed gradually at the transition to gradually mix the samples with each other. This is called crossfade, and can be used to produce a natural-sounding transition between the two sounds.



Link will be executed for all of the selected sample data, regardless of the **Start** and **End** settings.

1. Use **Sample Select (1-1b)** to select the sample that will be placed in front by the **Link** command.
2. Select **Link** to open the dialog box.



3. The sample number selected for **Front Sample No.** will be displayed. When the command is executed, this sample will be placed in front.

[Stereo] If you select one side of a stereo sample, it will automatically be detected as a stereo sample,

and the other side of the sample will also be processed by the **Link** command.

If the **Front Sample** is mono and the **Rear Sample** is stereo, the L and R of the **Rear Sample** will be mixed to mono before linking.

If the **Front Sample** is stereo and the **Rear Sample** is mono, the identical sample will be placed in L and R of the **Rear Sample** before linking.

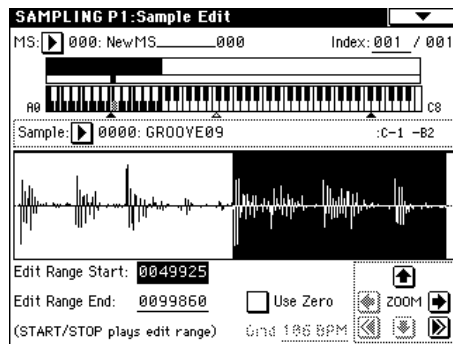
4. Use **Rear Sample No.** to select the sample number that will be linked.

When the command is executed, this sample will be placed in back.

5. In **Crossfade Length**, specify the length over which the crossfade will occur.

If you specify a % value, the proportion in relation to the entire **Front Sample** will be calculated automatically. If you specify 50%, the last half of the **Front Sample** will crossfaded.

[!] If the rear sample is short, the **Crossfade Length** cannot be set any longer than the length of the **Rear** sample. In this case, it will not be possible to specify a value up to 100%.



After selecting a sample in step 1, you can set **Start** and specify the beginning of the crossfade while viewing the waveform. Set **End** to the end of the sample. If you specify these, **Crossfade Length** will indicate the length determined by **Start** and **End**.

6. In **"Curve,"** specify how you want the volume to change in the crossfaded portion.

Linear: The volume will change linearly.

Power: The volume will change non-linearly. In some cases, **Linear** may sound as though the volume diminishes in the middle of the curve. If this occurs, use **Power**.

7. In **Save to No.,** specify the save destination sample number.

An unused sample number will be selected by default.

If **Overwrite** is checked, the sample number will be fixed to the current sample, and cannot be changed. See "About Overwrite" on page 672.

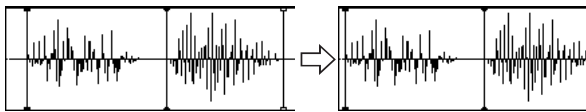
[Stereo] For stereo samples, use "Save to No.(L)" and "(R)" to specify the save-destination of the L and R channels.

8. To execute the **Link** command, press the **OK** button. To cancel without executing, press the **Cancel** button.

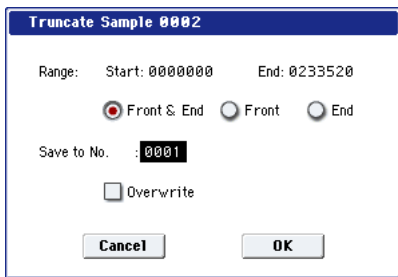
- ⚠ If you link samples of different sampling rates (such as created by **Rate Convert**), the newly created sample will have the sampling rate of the **Front** sample.
- ⚠ One vacant sample is used in order to execute Link. Be aware that if there are no vacant samples, an error will occur.

Truncate (for Loop Edit)

This command deletes unwanted data that lies outside of the **Start**, **Loop Start**, and **End** points (2-1d). After setting the start address, loop start address, and end address of the sample, use this command to delete unwanted sample data.



1. Use **Sample Select (2-1b)** to select the sample that you want to edit, and use the **Start** or **Loop Start** points and the **End** point to specify the region that you want to edit.
2. Select **Truncate** to open the dialog box.



3. Range **Start** and **End** will show the range of data that will be edited.
4. Use the radio buttons to select the portion that will be deleted.

Front & End: The sample data that lies before the Range **Start** (start address or loop start address) and after the Range **End** (end address) will be deleted.

Front: The sample data that lies before the Range **Start** (start address or loop start address) will be deleted.

End: The sample data that lies after the Range **End** (end address) will be deleted.

5. In **Save to No.**, specify the save destination sample number. By default, an unused sample number will be selected.

If **Overwrite** is checked, the sample number will be fixed to the current sample, and cannot be changed. See "About Overwrite" on page 672.

[Stereo] For stereo samples, use "Save to No.(L)" and "(R)" to specify the save-destination of the L and R channels.

6. To execute the **Truncate** command, press the **OK** button. To cancel, press the **Cancel** button.

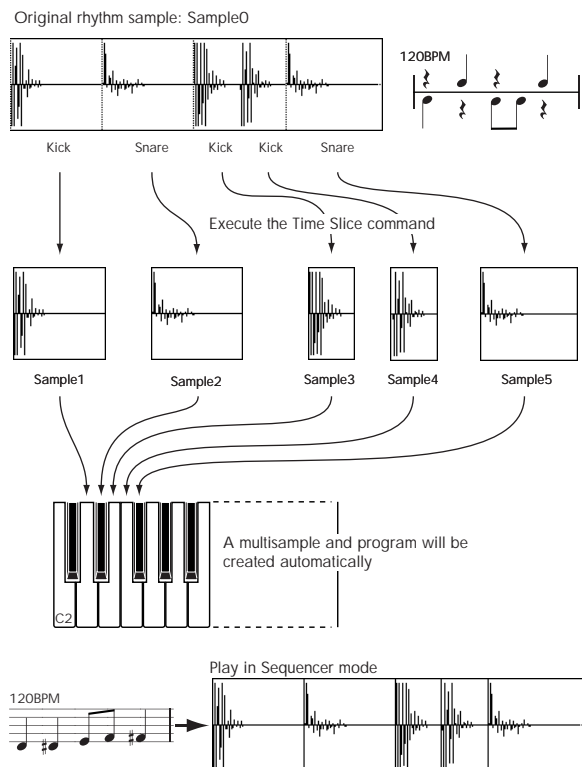
Time Slice

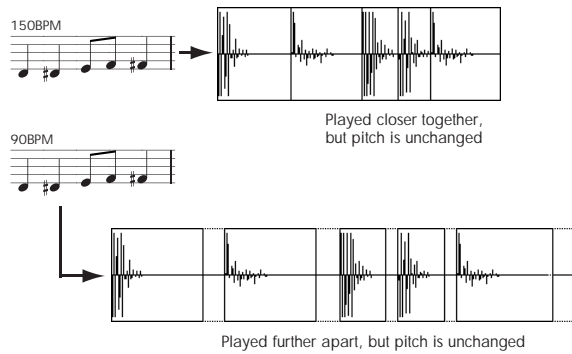
Time Slice lets you convert a mono or stereo rhythmic sample, such as a drum loop, into a set of individual hits and matching sequencer data. You can then:

- Re-create the loop by playing the sequencer data
- Change the tempo of the loop, without altering the pitch
- Change the pitch of the samples, without altering the tempo
- Change the rhythmic feel by altering quantization, swing, etc.
- Change the pattern of the loop by swapping or deleting individual hits, or otherwise editing the sequencer or sample data

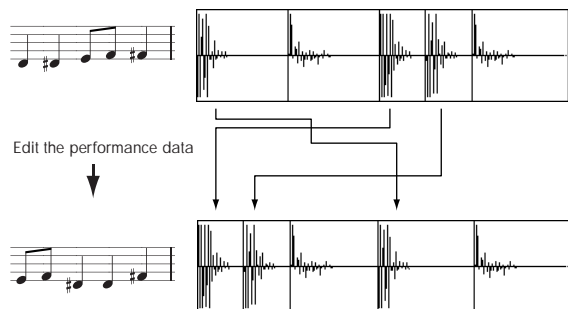
In detail, **Time Slice** does the following:

- Detects the individual beats in the original loop
- Splits each beat into a separate sample
- Creates a Multisample with the original loop on the note C2, and the individual beats on separate keys starting on D2
- Creates a Program which uses the new Multisample
- Creates Sequencer data to re-create the sound of the original loop by playing the individual hits



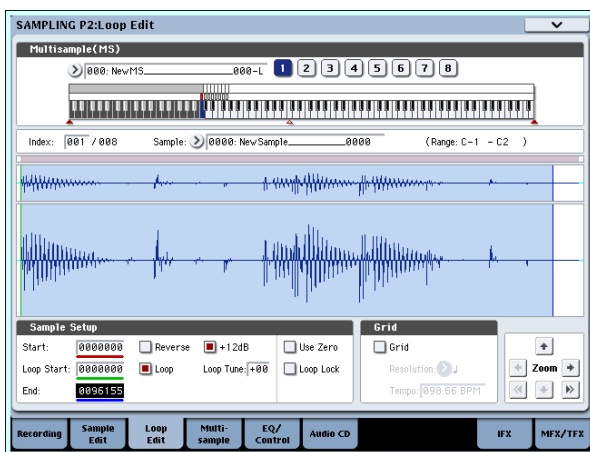


* You can also use the Time Stretch command to control the compression of each sample to optimize the "spacing" to match the tempo. step 9

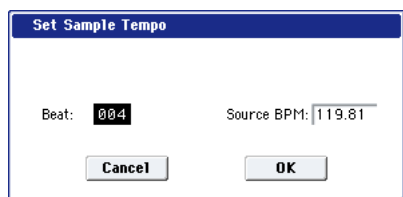


Note: As an alternative to the **Time Slice** command, the **Time Stretch** menu command is another way to change the tempo of a rhythm loop or similar sample. You may wish to use this if you don't need to divide the sample and create song performance data for the divided samples.

1. Select the sample in the Sample Select (2-1b) for which you wish to execute Time Slice.



2. Select the Time Slice to open the dialog box.



3. Specify the number of quarter-note beats and tempo of the currently selected sample. If you know the BPM of the original waveform, set

Source BPM. If you do not know the BPM, specify **Beat** and the BPM will be calculated automatically.

The setting you make here will be used as the reference value when detecting the attack, when performing Time Stretch in step 9b, and when saving the sequence data in step 10.

Beat: Specifies the number of quarter-note beats. When you specify **Beat**, the **Source BPM** will indicate the playback BPM at the original key. This BPM value will automatically be calculated from the start address to the end address (if loop is off) or from the loop start address to the end address (if loop is on) of the selected sample. If you know the BPM and it is different than the displayed value, change **Source BPM** to the correct value.

For example in the case of a 120 BPM sample of one measure of 4/4 time, set **Beat** to 4. The **Source BPM** will be calculated automatically. If the **Source BPM** is not set to 120.00, due to inaccuracies in the start address (or loop start address) and end address, change the **Source BPM** to 120.00.

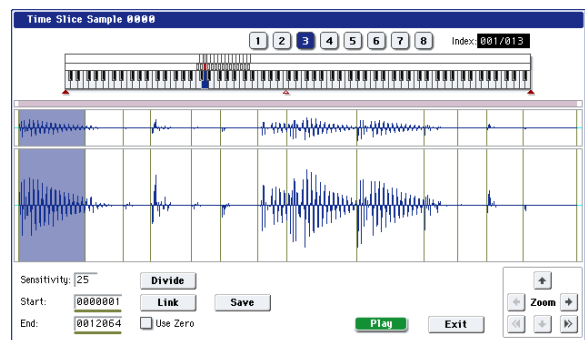
Source BPM: Specifies the tempo at the original key of the source waveform.

4. To execute Time Slice, press the OK button. To cancel without executing, press the Cancel button.

When you press the OK button, the attacks will be detected, the sample will automatically be sliced, and a dialog box will appear.

[Stereo] In the case of a stereo sample in which L and R have different lengths, silent data will automatically be added to the end of the shorter sample so that the two samples will be the same length.

5. If you want to re-set **Beat** and **Source BPM** after pressing the OK button, you can do so in step 9a).



5. Listen to the samples that were divided by detecting their attacks.

The sample before slicing is assigned to the C2 note of the keyboard, and the sliced samples are assigned to notes D2 and above. When you change the **Index**, the corresponding display will be highlighted, allowing you to view the sliced waveforms.

You can also select an index by holding down the ENTER switch and pressing a note on the keyboard. The index that is assigned to the note you pressed will be selected.

To hear the sliced sounds, you can either press the corresponding note on the keyboard, or change the index to select the desired sample and then press the SAMPLING START/STOP switch. When you

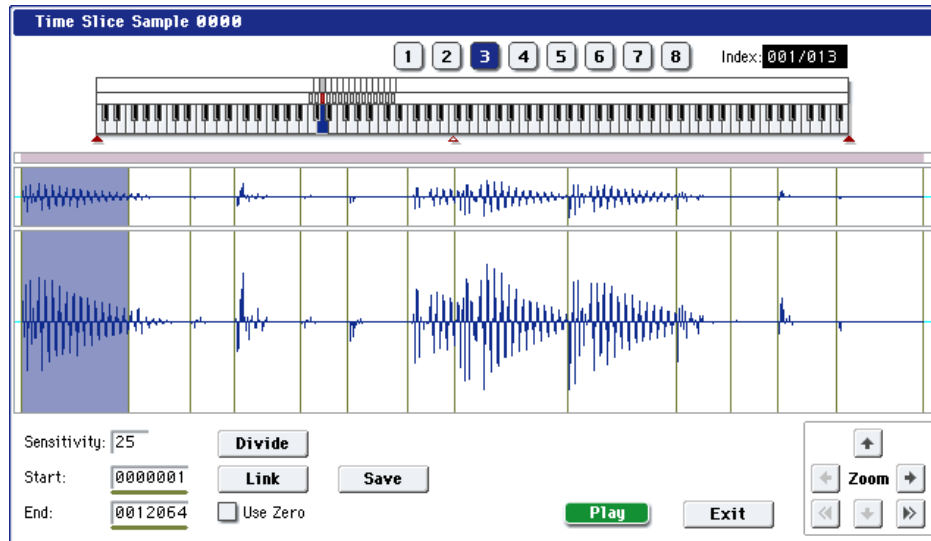
press the SAMPLING START/STOP switch, the sound between the specified **Start** and **End** will be played at the original key.

Keyboard & Pads: This shows the multisample that is being used temporarily in this dialog box.

When you play the keyboard, this multisample will sound. It will behave in the same way as in normal pages (such as the Recording page). (0–1a)

[Stereo] In the case of a stereo sample, a stereo multisample will be temporarily used. The sample at each index will sound in stereo.

Time Slice step 4



Index [Source, xxx(001...090)/yyy(001...090)]

Selects the sample index.

If this is set to Source, the original waveform before time slicing will be selected.

By selecting xxx/yyy you can specify individual samples that were sliced. xxx indicates the selected sample, and yyy indicates the total number of samples that were sliced. A maximum of 90 samples can be assigned to the keyboard. If more than 90 samples were sliced, this will display 90.

Sample waveform display: Gray lines indicate the locations at which the sample is sliced. Red and blue lines indicate the Start and End addresses respectively. When **Index** is xxx/yyy, the sample of the selected index will be highlighted.

[Stereo] In the case of a stereo sample, the L channel sample data will be displayed above, and the R channel sample data will be displayed below.

ZOOM: You can zoom in and zoom out in the vertical and horizontal dimensions of the waveform shown in the sample waveform display. (1–1f)

- If the slice locations are not appropriate, you can adjust Sensitivity to change the sensitivity at which the attacks are detected, in order to change the slice locations.

Sensitivity [00...30]

Adjusts the sensitivity at which the attacks are detected. By increasing this value, you can detect attacks at even lower levels, to create more finite slices.

- The **Level** in this case does not necessarily correspond to the “waveform level.”

Depending on the sample, the desired slicing may not occur even if you increase the **Sensitivity**. If the

attack portion of the following sample has overlapped into the end of the sample, or if the sample contains two sounds, make adjustments in step 7.

- Make adjustments where the automatic attack detection did not occur correctly.

Change **Index** to select the sample that you wish to adjust. Make adjustments by changing **Start** and **End**, and by executing **Divide** or **Link** to adjust the slice location.

Start: Specify the start address for the sample of the currently selected **Index**. At the same time, the end address of the sample for the preceding **Index** will also be adjusted.

End: Specify the end address for the sample of the currently selected **Index**. At the same time, the start address of the sample for the next **Index** will also be adjusted.

When adjusting the **Start** and **End** addresses of the divided samples, use **ZOOM** to increase the magnification (×1 or more) so that the sample waveform is displayed accurately when you make adjustments. (1–1f)

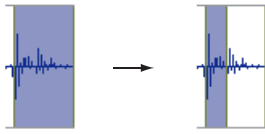
- If **Index** is set to Source, the address of the original waveform will be modified. If you change the start address, the loop start address will also be changed at the same time.

Use Zero: (1–1d)

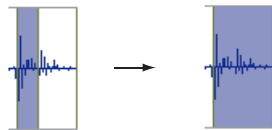
If you wish to adjust the **Start** or **End** of a divided sample, it is best to first check **Use Zero**. In general, using zero-cross points to specify sample addresses will make it less likely that clicks or pops will occur, particularly at the **End**.

Divide: This splits the sample of the currently selected **Index** into two. Use this when you wish to


add another location to slice the sample. Modify **End** or **Start** to adjust the divided sample.



Link: This joins the sample of the currently selected **Index** to the sample of the next **Index**. Use this when you wish to merge together two sliced locations.



When you use Time Slice on a rhythm loop sample, the quality of the playback in Sequencer mode will depend largely on the “cutoff” of each percussion instrument sound that was sliced.

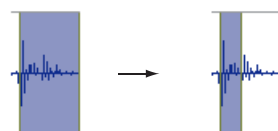
 Be aware that if you change the **Sensitivity** after adjusting the slice location, the attacks will be re-detected and the sample will automatically be sliced again.

What kind of slices will produce the best result?

A. Divide the separate percussion instrument notes as finely as possible

For example in the case of a sample where the decay of the kick is overlapped by the hi-hat, the attack sound of the kick and the attack sound of the hi-hat should be sliced to create two samples. If these sounds are left as one sample (containing both kick and hi-hat), their rhythm may become incorrect when the sample is played at a different tempo.

Kick + Hi-hat kick/Hi-hat



If the sample is not sliced appropriately even after you adjust the **Sensitivity** use **Divide** to divide the sample into halves, and adjust **End** and **Start** as needed.

B. Make sure that each divided sample has a clear attack

The attack portion is vital for percussion sounds. Slice the sample at a point where the attack will be sounded crisply.

C. Avoid the noise that can occur toward the end of each divided sample

For example as shown in the above right illustration, noise can be present at the end of the kick sample. Adjust the end address of the kick sample so that the noise is not obtrusive.

In this case, adjusting the end address will also affect the start address of the hi-hat sample. While listening to the two samples, make adjustments so that the noise at the end of the kick sample is as

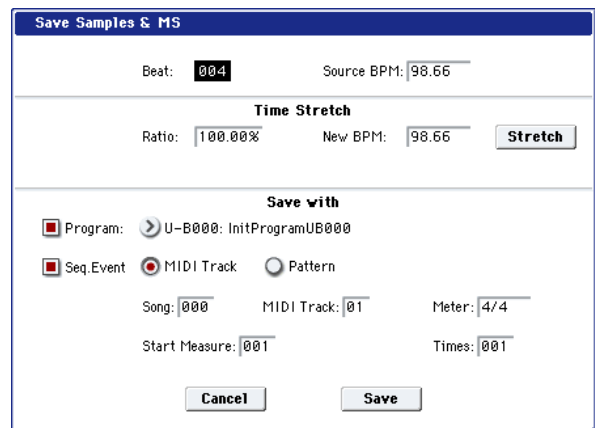
inconspicuous as possible, and also that the hi-hat attack is heard clearly.

Pay attention to these points as you adjust **Sensitivity**. If necessary, use the methods described above to edit each sample.

The noise occurring at the end of the sample in “C.” will be automatically reduced when you execute steps 8 and following. You should adjust **Sensitivity** while paying particular attention to sections “A” and “B,” and then execute step 9. If the noise is still obtrusive, then you can adjust the end address.

8. Save the sliced samples to the multisample to which they have been assigned.

When you press the Save button, the “Save Samples & MS” dialog box will appear.

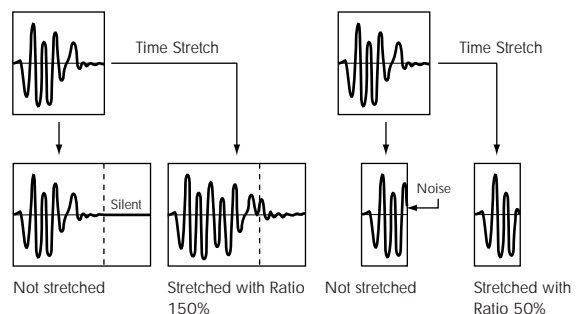


9. Use Time Stretch to adjust the length of the sliced samples.

When you press the Stretch button, Time Stretch (a function that expands or shrinks the length of a sample without affecting its pitch) will be applied to the sliced sample.

If you wish to save the sliced sample as it is, proceed to step 10 without executing Time Stretch.

Sometimes when a sliced sample is played in Sequencer mode and the tempo is slowed down, the silent portion between samples may become obvious or noise may be more apparent, producing an unnatural-sounding result. To avoid this, you can use Time Stretch to adjust the length of the individual samples. The length of the samples will automatically be optimized according to the **Ratio** and **New BPM** settings.



If you execute Time Stretch at 100%, the sample length will not change but the end of the sample will be faded out, reducing the noise.

a) Set **Beat** and **Source BPM**. The method is the same as in step 3. If you wish to change the value you set in step 3, you can change it here.

b) Specify the length of the sample that will be created by Time Stretch.

- To specify the length as a ratio

Set **Ratio**. The available range is 50.00–200.00%. If you specify 50.00%, the sample length will be halved. (The tempo will double.) If you specify 200.00%, the sample length will double. (The tempo will be halved.)

- To match an existing BPM tempo value

Use **New BPM** to specify the BPM value of the sample you wish to create. The **Ratio** will automatically be calculated from the **Source BPM** and the **New BPM** values.

It is not possible to make settings that would cause **Source BPM** or **New BPM** to exceed the range of 40.00–480.00.

It is not possible to make settings that would cause **Ratio** to exceed the range of 50.00–200.00.

Press the Stretch button to execute Time Stretch.

When you execute the command, the time-stretched samples will automatically be assigned to notes D2 and above of the keyboard, allowing you to audition the sound. You can change **Ratio** and **New BPM** as many times as desired and continue auditioning the result.

When you audition the time-stretched samples, the sound you hear is the sound of each divided sample as it will be played in Sequencer mode. If there is obtrusive noise or if the attack is not sound cleanly, return to step 7 and adjust the **Start** and **End** addresses, etc.

10. Set “Save with” to specify the data that will be created simultaneously when you press the Save button to save the samples

Program: If this check box is checked, the multisample will be converted to a program when you save it. Specify the destination program number.

Seq.Event: If this check box is checked, sequence data to play the sliced samples will automatically be created after the data is saved.

You can specify whether the sequence data to play back the sliced samples will be created as track data or as pattern data. If pattern data is created, you can also assign the pattern to RPPR.

If you choose the Track radio button, track data will be created. Use **Song**, **Track**, and **Meter** to specify the song number, track number, and time signature of the data that will be created.

The track data that is created will start at the measure specified by **Start Measure**, and will repeat for the number of times specified by **Time**.

When track data is created, any data that had existed within the specified range of measures will be erased. Data outside this range will not be erased.

If you check both **Program** and **Seq.Event** and select the Track, the song parameter **Program Select** (Sequencer 0–1b) will automatically be specified if the **Start Measure** is 001. Also, a program change will be created at the **Start Measure** location. In Sequencer mode you can select the song and play it back to hear the result immediately. Normally you will check both of these boxes.

If you choose the Pattern radio button, pattern data will be created.

Use **Song**, **Pattern**, and **Meter** to specify the song number, pattern number, and time signature of the data that will be created.

RPPR: If you check the check box, pattern data to play the sliced samples will be assigned to RPPR when you save. Use **Key** and **Track** to specify the key and track that will be created.


If **Program**, **Seq.Event**, and **RPPR** are all checked, the song parameters **Program Select** (Sequencer 0–1c/2c) and **RPPR ON/OFF** (Sequencer 0–1a) will both be specified automatically. **RPPR ON/OFF** will be turned on.

In Sequencer mode you can select the song and pattern to play back the results immediately. If **RPPR** is checked, pressing the specified key will play the pattern. Normally you will check both of these boxes.

Note: In some cases, the sample End address setting etc. may increase the number of measures in the pattern, so that it no longer loops precisely. In such cases, re-specify the **Length** in the Sequencer mode **Pattern Parameter** menu command.

Note: If you use **Seq.Event** and **Start Measure** 001, the **Tempo** (0–1c) of the track data or pattern data that is created will be the value specified by **New BPM** if you executed Time Stretch. If you did not execute Time Stretch, the tempo will be the value specified for **Source BPM**.

If you set **Start Measure** to 001 and create a track, and if a tempo event exists only at the beginning of the master track, the tempo of that event will also be the value that you specified as **New BPM** or **Source BPM**.


 If you save to a song that already contains data, the time-sliced samples may not play back in the same way as original sample if the time signature is different. You must set a matching time signature in the master track.


11. If you wish to save, press the **Save** button. If you decide not to save, press the **Cancel** button. When you save, the samples and multisample will automatically be saved to vacant samples and multisamples.

[Stereo] In the case of stereo samples, the samples and multisample will be saved in stereo.

12. By repeating steps 6–11 you can create as many samples and multisamples as desired.

13. Press the **Exit** button to exit the **Time Slice** command.

 If you exit **Time Slice** without using the **Save** button to save the samples and multisamples, be aware that the samples and multisamples you create will be lost.

 Before executing **Time Slice** on a long sample, you should first divide the sample into measures. In some cases, it may not be possible to assign the sample to the keyboard or create sequence data.

Time Slices requires vacant samples, multisamples, and relative parameters in order to execute. Be sure that there is sufficient free area before you execute. If there is insufficient free area, an error will occur.

Note: If you open the **Time Slice** dialog box on the same sample, it will be sliced in the same way as previously. These slice locations will also be used if you execute **Slice** in the **Time Stretch** menu command, so that you don't have to make the settings again.

If you wish to detect the attacks again or to re-do the operation, change the **Sensitivity** after you open the dialog box.

Time Stretch

Time Stretch lengthens or shortens a sample without changing its pitch. This is convenient when you wish to change the tempo of a rhythm loop (drums) or a melodic sample (e.g., vocal, strings, winds) to match the tempo of another sample or of the sequencer. The OASYS provides two ways in which **Time Stretch** can be executed.

This command also supports stereo samples.

Sustaining

This type is suitable for sustained sounds such as vocal or instruments. Using it to change the tempo of phrases such as guitar or piano will also produce good results.

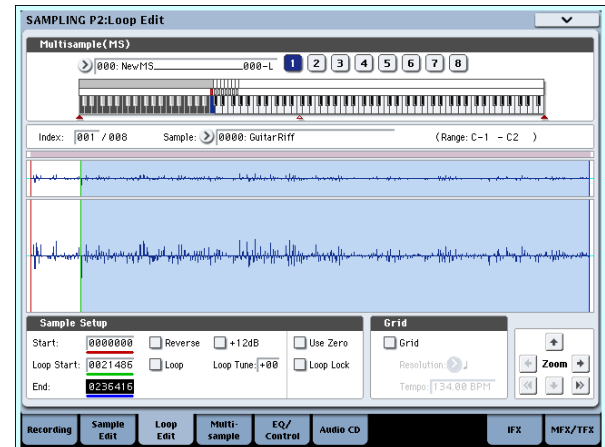
Slice

This type is suitable for decay-type instruments such as drums. Using it to change the tempo of drum or percussion loops will produce good results with minimal effect on the attack.

Note: It is possible to change the pitch when you adjust the tempo of a rhythm loop or similar sample, using the **Detune BPM Adjust** menu command. You can create interesting effects by raising or lowering the pitch of a drum sound. For more information, see “**Detune BPM Adjust**” on page 464.

Using Time Stretch (Sustaining)

1. Select the sample that you wish to time-stretch using the **Sustaining** method.



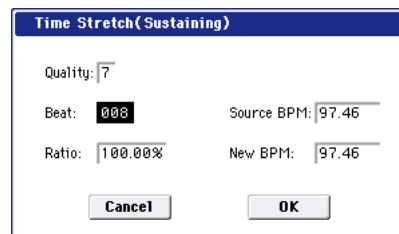
2. Select the **Time Stretch** command to access this dialog box, where you can select the desired time stretch method.



3. Use the radio buttons to select **Sustaining**. Then press the **OK** button to execute, or the **Cancel** button to cancel without executing.

[Stereo] If the L and R of a stereo sample are different in length, blank data will automatically be added to the end of the shorter sample so that it matches the longer side.

4. The **Time Stretch** dialog box will appear.



5. Set **Quality** to specify the desired audio quality of the sample produced by **Time Stretch**.

The range is 0–7. Higher settings will generally produce better results (depending on the sample being processed), but will also increase the processing time.

Since you can try this as many times as you like, you should normally start with about 4, and raise or lower the setting gradually.

6. Set the proportional length of the sample that will be created by Time Stretch.

- To specify the length as a ratio:

Set the **Ratio** to the desired value. The available range is 50.00%–200.00%.

50.00% reduces the sample to half of its original length, doubling the tempo.

200.00% increases the sample to double its original length, slowing the tempo to half-speed.

The tempo of the resulting sample will be calculated automatically based on the **Ratio** and **Source BPM**, and displayed in **New BPM**.

- To match an existing BPM tempo value:


Set **Beat** as the number of quarter-note beats. When you change **Beat**, the **Source BPM** value will be changed automatically.

Source BPM will indicate the playback BPM value at the original key. This BPM value is automatically calculated according to the length from the start address to the end address (if loop is off) or from the loop start address to the end address (if loop is on). If you already know the BPM value and the calculated value is incorrect, change it to the correct value.


Use **New BPM** to specify the BPM value of the sample you wish to create. **Ratio** will automatically be calculated from the **Source BPM** and **New BPM** values.

For example if you have a one-measure 120 BPM sample in 4/4 time, and would like to change it to 150 BPM, you would set **Beat** to 4. The **Source BPM** will be calculated automatically. If the **Source BPM** is not calculated as 120.00 due to inaccuracies in the start address (or loop start address) or end address, adjust **Source BPM** to the correct value of 120.00.

Next, set **New BPM** to 150.00. The **Ratio** will be calculated automatically.

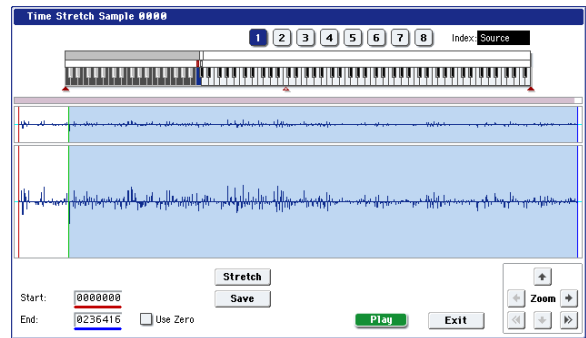
 It is not possible to make settings that would cause **Source BPM** or **New BPM** to exceed the range of 40.00–480.00.

It is not possible to make settings that would cause **Ratio** to exceed the range of 50.00–200.00.

 Depending on the sample, the length may not be exactly as you specify, due to limitations in processing accuracy.

7. To execute the Time Stretch operation, press the OK button. To cancel without executing, press the Cancel button.

When you press the OK button, the Time Stretch dialog box will appear.



8. Audition the sample that was created by Time Stretch.

The sample before being time-stretched is assigned to the C2 note of the keyboard, and the sample that was time-stretched is assigned to C#2. You can change the **Index** to check the waveform.

Keyboard & Pads: This shows the multisample that is used temporarily in this dialog box.

When you play the keyboard, this multisample will sound. It will behave just as in normal pages (e.g., the Recording page). (0–1a)

[Stereo] In the case of a stereo sample, a stereo multisample will be used temporarily. The sample at each index will sound in stereo.

Index

[Source, Result]

Selects the index for the sample whose waveform you wish to display.

If you select **Source**, the original waveform before time-stretching will be selected.

If you select **Result**, the time-stretched sample will be selected.

You can also select the index by holding down the ENTER switch and pressing a note on the keyboard. The index that includes that note will be selected.

Sample waveform display: This shows the waveform of the selected sample. As in 2–1: Loop Edit, the Start, Loop Start, and End addresses are shown by a solid line.

[Stereo] In the case of a stereo sample, the L channel sample data will be displayed above, and the R channel data below.


ZOOM: This controls horizontal and vertical zoom in/out for the waveform shown in the “Sample waveform display.” (1–1f)

Start:

End:

Specify the start address and end address of the sample for the currently selected index.

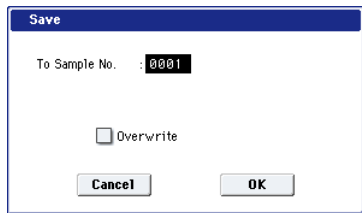
When you execute Time Stretch, the addresses will be specified automatically, but the playback may be slightly skewed due to inaccuracies in the end address, etc. If this occurs, you can correct the addresses manually.

 When you change the start address, the loop start address will also be changed simultaneously. If you wish to independently adjust the start address and loop start address, save the data in step 10, and then make settings in the P2: Loop Edit page.

To audition the sound in the specified range, play the keyboard or press the SAMPLING START/STOP switch. When you press the SAMPLING START/STOP switch, the sample in the range specified by **Start** and **End** will sound at the original key.

Use Zero: (1–1d)

9. If you press the Stretch button, the Time Stretch dialog box will appear, and you can re-do the time stretch once again. Execute Time Stretch as described in step 6.
10. Save the sample that you created. Press the Save button, and the Save dialog box will appear.



In "To Sample No.," specify the save destination sample number. By default, an unused sample number will be selected. If **Overwrite** is checked, this cannot be selected.

If Overwrite is checked, the sample number will be fixed to the current sample, and cannot be changed. See "About Overwrite" on page 672.

[Stereo] For stereo samples, use "Save to No.(L)" and "(R)" to specify the save-destination of the L and R channels.

To execute the Save operation, press the OK button. To cancel without saving press the Cancel button.

11. By repeating steps 9–10 you can create more samples as desired.
12. Press the Exit button to exit the Time Stretch operation.

The index will specify the last-saved sample number.

Note: If you to use the saved sample in Program mode or Sequencer mode, you can use the **Convert MS To Program** menu command, or you can select that multisample for the "2–1c: OSC1 Multisample/Wave Sequence" or "2–5: OSC2 Basic" parameters "MS1"–"M4" (if "Type" = Multisample) and create a program.

- ⚠ Be aware that if you exit Time Stretch without using the Save button then press the OK button to save the sample, the sample(s) you created will be lost.
- ⚠ Time Stretch requires vacant samples, multisamples, and relative parameters in order to execute. Before you execute, make sure that there is sufficient free space. If there is not, an error will occur.

To use Time Stretch (Slice)

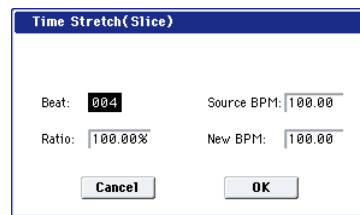
1. Select the sample that you wish to time-stretch using the Slice method.
2. Select the Time Stretch command from the Page Menu to access this dialog box, where you can select the desired time stretch method.



3. Use the radio buttons to select Slice. Then press the OK button to execute, or the Cancel button to cancel without executing.

[Stereo] If the L and R of a stereo sample are different in length, blank data will automatically be added to the end of the shorter sample so that it matches the longer side.

4. A dialog box for executing Time Stretch will appear.



5. Specify the number of quarter note beats and tempo of the currently selected sample.

If you already know the BPM value, set **Source BPM**. If you do not know the BPM, setting **Beat** will cause the BPM to be calculated automatically. The settings here are also used as the reference values when detecting the attacks at which the sample is divided.

Beat: Specify the number of quarter note beats. When you change **Beat**, the **Source BPM** will indicate the BPM value for playback at the original key. This BPM value is automatically calculated according to the length from the start address to the end address (if loop is off) or from the loop start address to the end address (if loop is on). If you already know the BPM value and the calculated value is incorrect, change **Source BPM** to the correct value.

For example if you have a one-measure 120 BPM sample in 4/4 time, you would set **Beat** to 4. The **Source BPM** will be calculated automatically. If the **Source BPM** is not calculated as 120.00 due to inaccuracies in the start address (or loop start address) or end address, adjust **Source BPM** to the correct value of 120.00.

Source BPM: Specify the tempo at the original key of the original waveform.

- ⚠ **Source BPM** cannot be set or displayed outside the range of 40.00–480.00.

6. Set the proportional length of the sample that will be created by Time Stretch.

- To specify the length as a ratio:

Set the **Ratio** to the desired value. The available range is 50.00%–200.00%.

50.00% reduces the sample to half of its original length, doubling the tempo.

200.00% increases the sample to double its original length, slowing the tempo to half-speed.

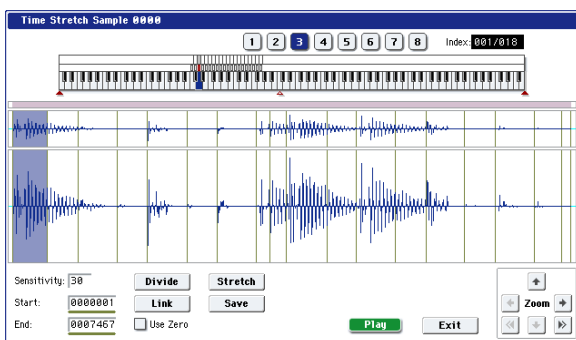
The tempo of the resulting sample will be calculated automatically based on the **Ratio** and **Source BPM**, and displayed in **New BPM**.

- To match a desired BPM tempo value:

Set **New BPM** to the desired BPM value of the sample that will be created. **Ratio** will automatically be calculated from the **Source BPM** and **New BPM** values.

It is not possible to set or display **New BPM** outside the range of 40.00–480.00. It is not possible to set or display **Ratio** outside the range of 50.00–200.00.

- To execute **Time Stretch**, press the **OK** button. To cancel without executing, press the **Cancel** button. When you press the **OK** button, the attacks will be detected and the sample will be divided automatically, and time stretch will be performed. The **Time Stretch** dialog box will appear.



- Audition the results that were created by **Time Stretch**.

The sample before being time-stretched is assigned to the C2 note of the keyboard. The time-stretched sample is assigned to C#2. Sliced (divided) samples will be assigned consecutively upward, starting from D2 on the keyboard.

Index [Source, Result, xxx(001...090)/yyy(001...090)]:

Selects the index for the sample whose waveform you wish to display.

If you select **Source**, the original waveform before time-stretching will be selected.

If you select **Result**, the time-stretched sample will be selected.

If you set this to xxx/yyy, an individually sliced sample will be selected. xxx is the selected index, and yyy indicates the total number of sliced samples. A maximum of 90 samples can be assigned to the keyboard. If the sample was sliced into more than 90 samples, this will be displayed as 90.

You can also select an index by holding down the **ENTER** switch and playing a note on the keyboard. The index that includes that note will be selected.

- When you execute **Time Stretch**, the addresses will be specified automatically. However, playback may be slightly offset due to inaccuracies in the end address, etc. If this occurs, set **Index** to **Result**, and use **Start** and **End** to re-specify the addresses.

Keyboard & Pads: This shows the multisample that is temporarily used in this dialog box.

When you play the keyboard, this multisample will sound. It will act in the same way as in normal pages (e.g., the Recording pages). (0–1a)

[Stereo] In the case of a stereo sample, a stereo multisample will be used temporarily. The sample of each index will sound in stereo.

Sample waveform display: This displays the waveform of the selected sample. If the **Index** is other than **Result**, the locations at which the sample is sliced will be indicated by a gray-colored line. If **Index** is set to xxx/yyy, the sample of the selected index will be highlighted. If **Index** is other than xxx/yyy, the **Start**, **Loop Start**, and **End** addresses will be indicated by red, green, and blue colored lines, respectively.

[Stereo] In the case of a stereo sample, the L channel sample data will be displayed above, and the R channel sample data will be displayed below.

ZOOM: This lets you zoom the waveform display, in or out, vertically and horizontally.

- If the slice locations are not appropriate, use **Sensitivity** to modify the sensitivity at which the attacks are detected, thus changing the slice locations.

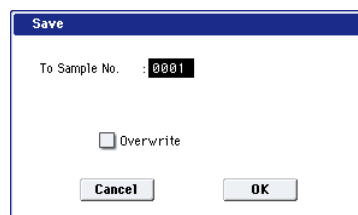
Sensitivity [00...30]

For information about the **Start**, **End**, **Use Zero**, **Divide**, and **Link** parameters, see “Time Slice” on page 686, steps 6 and 7.

- When you press the **Stretch** button, the **Time Stretch** dialog box will appear, and you can re-do the time stretch.

Execute **Time Stretch** using the same procedure as in step 5. If the sample slice locations are not appropriate, this will also affect the result of **Time Stretch**. For details on setting the slice locations, see “Time Slice” on page 686, steps 6 and 7.

- Save the sample you created. Press the **Save** button, and the **Save** dialog box will appear.



In “To Sample No.,” specify the save destination sample number. By default, an unused sample number will be selected. If **Overwrite** is checked, this cannot be set.

If you wish to delete the original sample data and overwrite it with the edited sample, check **Overwrite**.

- If you execute this command with **Overwrite** checked, the original sample data will be deleted, and overwritten by the edited sample data. Thus, in the **Time Stretch** dialog box that appears after execution, the edited sample data will automatically have its attacks detected and sliced, and displayed in **Index Source**.

[Stereo] For stereo samples, use “Save to No.(L)” and “(R)” to specify the save-destination of the L and R channels.


To execute the Save, press the OK button. To cancel without executing, press the Cancel button.


12. By repeating steps 10–11 you can create more samples as desired.

13. Press the Exit button to end the Time Stretch operation.

The last-saved sample number will be set for the index.

Note: If you to use the saved sample in Program mode or Sequencer mode, you can use the **Convert MS To Program** menu command, or you can select that multisample for the “2-1c: OSC1 Multisample/Wave Sequence” or “2-5: OSC2 Basic” parameters “MS1”–“M4” (if “Type” = Multisample) and create a program.

 Be aware that if you exit **Time Stretch** without using the Save button, and then press the OK button to save the sample, the sample(s) you created will be lost.

 Before executing the **Slice** on a long sample, you should first divide the sample into measures. In some cases, it may not be possible to assign the sample to the keyboard or edit the slice locations.

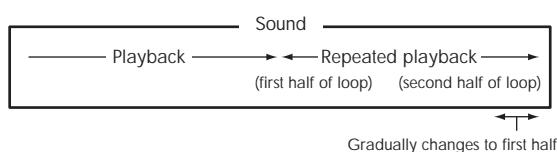
Time Stretch requires vacant samples, multisamples, and relative parameters in order to execute. Before you execute, make sure that there is sufficient free space. If there is not, an error will occur.

Note: If you open the time slice (Slice) dialog box on the same sample, it will be sliced in the same way it previously was. These slice locations will also be used if you use the **Time Slice** menu command, so that you don’t have to make the settings again. If you wish to detect the attacks again or to re-do the operation, change the **Sensitivity** after you open the dialog box.

Crossfade Loop

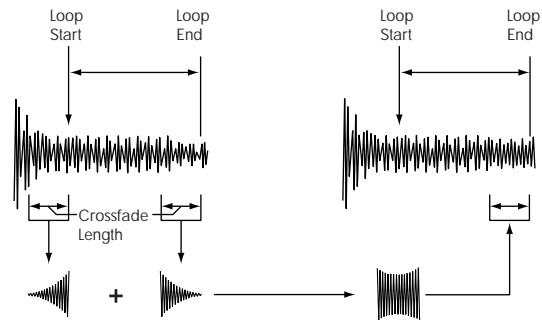
When looping a pitched instrument sample of a complex sound such as strings or woodwinds to make the sound sustain, it is necessary to create a long loop to preserve the rich character of the sound. **Crossfade Loop** can be used to minimize the difference in sound between the two regions to create a natural-sounding loop.

In order to solve such problems, **Crossfade Loop** causes the sound to change gradually from the end to the beginning of the loop.

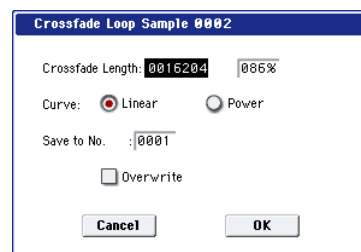


In actuality, the sample data is created as follows. A specific length (the **Crossfade Length**) of the waveform immediately before the beginning of the loop is taken and mixed with the end portion.

At this time, the waveform level of the portion immediately before the end (the length specified by **Crossfade Length**) will gradually decrease, and the waveform level immediately before the beginning of the loop will gradually increase as the two are mixed.




1. Select the sample that you wish to Crossfade Loop.
2. Select Crossfade Loop to open the dialog box.



3. In **Crossfade Length**, specify the length of the sample that you wish to crossfade.

If you set this as %, **Crossfade Length** will be calculated automatically. Specify the proportion of the **Crossfade Length** relative to the length between the loop start and loop end. If you set this to 50%, crossfade will be performed on the second half of the region between loop start and loop end.

 If the length from the beginning of the sample to the loop start is shorter than the length from the loop start to the loop end, **Crossfade Length** can be set only up to the length from the beginning of the sample to the loop start. In this case, a setting of 100% will not be possible.

4. Set “Curve” to specify how the volume will change in the crossfaded region.

Linear: The volume will change linearly.

Power: The volume will change non-linearly. Sometimes a setting of Linear will produce the impression that the volume has dropped in the middle of the curve. In such cases, use Power.

5. In **Save to No.**, specify the save destination sample number. By default, an unused sample number will be selected.

If Overwrite is checked, the sample number will be fixed to the current sample, and cannot be changed. See “About Overwrite” on page 672.

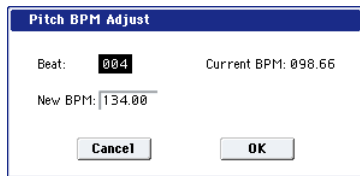
[Stereo] For stereo samples, use “Save to No.(L)” and “(R)” to specify the save-destination of the L and R channels.

6. To execute **Crossfade Loop**, press the OK button. To cancel without executing, press the Cancel button.

Pitch BPM Adjust

This command sets the **Pitch** (3–1b) of the selected index on the basis of a BPM value. Raising the pitch of sample playback will increase the playback speed. Lowering the pitch will slow down the playback speed. This can be used to match the loop length etc. of the sample to a tempo of the desired BPM value.

1. Select Pitch BPM Adjust to open the dialog box.



2. Specify Beat. This is specified in quarter-note beats.
3. Current BPM will show the BPM value at the base key (displayed in blue). This BPM value is calculated automatically from the start address to the end address of the sample (if looping is off) or from the loop start address to the end address (if looping is on).

For example if the start and end address of the sample are two seconds apart, the original key is specified as the base key, and **Beat** is set to 4, **Current BPM** would be 120.00. If **Beat** is set to 2, the display would indicate **Current BPM** as 60.00.

It is not possible for this display to exceed the range of 40.00–480.00.

4. In New BPM specify the BPM value that will result from the conversion of the Current BPM value.
5. To execute the Pitch BPM Adjust command, press the OK button. To cancel, press the Cancel button.

When you execute this command, the **Pitch** (3–1b) value will be set automatically. For example if you modify a quarter-note 120 BPM sample to 240 BPM, the **Pitch** will be set to +12.00.

This calculation is performed within the OASYS's limits of precision. Minor discrepancies may occur in the final BPM calculation.

Destination (Audio CD Ripping)

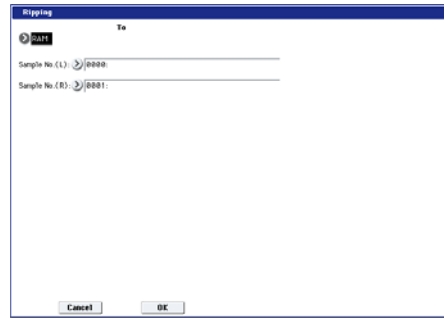
Specifies the writing data of the ripped data, and executes ripping.

Ripping will create a stereo 44,100 Hz sample. You can rip to RAM memory, or disk. If you select DISK, a WAVE file will be created.

Be aware that if you play the keyboard or controllers while ripping, the vibration may cause data skips or read errors, making it impossible to rip successfully.

Ripping to RAM memory

1. Select Destination to open the dialog box.
2. In the To field, select RAM.



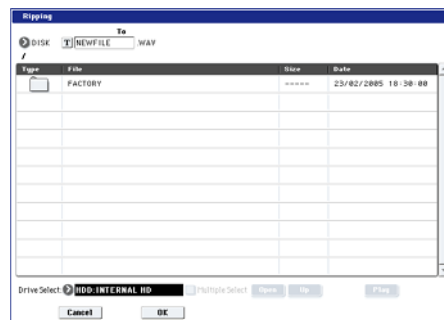
3. In “Sample No.(L)” and “Sample No.(R),” specify the destination to which the stereo sample data created by ripping will be written.

By default, the lowest-numbered vacant sample will be displayed. Normally you will leave this default setting unchanged.

4. Press the OK button to execute ripping, or press the Cancel button to cancel without executing.

Ripping to the disk

1. Select Destination to open the dialog box.
2. In the “To” field, select DISK.



3. Specify a name for the WAVE file that will be saved.
4. In Drive Select, select the disk to which the data will be saved.
5. Use the Open button and Up button to select the save-destination directory.
6. Press the OK button to execute ripping, or press the Cancel button to cancel without executing.

Copy Insert Effect

For more information, please see “Copy Insert Effect” on page 153.

Swap Insert Effect

For more information, please see “Swap Insert Effect” on page 154.

Insert IFX Slot

For more information, please see “Insert IFX Slot” on page 154.

Cut IFX Slot

For more information, please see “Cut IFX Slot” on page 155.

Clean Up IFX Routings

For more information, please see “Clean Up IFX Routings” on page 156.

Copy Master/Total Effect

This copies the effect settings from a desired program, combination, song, or Sampling mode.

For more information, please see “Copy MFX/TFX” on page 157.

Swap Master/Total Effect

For more information, please see “Swap MFX/TFX” on page 158.

Write FX Preset

For more information, please see “Write FX Preset” on page 158.

Global mode

Global P0: Basic Setup

In Global mode you can make settings that affect the entire instrument, such as master tuning, MIDI, and memory protect.

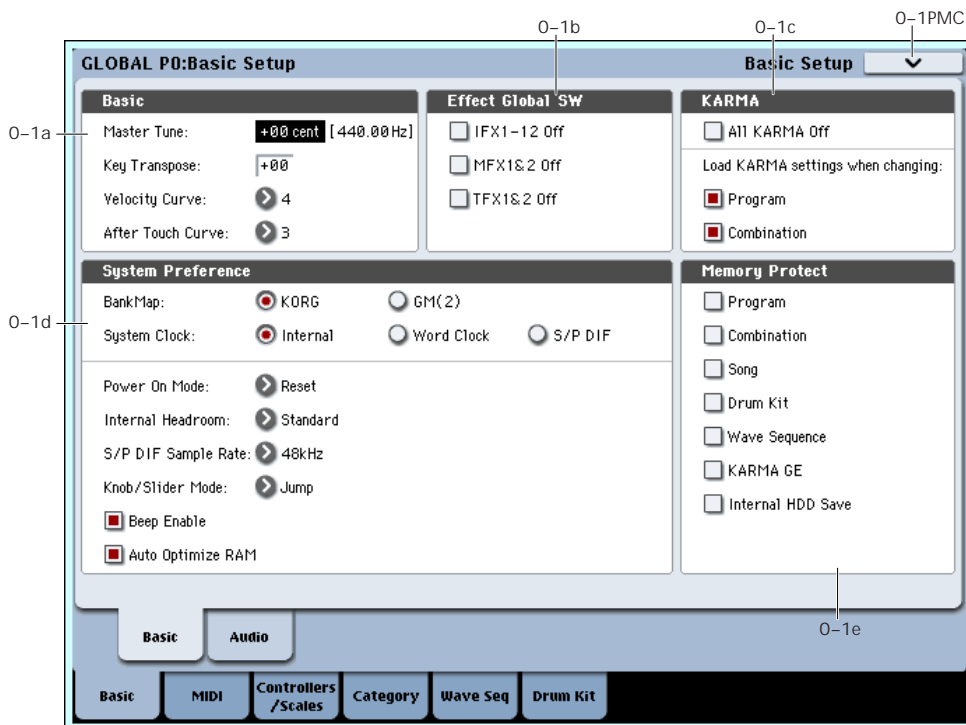
You can also edit user scales, drum kit setups, and wave sequence patterns.

- ⚠ If you want the settings you make in Global mode to be backed up when the power is turned off, you must write them into memory. To write your

settings, use the page menu commands **Write Global Setting**, **Write Drum Kit**, or **Write Wave Sequence**.

The SEQUENCER REC/WRITE switch can also be used to access **Update Global Setting**, **Update Drum Kit**, and **Update Wave Sequence**. Simultaneously, the edited content will be written.

0-1: Basic Setup



In this page you can adjust the master tuning, turn all effects on/off, make overall system settings such as bank map and system lock, and make memory protect settings.

0-1a: Basic

Master Tune

[-50cent (427.47Hz)...+50cent (452.89Hz)]

This adjusts the overall tuning of the entire OASYS in one-cent units (semitone = 100 cents) over a range of ±50 cents. With a setting of 0, the frequency of A4 will be 440 Hz.

- ⚠ The A4 pitch given here is when Equal Temperament is selected as the scale. If a different scale is selected, A4 may not be 440 Hz.

Key Transpose

[-12...+00...+12]

This adjusts the pitch in semitone steps over a ±1 octave range.

This setting is applied at the location (PreMIDI or PostMIDI) specified by **Convert Position** (1-1a).

Keys/Transpose	-12	0	+12
76 keys	16...91 (E0...G6)	28...103 (E1...G7)	40...115 (E2...G8)
88 keys	9...96 (A-1...C7)	21...108 (A0...C8)	33...120 (A1...C9)

Note: If **Convert Position** is set to PreMIDI, the note numbers transmitted from the OASYS will be affected by **Key Transpose** setting.

MIDI **Master Tune** can be controlled by the MIDI universal system exclusive message Master Fine Tuning (F0, 7F, nn, 04, 03, vv, mm, F7: nn=MIDI channel, vv/mm= value).

Key Transpose can be controlled by the MIDI universal system exclusive message Master Coarse Tuning (F0, 7F, nn, 04, 04, vv, mm, F7: nn=MIDI channel, vv/mm=value).

These messages are received on the global MIDI channel specified by **MIDI Channel** (1–1a).

In Program, Combination, and Sequencer modes, MIDI RPN messages can be received to control the tuning and transposition of the program or timbre (Combination mode) or track (Sequencer mode). Incoming MIDI RPN Fine Tune messages will make relative adjustments to the tuning specified by the **Master Tune** setting.

MIDI RPN Coarse Tune messages will make relative adjustments to the pitch specified by the **Key Transpose** setting. In Program mode these messages will be received on the global MIDI channel specified by **MIDI Channel** (1–1a), and in other modes they will be received on the MIDI channel specified for each timbre or track. (**Detune, Transpose** Combination 2–3a, Sequencer 2–3a)

Velocity Curve [1...8]

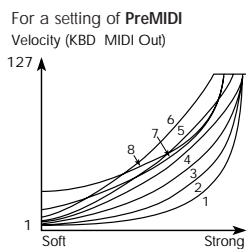
This specifies the way in which the volume and/or tone will change in response to variations in keyboard playing dynamics (velocity).

When **Convert Position** (1–1a) is PreMIDI, variations in keyboard playing dynamics will affect the velocity effect and the transmitted velocity data as shown in the left-hand diagram below.

Incoming data will automatically use the velocity curve number 4 shown in the right-hand diagram.

With a setting of PostMIDI, variations in keyboard playing dynamics (and in the velocity of incoming data) will respond as shown in the right-hand diagram below. If you are playing OASYS's tone generator from an external keyboard or sequencer, and the overall sound is too bright or too dark, you can set the **Convert Position** parameter to PostMIDI and select the appropriate velocity curve here.

For the transmitted data, the velocity curve number 4 shown in the left-hand diagram will automatically be selected.

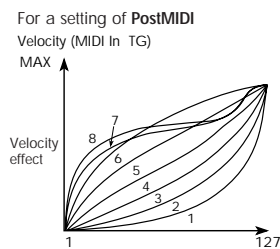


1, 2, 3: An effect will be obtained for strongly-played notes

4 (Normal): The normal curve

5, 6: An effect will be obtained even if you do not play very strongly

7: A certain amount of effect will be obtained even for softly-played notes



8: This curve produces the most regular effect. This setting is suitable when you do not need velocity sensitivity, or when you wish to make the notes more consistent. However with this curve, control of softly-played notes will be more difficult, so use the curve that is most appropriate for your playing strength and style, and the effect that you wish to produce.

After Touch Curve [1...8]

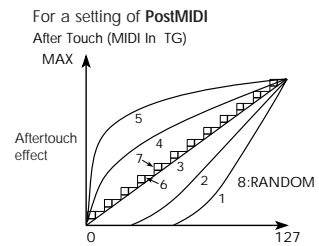
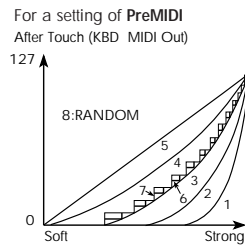
This specifies the way in which the volume and/or tone will change in response to variations in pressure (after touch) applied to the keyboard while playing a note.

When **Convert Position** (1–1a) is **PreMIDI**, variations in after touch pressure will affect the after touch effect and the transmitted after touch data as shown in the left-hand diagram below.

Incoming data will automatically use the after touch curve number 3 shown in the right-hand diagram.

With a setting of **PostMIDI**, variations in after touch pressure (and in the value of incoming after touch data) will create change as shown in the right-hand diagram.

For the transmitted data, the after touch curve number 3 shown in the left-hand diagram will automatically be selected.



1, 2: This curve produces change when strong after touch pressure is applied

3 (Normal): The normal curve

4, 5: This curve produces change even when light pressure is applied

6, 7: These curves produce change in 24 or 12 steps respectively, and are appropriate for when you are recording after touch data on the sequencer and wish to conserve memory. (Set the **Convert Position** to PreMIDI.) Curve number 7 allows change over twelve steps, so when using after touch to modify the pitch, you can set the range of modification to one octave, and use after touch to vary the pitch in semitone steps.

8: This is a random curve. Use this when you wish to create special effects, or to use after touch to apply unpredictable modulation.

MIDI When **Convert Position** (1–1a) is PreMIDI, the setting you make here will be applied immediately after the keyboard, meaning that it will affect the data transmitted via MIDI, but will not affect the received data.

With a setting of PostMIDI, the setting you make here will be applied immediately before the OASYS's internal tone generator, meaning that it will affect the data received via MIDI, but will not affect the transmitted data.

When you use the OASYS's keyboard to play the internal sounds, the **Convert Position** setting has no effect.

0-1b: Effect Global SW

IFX1-12 Off [Off, On]

On (checked): All insert effects IFX1-12 will be off.

Off (unchecked): The P8: Insert Effect settings for **IFX1 On/Off-IFX12 On/Off** in Program, Combination, Sequencer, and Sampling modes will be valid.

MFX1&2 Off [Off, On]

On (checked): Master Effect1 and 2 (MFX1, 2) will be off.

Off (unchecked): The P9: Master/Total Effect setting **MFX1 On/Off**, and **MFX2 On/Off**, in Program, Combination, and Sequencer modes will be valid.

TFX1&2 Off [Off, On]

On (checked): Total effects 1 and 2 (TFX1, 2) will be off.

Off (unchecked): The **TFX1 On/Off** and **TFX2 On/Off** settings in the P9: Master/Total Effect page of Program, Combination, Sequencer, or Sampling modes will be used.

MIDI When **IFX1-12 On/Off**, **MFX1&2 On/Off**, or **TFX1&2 On/Off** settings are switched, control change messages CC#92 (effect control 2), CC#94 (effect control 4), and CC#95 (effect control 5) will be transmitted respectively. The transmitted data will be 0 for off, and 127 for on.

0-1c: KARMA

All KARMA Off [Off, On]

On (checked): All KARMA functionality will be off. The KARMA function will not operate even if the KARMA ON/OFF switch is on.

Off (unchecked): The KARMA settings and KARMA ON/OFF switch settings in Program, Combination, and Sequencer modes will be used.

Load KARMA settings when changing

Programs [Off, On]

On (checked): When you switch programs, the KARMA Module settings stored in that program will be used. Normally you will use the On setting.

Off (unchecked): The KARMA Module settings will not change even if you switch programs. Use this setting if you want to switch Program sounds without changing the phrases from the KARMA Module.

Combinations [Off, On]

On (checked): When you switch combinations, the KARMA Module settings stored in that combination will be used. Normally you will use the On setting.

Off (unchecked): The KARMA Module settings will not change even if you switch combination. Use this setting if you want only to switch combination sounds without changing the phrases from the KARMA Module.

0-1d: System Preference

Bank Map [KORG, GM(2)]

This specifies the mapping of programs and combinations relative to Bank Select control change messages (CC#0 upper byte and CC#32 lower byte).

The bank select messages shown in the table below will be received (R) and transmitted (T) for program banks A-F, G, g(1)...g(9), g(d), USER-A-G and Combination banks INT-A-G, and USER-A-G.

Bank	Bank Map: KORG	Map: GM(2)
INT-A	00. 00 R/T	63. 00 R/T
INT-B	00. 01 R/T	63. 01 R/T
INT-C	00. 02 R/T	63. 02 R/T
INT-D	00. 03 R/T	63. 03 R/T
INT-E	00. 04 R/T	63. 04 R/T
INT-F	00. 05 R/T	63. 05 R/T
INT-G,	121. 00 R/T, 56. 00 R	121. 00 R/T, 56. 00 R, 00. 00 R
g(1)...g(9)	121. 01...09 R/T	121. 01...09 R/T
g(d)	120. 00 R/T, 62. 00 R	120. 00 R/T, 62. 00 R, 63. 127 R(→Korg MUTE)
USER-A	00. 08 R/T	63. 08 R/T
USER-B	00. 09 R/T	63. 09 R/T
USER-C	00. 10 R/T	63. 10 R/T
USER-D	00. 11 R/T	63. 11 R/T
USER-E	00. 12 R/T	63. 12 R/T
USER-F	00. 13 R/T	63. 13 R/T
USER-G	00. 14 R/T	63. 14 R/T

The bank types are as follows.

Bank	Bank Type
INT-A...INT-E	HD-1 only
INT-F	EXi only
INT-G, g(1)...g(9), g(d)	GM2 program banks (HD-1) G: GM2 capital programs g(1)...g(9): GM2 variation programs g(d): GM2 drum programs
USER-A, B, G	Either HD-1 or EXi (default is HD-1)
USER-C...USER-F	Either HD-1 or EXi (default is EXi)

To specify the type for banks USER-A-G, use the page menu command "Set Program User-Bank Type."

MIDI Be aware that in Disk mode if you load data of a differing bank type from a PCG file into USER-A-G bank, the existing data will be overwritten.

MIDI When MIDI System Exclusive messages or program data dumps are received, only data of the same bank type is received. Data of a differing bank type will not be received. Use "Set Program User-Bank Type" to change the bank type before you receive a data dump.

System Clock [Internal, Word Clock, S/P DIF]

This sets the system clock, or word clock, of the OASYS.

When connecting multiple digital audio devices—such as the OASYS, an ADAT-compatible system, and a S/P DIF device—it is important that the word clocks of the devices be locked together. If the clocks are not locked, the audio may be marred by pops and clicks.

The OASYS can lock to incoming clocks from any of its digital inputs, or it can generate its own clock.

Internal: The OASYS will use its own internal clock. This is the default setting.

Word Clock: The OASYS will use the optional EXB-DI's BNC **WORD CLOCK IN** as the master clock. The incoming clock must be at 48kHz.

Note that this is valid only when the optional EXB-DI is installed. For more details on the EXB-DI, please see "EXB-DI option" on page 1094.

S/P DIF: The OASYS will use the **S/P DIF IN** as the master clock. Either 48 kHz or 96 kHz word clocks are supported, according to the **S/P DIF Sample Rate** setting.

MIDI If **System Clock** is set to **S/P DIF** or **Word Clock**, but the OASYS is not detecting a valid clock signal, you'll see the message "Clock Error!" at the top of the display. More importantly, the OASYS will not sound correctly.

If this occurs, check the following:

- Make sure that the word clock settings of all connected devices are set up correctly, and that there is one and only one device configured to be the word clock master.
- Make sure that the device providing the master clock is powered on.
- Make sure that all cables are undamaged, and are connected properly. If possible, try using different cables.

Note: The **System Clock** setting can be stored by the **Write Global Setting** page menu command.

Power On Mode [Reset, Memorize]

Specifies the condition at power-on.

Reset: The OASYS will be in Combination mode P0: Play, and Combination INT-A000 will be selected.

Memorize: The location (mode and page) where you were when the power was last turned off, and the last-selected program or combination number will be selected.

MIDI This function does not memorize the contents of any parameters that were edited. Before turning off the power, be sure to write your data or save it in Disk mode.

Internal Headroom [Standard, +12dB, +24dB, +36dB, +48dB]

OASYS uses 32-bit floating point processing, resulting in an outstanding internal dynamic range of about 1,500dB. This means that internal signals can get both very loud and very soft without any noticeable decrease in audio quality. For instance, you don't need

to worry about turning down the oscillator level before entering a highly resonant filter, or be too concerned about maximizing every gain stage.

Audio input and output, on the other hand, uses industry-standard 24-bit fixed-point A/D and D/A converters. As with all such converters, these have a theoretical maximum dynamic range of 144dB, and the loudest level they can produce is referred to as 0dBfs. If they try to produce a louder signal, they will clip at 0dBfs (and sound bad!).

The Internal Headroom parameter helps to control the way in which the internal 1,500dB dynamic range interacts with the audio I/O's theoretical 144dB dynamic range.

To prevent internal signal levels from becoming so high that they completely saturate the D/A converters, the system intentionally limits the maximum signal level at the inputs to IFX1-12, MFX1/2, and TFX1/2. Internal Headroom sets the volume level at which this limiting happens, relative to the D/A's maximum level of 0dBfs.

When this is set to Standard, signals in the FX Busses are limited to the clip point of the D/As. To avoid internal clipping, you can turn down the output of the voice (using EQ Input Trim, for instance), or turn down the inputs or outputs of individual effects.

When Internal Headroom is set to +12dB, +24dB, +36dB, or +48dB, the FX Bus signals are allowed to be higher than the maximum D/A levels. This means that there is less chance of clipping internally, so that you don't need to be as concerned about gain-staging between individual effects. However, you still need to make sure that the signal level is 0dBfs or below before reaching the final outputs.

S/P DIF Sample Rate [48kHz, 96kHz(Normal), 96kHz(Hi Enhanced)]

Specifies the sample rate (sampling frequency) of the S/P DIF input and output.

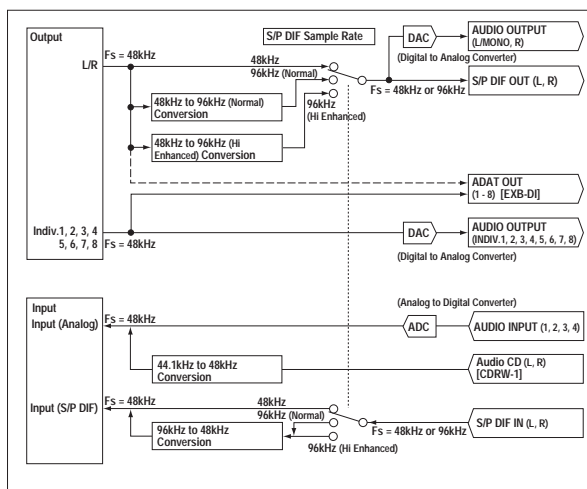
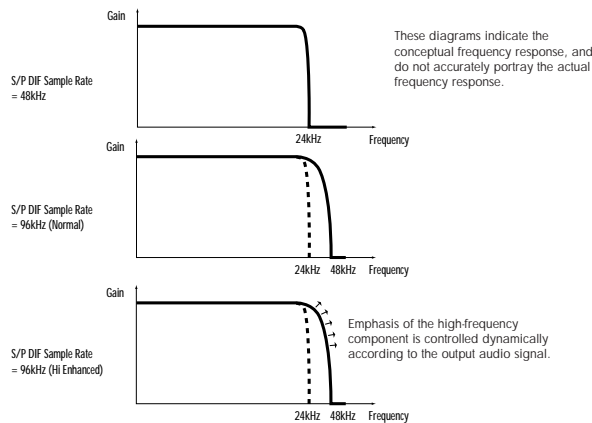
48 kHz: Digital audio will be input/output at 48 kHz. All digital signals within the OASYS are processed at a sampling frequency of 48 kHz.

The internal digital signals will be transmitted to and received from external digital audio devices without any change in the sampling rate.

96 kHz (Normal): Digital audio will be input/output at 96 kHz. The 48 kHz internal digital signals will be converted into 96 kHz for output. Digital signals from a 96 kHz external digital audio device will be converted into 48 kHz for input.

96 kHz (Hi Enhanced): Digital audio will be input/output at 96 kHz just as for the 96 kHz (Normal) setting. However, 96 kHz (Hi Enhanced) uses a special algorithm only on the transmitted data, to dynamically emphasize the high-frequency data above approximately 20 kHz for output.

Conceptual frequency response of the audio data transmitted with each setting



Note: ADAT OUT (if the EXB-DI is installed) channels 1-8 correspond to Indiv.1-8. If you want to output via L/R, use the **L/R Bus Indiv. Assign** (0-2b) setting.

MIDI This setting will also affect tonal character of the analog audio from the main stereo outputs (L/MONO and R) and the headphone output. If the signal at the S/P DIF input does not match the selected sample rate, the upper part of the LCD will indicate "S/P DIF CLOCK ERROR !."

Knob/Slider Mode [Jump, Catch]

This specifies how the front panel (control surface) MIXER sliders 1-8, master slider, and knobs 1-8 will operate.

When you switch programs, combinations, or songs, the written values or default values will be recalled to the OASYS's sliders and knobs, and the LEDs will show those values. In the same way, when you use CONTROL ASSIGN to switch the function of the sliders and knobs, the value of these functions will be recalled and shown. At this time, the actual slider and knob locations may not necessary match the recalled values (shown by the LEDs). The "Knob/Slider Mode" setting specifies the point at which the value will begin changing when you move a slider or knob in such a situation.

Example: Switching to a combination in which timbre 01 Volume is set to 64

1. Select a different combination, and press the **CONTROL ASSIGN MIXER TIMBRE/TRACK** switch to make 1-8 light.

Raise slider 1 to the maximum position, setting timbre 01 Volume to 127.

2. Switch to the combination described in the example. In the newly recalled combination, the timbre 01 Volume value is 64 (indicated by the LED).

Slider 1 is at the maximum position (127), meaning that the actual value does not match the slider position.

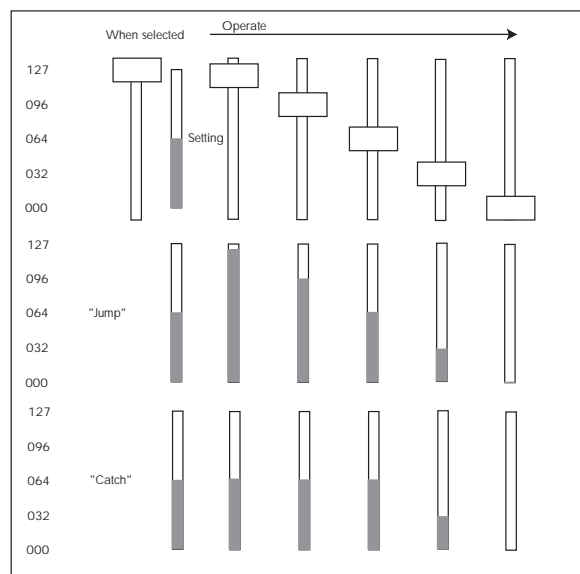
3. The "Knob/Slider Mode" setting **Jump or Catch** specifies the point at which the value will begin changing when you move slider 1.

Jump: The value will immediately change to the controller location as soon as you move the control surface controller.

In the above example, the value will respond immediately when you move slider 1 slightly below 127 (for example, to 125). The disadvantage of this setting is that the value will jump abruptly to the current value, meaning that control will be discontinuous. However the advantage is that the value will respond immediately when you move the controller.

Catch: The value will begin changing only when you have moved the controller surface controller to the position that matches the current value.

In the above example, the **Volume** will not immediately change from the current value of 64 when you begin lowering slider 1. As you lower slider 1 through 127 → 64 → 0, the value will change 64 → 64 → 0. In other words, the value will begin responding only after you Catch it. This setting can be advantageous when you want to adjust the volume smoothly without causing abrupt jumps. However the disadvantage is that the controller will not respond until you have caught the value.



Beep Enable [Off, On]

On (checked): A beep will be heard when you press an object in the LCD screen.

Auto Optimize RAM [Off, On]

If RAM is specified as the data writing destination for sampling, this parameter specifies whether the sample memory (RAM) will be optimized after data is written.

Optimization rearranges any unused memory areas so that all of the remaining memory can be used.

On (checked): RAM will automatically be optimized when sampling ends.

With this setting, you will always be able to sample without wasting RAM, but the sound will stop when sampling ends. If a song was playing in Sequencer mode, the playback will stop.

Off (unchecked): RAM will not be optimized when sampling ends. Since the sound will not stop when sampling ends, this setting is convenient when you want to consecutively sample several sections while a song plays or while listening to an input source such as a CD.

If "Auto Optimize RAM" is turned Off (unchecked) and unused areas have accumulated in memory, you can use the page menu command "Optimize RAM" to perform the same function manually. For more information, see "Optimize RAM" on page 143.

The remaining amount of sample memory (RAM) can be checked in Sampling mode. For more information, see "0-1f: Free Sample Memory/Locations" on page 630

0-1e: Memory Protect

Program [Off, On]

This setting protects the internal program memory.

On (checked): Internal program memory will be protected, and the following write operations cannot be performed.

- Writing a program
- Loading program data from disk
- Receiving program data via MIDI data dump

Off (unchecked): Data can be written to internal program memory.

Combination [Off, On]

This setting protects the internal combination memory.

On (checked): Internal combination memory will be protected, and the following write operations cannot be performed.

- Writing a combination
- Loading combination data from disk
- Receiving combination data via MIDI data dump

Off (unchecked): Data can be written to internal combination memory.

Song [Off, On]

This setting protects the internal song memory.

However, when the power is turned off, the song data in song memory will be lost regardless of this setting.

On (checked): Internal song memory will be protected, and the following write operations cannot be performed.

- Recording to the sequencer
- Loading song data from disk
- Receiving song data via MIDI data dump

Off (unchecked): Data can be written to internal song memory.

Drum Kit [Off, On]

This setting protects the internal drum kit memory.

On (checked): Internal drum kit memory will be protected, and the following write operations cannot be performed.

- Writing a drum kit
- Loading drum kit data from disk
- Receiving drum kit data via MIDI data dump

Off (unchecked): Data can be written to internal drum kit memory.

Wave Sequence [Off, On]

This setting protects the internal wave sequence memory.

On (checked): The internal wave sequence memory will be protected, and the following operations will not be possible.

- Writing a wave sequence
- Loading wave sequence data from disk
- Receiving wave sequence data via MIDI data dump

Off (unchecked): You will be able to write to internal wave sequence memory.

KARMA GE [Off, On]

This setting protects the internal KARMA GE memory.

On (checked): The internal KARMA GE memory will be protected, and the following operations will not be possible.

- Loading KARMA GE data from disk
- Receiving KARMA GE data via MIDI data dump

Off (unchecked): You will be able to write to internal KARMA GE memory.

Internal HDD Save [Off, On]

This setting protects the internal hard disk.

On (checked): The internal hard disk will be protected, and the following operations will not be possible.

- Saving, copying, or deleting internal hard disk data in Disk mode
- Recording audio tracks in Sequencer mode
- Sampling to DISK in each mode
- Ripping audio CDs in Sampling mode

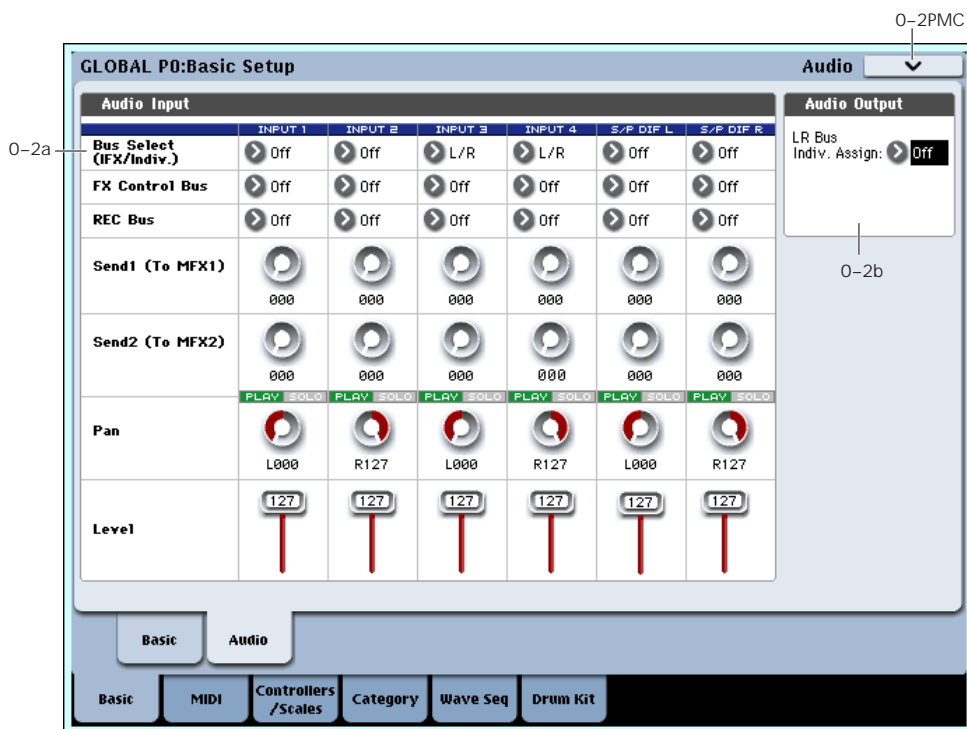
Off (unchecked): You will be able to write data to the internal hard disk.

▼ 0-1: Page Menu Commands

The number before each command shows its ENTER + number-key shortcut. For more information on these shortcuts, see “ENTER + 0-9: shortcuts for menu commands” on page 142.

- 0: **Write Global Setting.** For more information, see “Write Global Setting” on page 740.
- 1: **Set Program User-Bank Type.** For more information, see “Set Program User-Bank Type” on page 740.
- 2: **Change all bank references.** For more information, see “Change all bank references” on page 740.
- 3: **Touch Panel Calibration.** For more information, see “Touch Panel Calibration” on page 740.
- 4: **Half Damper Calibration.** For more information, see “Half Damper Calibration” on page 741.
- 5: **Pad Calibration.** For more information, see “Pad Calibration” on page 741.
- 6: **LCD Setup.** For more information, see “LCD Setup” on page 741.
- 7: **Update System Software.** For more information, see “Update System Software” on page 742.
- 8: **Expansion Sample Setup.** For more information, see “Expansion Sample Setup” on page 742.
- 9: **Display Public ID.** For more information, see “Display Public ID” on page 742.

0-2: Audio Input



Here you can select the analog/digital audio signal input sources, and specify their input level, bus, and master effect sends.

The settings you make in this page are valid in the following situations:

- When this page is open.
- In Program, Combination, and Sequencer modes, if you’ve checked “Use Global Setting” (Program, Combination, Sequencer 0-8a).
- In other pages of Global mode, if the mode in which you were immediately prior to entering Global mode was in state “2” (above).
- In Disk mode, if the mode in which you were immediately prior to entering Disk mode was in state “2” (above).

0-2a: Audio Input

Input1, Input2, Input3, Input4

These are the settings for inputting analog audio sources such as mics or instruments connected to the INPUT 1-4 jacks.

S/P DIF L, S/P DIF R

These are the settings for inputting a digital audio source such as a DAT connected to the S/P DIF IN jack.

The S/P DIF input and output support 48 kHz and 96 kHz sample rates. Make this selection in “S/P DIF Sample Rate” (0-1d).

MIDI When using the S/P DIF inputs, make sure that the **System Clock** parameter is set appropriately. For more information, see “System Clock” on page 702.

Bus Select (IFX/Indiv.) [L/R, IFX1...12, 1...8, 1/2...7/8, Off]

This specifies the main bus routing for the input signal.

L/R: The input signal will be sent to the L/R bus.

IFX1...12: The input signal will be sent to the IFX1–12 bus. Choose one of these settings if you want to apply an insert effect while sampling.

1...8: The input signal will be sent to the specified INDIVIDUAL OUTPUT in monaural. The **Pan** setting will be ignored.

1/2...7/8: The input signal will be sent in stereo (including the effect of the **Pan** control) to the specified INDIVIDUAL OUTPUT pair.

Off: The input signal will not be routed directly to the outputs or Insert Effects. However, it may still be routed to an FX Control Bus or REC Bus.

FX Ctrl Bus (FX Control Bus) [Off, 1, 2]

This sends the external audio input signal to an FX Control bus (two stereo channels; FX Ctrl 1 and 2).

For details, see “8–1d: FX Control Bus” on page 128.

REC Bus [Off, 1, 2, 3, 4, 1/2, 3/4]

This sends the external audio input signal to the REC buses (four mono channels; 1, 2, 3, 4).

Use the REC buses when you want to sample in various modes or to record audio tracks in Sequencer mode. These are dedicated buses for recording.

Off: The external audio signal will not be sent to the REC buses. Normally you will use the Off setting.

1, 2, 3, 4: The external audio input signal will be sent to the specified REC bus. The **Pan** setting is ignored, and the signal is sent in monaural.

1/2, 3/4: The external audio input signal will be sent in stereo to the specified pair of REC buses. The **Pan** setting sends the signal in stereo to buses 1 and 2 or buses 3 and 4.

Send1 (to MFX1) [000...127]

Send2 (to MFX2) [000...127]

These adjust the levels at which the external audio input signal is sent to the master effects.

Send1 (to MFX1): Send the signal to master effect 1.

Send2 (to MFX2): Send the signal to master effect 2.

This setting is ignored if **Bus Select** is other than L/R or Off.

If **Bus Select (IFX/Indiv.)** is set to IFX1–12, the send levels to the master effects are set by the post-IFX1–12 **Send1** and **Send2** (Program, Combination, Sequencer 8–5a).

Note: You can use the control surface to control Send1 (to MFX1) and Send2 (to MFX2). You can also make this setting from the front panel mixer section or from the P0– Control Surface screen of the LCD.

MIDI If **Bus Select (IFX/Indiv.)** is set to other than Off, and you raise the **Level** setting, the external audio source will be input to the OASYS. At this time if audio cables are connected to the AUDIO INPUT 1–4 jacks, the noise component will be input via the

AD converters into the OASYS even if there is no audio input, and depending on the settings, may be output from the AUDIO OUTPUT L/R, 1–8 jacks. If you want to perform using only internal sounds such as programs, combinations, and songs, and are not using external audio inputs, you should set **Bus Select (IFX/Indiv.)** to Off, or set **Level** to 0.

As with **REC Bus** and **FX Control Bus**, turn this off if you’re not using it.

PLAY/MUTE [(Off, On)]

This indicates the PLAY or MUTE status of each external audio signal input. The settings can be switched from the control surface.

PLAY: The external audio signal will be input as specified by the various parameters.

MUTE: The external audio signal will be muted (silent), and will not be input.

Note: You can control PLAY/MUTE from the control surface. You can also make this setting from the front panel mixer section or from the P0– Control Surface page of the LCD.

SOLO ON/OFF

This indicates the SOLO status of each external audio signal input. The settings can be switched from the control surface.

Sound will be output only from channels whose status is SOLO ON. Other channels will be muted.

In Program mode, oscillators will be soloed. In Combination mode, timbres will be soloed. In Sequencer mode, MIDI tracks and audio tracks will be soloed.

The operation will depend on the **Exclusive Solo** page menu command setting in each mode.

Exclusive Solo Off: Multiple channels can be soloed. The solo status will change each time you press SOLO ON/OFF.

Exclusive Solo On: When you press SOLO ON/OFF, only that channel will be soloed.

Note: You can control SOLO ON/OFF from the control surface. You can also make this setting from the front panel mixer section or from the P0– Control Surface page of the LCD.

MIDI The SOLO setting is not memorized when you Write.

Pan [L000...C064...R127]

This specifies the panning of the external audio input signal. When inputting a stereo audio source, you will normally set the inputs to L000 and R127 respectively.

Note: You can control Pan from the control surface. You can also make this setting from the front panel mixer section or from the P0– Control Surface page of the LCD.

Level [000...127]

Specifies the level of the external audio signal that will be input. Normally you will set this at 127.

Note: You can control volume from the control surface. You can also make this setting from the front panel mixer section or from the P0- Control Surface page of the LCD.

The analog audio signals from the AUDIO INPUT 1-4 jacks are converted by a AD converter from analog to digital signals. This parameter sets the level of the signal immediately after it has been converted into digital form. If the sound is distorted even though this level setting is very low, it is possible that the sound is distorting earlier than the AD converter. Try adjusting the MIC/LINE gain switch, LEVEL knob (AUDIO INPUT1, 2) or the output level of the external audio source.

0-2b: Audio Output

L/R Bus Indiv. Assign (Assign to L/R and Indiv.Out)

[Off, 1/2...7/8]

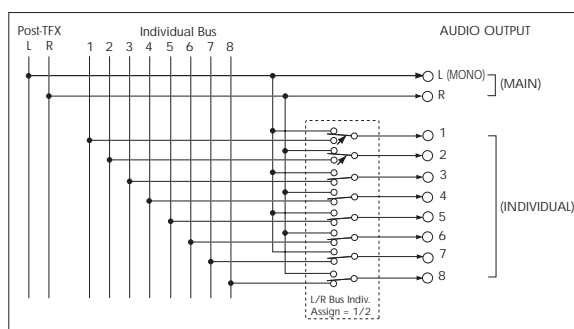
This lets you simultaneously send the L/R output to any pair of individual outputs, in addition to L/R.

It's designed for two specific applications:

- In studio or live performance situations, you can use this parameter to monitor sounds in privacy, without changes at the main board.
- With the optional EXB-DI installed, you can route the L/R output to any pair of ADAT output channels.

Off: The L/R output will be sent only to the AUDIO OUTPUT L (MONO) and R jacks, the HEADPHONE jack, and the S/P DIF OUT jack. This is the normal setting.

1/2...7/8: The L/R output will be sent to the corresponding pair of INDIVIDUAL OUT 1-8 jacks, as well as to the main L/R outputs, the HEADPHONE jack, and the S/P DIF OUT jack.



Private monitoring

On stage, or in the studio, it can be convenient to audition sounds or make edits without sending the signal to the mixer, or to the main monitors. You can use **L/R Bus Indiv. Assign** to do this:

1. **Connect Individual Outputs 1/2 to the mixer or main monitors. Do not connect the main L/R outputs.**

You can actually use any of the four individual output pairs, but we'll talk about 1/2 in this example.

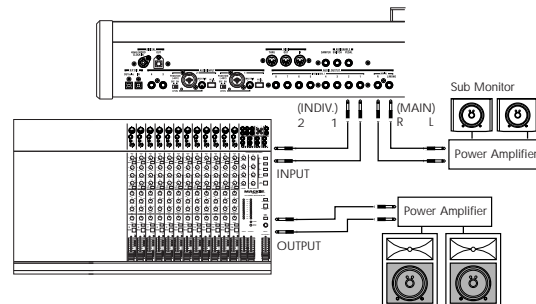
2. **While you're auditioning sounds or editing, set L/R Bus Indiv. Assign to Off.**

3. **Use the built-in headphone output for listening to OASYS as you select or edit sounds.**

As an alternative, you can connect the main L/R outputs to your personal monitor mixer.

4. **When you're ready for others to hear the results, set L/R Bus Indiv. Assign to 1/2.**

Now, the OASYS stereo mix will go to the main board.



Sending the main mix to the EXB-DI ADAT outputs

If the optional EXB-DI is installed, the eight ADAT output channels correspond to Individual Out 1-8. This means that you can use **L/R Bus Indiv. Assign** to send the L/R output to any pair of ADAT outputs.

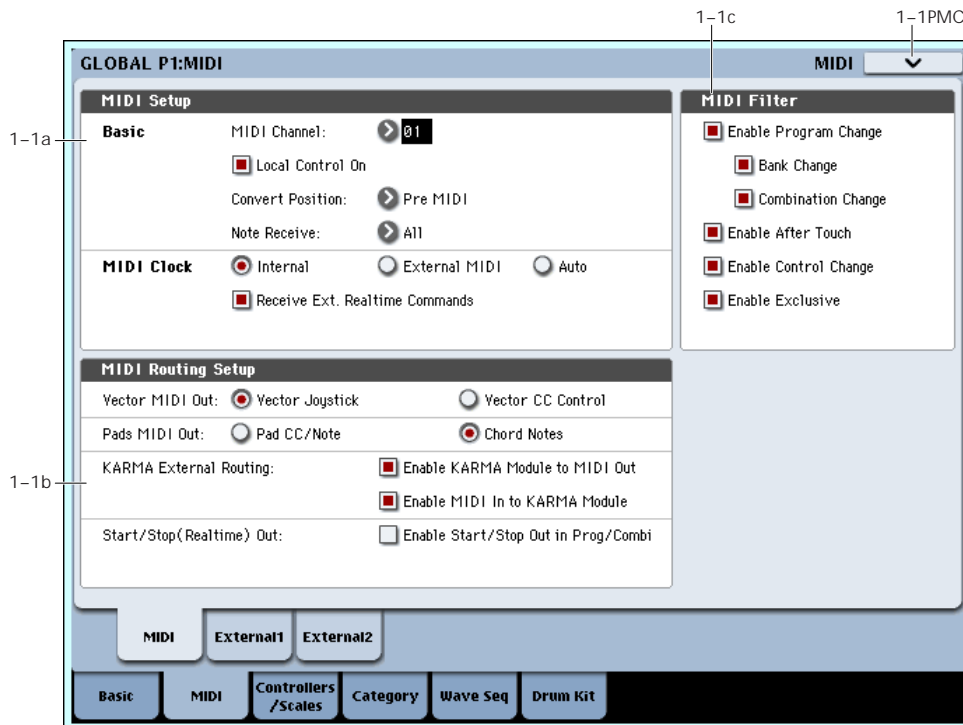
▼ 0-2: Page Menu Commands

The number before each command shows its ENTER + number-key shortcut. For more information on these shortcuts, see "ENTER + 0-9: shortcuts for menu commands" on page 142.

- **0: Write Global Setting.** For more information, see "Write Global Setting" on page 740.
- **1: Set Program User-Bank Type.** For more information, see "Set Program User-Bank Type" on page 740.
- **2: Change all bank references.** For more information, see "Change all bank references" on page 740.
- **3: Touch Panel Calibration.** For more information, see "Touch Panel Calibration" on page 740.
- **4: Half Damper Calibration.** For more information, see "Half Damper Calibration" on page 741.
- **5: Pad Calibration.** For more information, see "Pad Calibration" on page 741.
- **6: LCD Setup.** For more information, see "LCD Setup" on page 741.
- **7: Update System Software.** For more information, see "Update System Software" on page 742.
- **8: Expansion Sample Setup.** For more information, see "Expansion Sample Setup" on page 742.
- **9: Display Public ID.** For more information, see "Display Public ID" on page 742.

Global P1: MIDI

1-1: MIDI



Here you can make MIDI-related settings that affect the entire OASYS. You can also transmit MIDI System Exclusive data dumps using the page menu commands in this page. Here you can also specify the function of the sliders, knobs, and switches when the control surface CONTROL ASSIGN EXTERNAL switch is on.

1-1a: MIDI Setup

Basic

MIDI Channel (Global MIDI Channel) [1...16]

Sets the global MIDI channel.

The global MIDI channel is used in the following cases.

- When transmitting and receiving performance data in Program mode (Program P0: Play) and Sampling mode.
- When selecting combinations via MIDI in Combination mode (Combination P0: Play).
- When controlling timbres or effects that have been set to Gch in various modes
- When transmitting and receiving system exclusive messages

MIDI received

In Program mode (P0: Play), MIDI data is received on the global MIDI channel, but in Combination mode (P0: Play) or Sequencer mode, MIDI data is received on the MIDI channel specified for each timbre or track.

In Combination mode (P0: Play), program changes received on the global MIDI channel will switch the combination (1-1c: MIDI Filter).

Use the global MIDI channel to switch IFX 1-12 (CC#92), MFX1&2 (CC#94) and TFX1&2 (CC#95) on/off.

To control the pan following IFX, sends 1/2, MFX 1/2 and TFX1/2, use the global MIDI channel when in the Program or Sampling mode; while in the Combination, or Sequencer modes, use the channel specified separately by **Ctrl Ch** for IFX1-12, MFX1&2, TFX1&2, and MEQ. By setting **Ctrl Ch** to Gch, you can control these parameters from the global MIDI channel.

MIDI output when playing OASYS

In Program mode and Sampling mode, this data will be transmitted on the global MIDI channel. In Combination mode, data will be transmitted simultaneously on the global MIDI channel and on the MIDI channels of timbres whose **Status** (Combination 0-1b, 2-1a) is set to EXT or EX2.

In Sequencer mode, musical data will be transmitted on the channel specified for the currently selected track (Sequencer 0-1a) (whose **Status** is BTH, EXT, or EX2).

External mode

In each mode when the control surface CONTROL ASSIGN EXTERNAL switch is on, you can use the mixer sliders 1-8, master slider, knobs 1-8, and switches 1-16 to control a connected computer or MIDI device.

The MIDI CC# (control change) messages are transmitted on the MIDI channel specified in the Global P1– External 1 and External 2 pages.

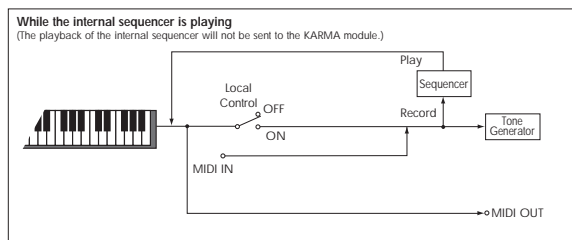
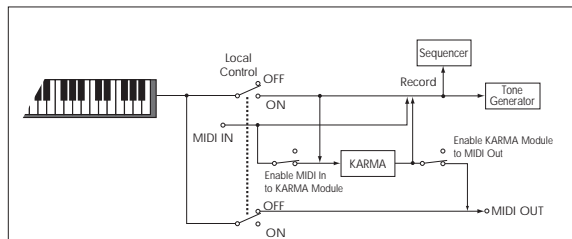
Local Control On [Off, On]

Local Control On (Checked): The OASYS's internal tone generator will be controlled by its own keyboard, joystick, SW1 and SW2, and connected foot pedal. If you are playing the OASYS by itself, leave this setting checked.

Local Control Off (Unchecked): The OASYS's keyboard and joystick etc. will be disconnected from the internal tone generator.

This means that operating the OASYS (playing its keyboard and using the joystick, or playing back the sequencer) will not sound its internal tone generator.

Turn **Local Control Off** if loop-back from an external sequencer causes duplicate notes.



MIDI If **Local Control** is Off, MIDI transmission/reception will occur normally. Playing the keyboard will cause the corresponding note data to be transmitted, and received note data will play the OASYS's internal sounds.

Local Control and the Control Surface

The Control Surface generates and receives MIDI CCs and System Exclusive messages, so that you can record knob, switch, and slider movements into a sequencer. In order to avoid feedback loops and other strange behavior, the Control Surface relies upon an external MIDI loop-back when **Local Control** is turned Off.

In other words:

- If **Local Control** is On, the physical Control Surface will work properly as long as MIDI is **not** being looped back into the OASYS.
- If **Local Control** is Off, you **must** loop back MIDI into the OASYS in order for the physical Control Surface to work properly.
- Regardless of the **Local Control** setting, you can always edit Control Surface parameters via the touch-screen.

Knob/Slider Mode: To avoid potential problems when **Local Control** is Off, most knobs and sliders behave as if the **Knob/Slider Mode** was set to Jump. The exception is when **Control Assign** is set to **External**, in which case the **Knob/Slider Mode** setting is observed.

For more information, see “Knob/Slider Mode” on page 703.

Local Control and the Control Surface: more detail

The information under “Local Control and the Control Surface,” above, is all that you should need to know in most cases. The following information details how the system works internally. You’ll notice the results of these internal operations only if **Local Control** is Off AND there is no MIDI loop-back—which is not a recommended configuration.

In this case, you’ll see that the Control Surface works in slightly different ways, depending on the **Control Assign** setting.

When **Control Assign** is set to **Timbre/Track** or **Audio**:

- If **Local Control** is Off, most of the knobs, sliders, and switches will only affect the internal sounds when MIDI is looped back into OASYS. The exception is the **Select** switches, which always control the selection.

When **Control Assign** is set to **External**:

- The Control Surface will function properly regardless of the **Local Control** setting.

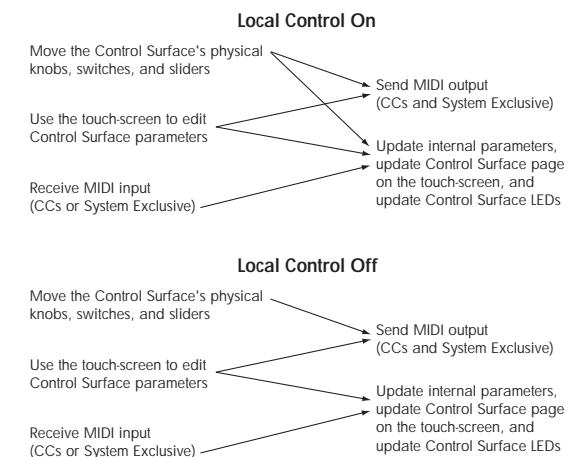
When **Control Assign** is set to **Real-Time Knobs/KARMA**:

- If **Local Control** is Off, the Real-Time Knobs will only affect the internal sounds when MIDI is looped back into OASYS.
- The KARMA sliders and switches will function properly regardless of the **Local Control** setting.

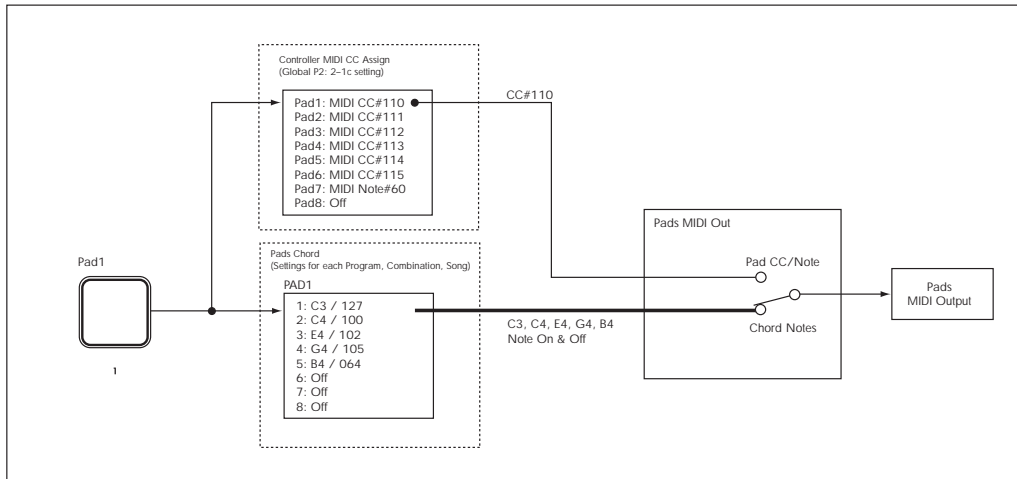
When **Control Assign** is set to **Tone Adjust**:

- If **Local Control** is Off, the knobs, sliders, and switches will only affect the internal sounds when MIDI is looped back into OASYS.

Local Control and the Control Surface: system diagrams



Assignable Pedals: When assignable pedals are routed to duplicate the function of a knob, they act the same as the physical knob.



RESET CONTROLS button: **Local Control** does not change the way that the Control Surface interacts with **RESET CONTROLS**. For instance, if **Local Control** is Off, holding **RESET CONTROLS** and moving a knob will still reset the knob.

Other Control Surface buttons: the **CONTROL ASSIGN** buttons, the **MIXER KNOBS** button, and the **SOLO** button are not affected by **Local Control**.

Convert Position [PreMIDI, PostMIDI]

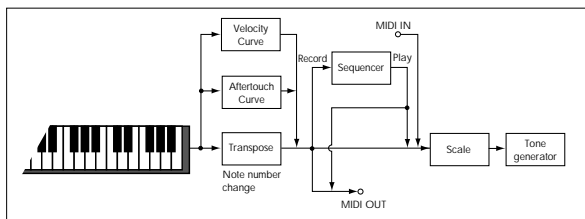
This setting specifies the location at which the Transpose, Velocity Curve, and After Touch Curve settings will be applied. This setting will affect the MIDI data that is transmitted and received, and the data that is recorded on the internal sequencer.

When using the OASYS's keyboard to play the internal tone generator, the Transpose, Velocity Curve, and After Touch Curve settings will always take effect regardless of this setting.

PreMIDI: Velocity Curve, After Touch Curve, and Transpose will be applied to the data that is transmitted from the OASYS's keyboard.

This means that the Velocity Curve, After Touch Curve, and Transpose settings will affect the data that is transmitted from MIDI OUT when the OASYS's keyboard is played, and the data that is recorded on the internal sequencer.

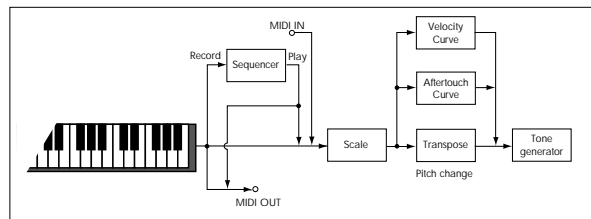
MIDI data received from MIDI IN or the data played back by the internal sequencer will not be affected.



PostMIDI: Velocity Curve, After Touch Curve, and Transpose will be applied to data before it enters the tone generator.

This means that the Velocity Curve, After Touch Curve, and Transpose settings will affect the data that is sent to the internal tone generator when you play the OASYS's keyboard, when the internal sequencer is played back, or when data is received from MIDI IN.

This setting will not affect the data that is transmitted from MIDI OUT or recorded on the internal sequencer when you play the OASYS's keyboard or play back the sequence.



Note Receive (Note Receive Filter) [All, Even, Odd]

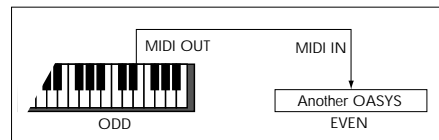
This setting specifies whether even-numbered, odd-numbered, or all note numbers will be sounded when note data is received from the OASYS's keyboard or from an external MIDI device. By connecting the OASYS to another OASYS and setting one instrument to Even and the other to Odd, you can effectively double the polyphony by dividing the notes between the two instruments.

All: All note numbers will be received. Normally you will leave this set to All.

Even: Even-numbered notes (C, D, E, F#, G#, A#) will sound.

Odd: Odd-numbered notes (C#, D#, F, G, A, B) will sound.

MIDI This setting has no effect on the MIDI data that is received.



MIDI Clock

MIDI Clock (MIDI Clock Source) [Internal, External MIDI, Auto]

Use this setting to synchronize the OASYS's KARMA function and internal sequencer with an external MIDI device (e.g., sequencer or rhythm machine).

Internal: The KARMA function and the internal sequencer will operate according to the internal clock.

Select the Internal setting when using the OASYS by itself, or when you want the OASYS to be the master (controlling device) so that another connected external MIDI device will synchronize to the MIDI Clock messages transmitted from the OASYS.

External MIDI: The KARMA function and internal sequencer will operate in synchronization with MIDI Clock messages from an external MIDI device connected to the MIDI IN connector.

Auto: Normally the operation will be the same as the Internal setting. If external MIDI Clock messages are received from the MIDI IN connector, the OASYS will automatically switch to the same operation as External MIDI.

Note: If you select Auto when an external MIDI sequencer is connected, the OASYS will automatically switch to Internal operation if the external MIDI sequencer is not transmitting MIDI Clock messages, allowing the KARMA Modules to operate and parameters for which MIDI/Tempo Sync is turned on to function.

Note: If after receiving a MIDI Clock, Start, or Continue message from the MIDI IN connector, no new MIDI Clock message is received within an interval of 500 ms, or if you start the OASYS's sequencer from the front panel without having received a MIDI Clock, Start, or Continue message from the MIDI IN connector, the OASYS will automatically switch to Internal operation.

Receive Ext. Realtime Commands [Off, On]

Off (unchecked): Even if "MIDI Clock" is set to External MIDI, or if set to Auto and the OASYS is synchronized to external MIDI Clock messages, MIDI Common messages and Realtime messages (Song Position Pointer, Start, Continue, Stop) will not be received. (Song Select messages will be received.)

Note: Use this setting if the above messages from an external MIDI sequencer are unnecessarily resetting the OASYS's song settings.

On (checked): The above Common messages (including Song Select) and Realtime messages will be received.

MIDI This parameter cannot be set if "MIDI Clock" is Internal.

1-1b: MIDI Routing Setup

Vector MIDI Out

[Vector Joystick, Vector CC Control]

This setting specifies the MIDI output generated by vector joystick operations or vector envelope.

Vector Joystick: When you move the vector joystick, the two MIDI control change messages specified by VECTOR "VJS X" and "VJS Y" (2-1c) will be transmitted. By default, "VJS X" is CC#118 and "VJS Y" is CC#119.

Normally you will use the Vector Joystick setting. In this case, the vector envelope will not generate MIDI output. Use this setting if you want to control an external MIDI device by moving the vector joystick, or to record vector joystick movements on the internal sequencer or an external sequencer.

Vector CC Control: The OASYS will transmit the MIDI control change messages specified by the Vector CC Control "+X," "-X," "+Y," and "-Y" settings in each program, combination, or song. Use this setting if you want vector joystick operations or the vector envelope to transmit MIDI control change messages.

Normally you will use this to control the internal tone generator or effects, but you can also use it to transmit messages to an external MIDI device, or to record these movements on the internal sequencer or an external sequencer.

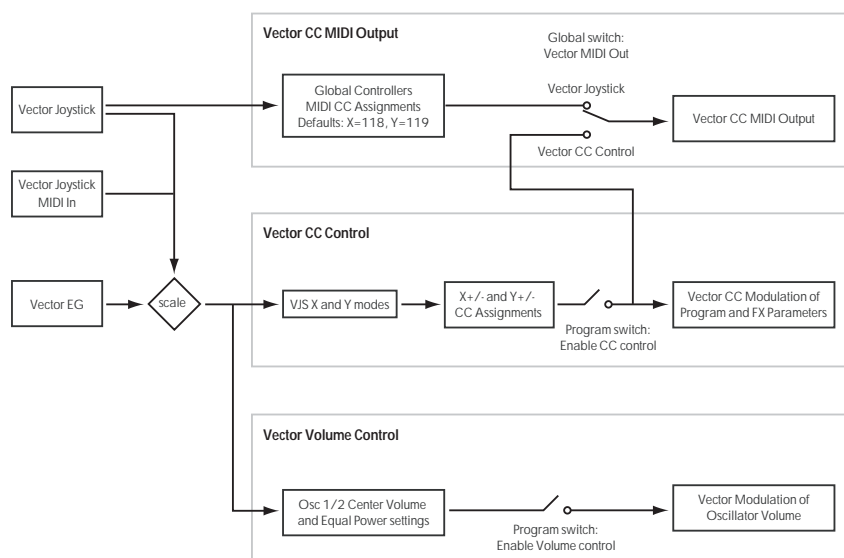
Pads MIDI Out

[Pad CC/Note, Chord Notes]

This setting specifies the MIDI messages that are output when you strike a pad.

Pad CC/Note: When you strike a pad, the MIDI note number or MIDI control change message specified by the Pad "Pad1"–"Pad8" (2-1c) setting will be transmitted.

If the setting is off, no MIDI message will be transmitted.



Chord Notes: When you strike a pad, the (up to eight) MIDI note-on/off messages (and velocities) specified by the Pad “Pad1”–“Pad8” (1–9) setting of each program, combination, or song will be transmitted. If all notes are turned off, no MIDI messages will be transmitted.

KARMA External Routing

Enable KARMA Module to MIDI Out [Off, On]

This setting specifies whether the KARMA Module will transmit MIDI messages.

On (checked): The KARMA Module will transmit MIDI messages.

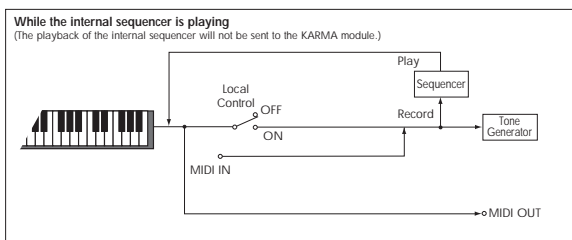
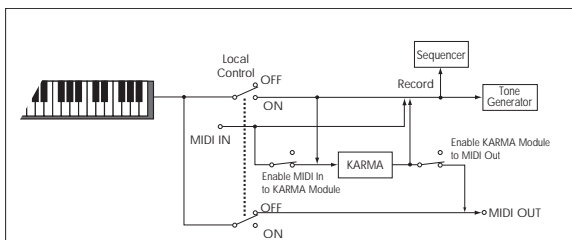
Off (unchecked): The KARMA Module will not transmit MIDI messages. MIDI events generated by the KARMA Module will sound the internal tone generator, but MIDI messages will not be output.

Enable MIDI In to KARMA Module [Off, On]

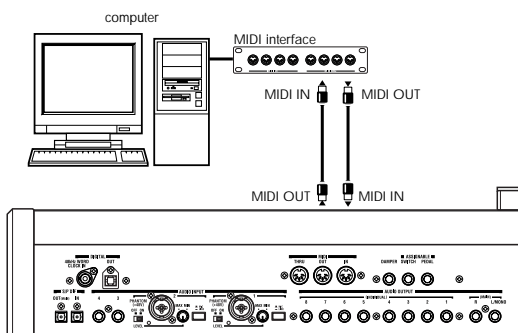
This setting specifies whether MIDI messages from the MIDI IN connector will be sent to the KARMA Module.

On (checked): MIDI messages will be sent to the KARMA Module.

Off (unchecked): MIDI messages will not be sent to the KARMA Module.



Example settings



- If you want phrases etc. generated by the OASYS’s KARMA Module to be sent via MIDI to control an external MIDI device or recorded on an external MIDI sequencer:

“Enable KARMA Module to MIDI Out” On
 “Enable MIDI In to KARMA Module” Off
 (“Local Control On” On)

- If you want MIDI input from an external MIDI device to trigger the KARMA Module
- If you want only the OASYS keyboard events that trigger the KARMA Module to be sent from MIDI OUT for recording on an external sequencer, and echo-back or play back these events via MIDI IN to trigger the KARMA Module:

“Enable KARMA Module to MIDI Out” Off
 “Enable MIDI In to KARMA Module” On
 (“Local Control On” Off)

You can also make these settings from the “Setup KARMA External MIDI Routing” (o) page menu command.

MIDI If both “Enable KARMA Module to MIDI Out” and “Enable MIDI In to KARMA Module” are turned On, there is a possibility of a MIDI Loop occurring, depending on the settings of the external devices that you are connected to. If this happens, disable the “Echo Thru” settings of the external devices, or set one of these KARMA MIDI settings to Off. See “Set Up KARMA External MIDI Routing” on page 744.

Start/Stop (Realtime) Out

Enable Start/Stop Out in Prog/Combi [Off, On]

In Program and Combination modes, this function transmits a MIDI start message when you trigger the KARMA function, and a MIDI stop message when you turn it off. This lets you make an external MIDI sequencer or rhythm/groove machine start playing at the moment that the KARMA function begins playing.

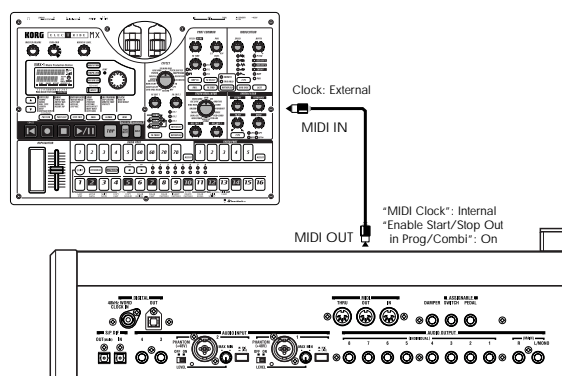
Off (unchecked): Normally you will leave this Off.

On (checked): MIDI system realtime messages “Start” and “Stop” will be transmitted in Program and Combination mode. If “MIDI Clock” (1–1a) is set to Internal or Auto (and operating as Internal), the start and stop messages will be transmitted under the conditions described below. This can be used to simultaneously start an external MIDI sequencer or rhythm/groove machine at the moment the KARMA function begins playing.

Start: If the KARMA ON/OFF switch is on, the MIDI system realtime message “Start” will be transmitted at the moment you use the keyboard or pads 1–8 keys to trigger the GE selected for a KARMA Module.

Note: “Start” will be transmitted at the moment that the GE phrase or pattern is triggered according to the “KARMA Key Zone” (Program 7–1a, Combination 7–1b) setting for that KARMA Module.

Stop: If “Start” has been previously transmitted, the MIDI system realtime message “Stop” will be transmitted at the moment you turn off the KARMA ON/OFF switch.



For more information, see “Connecting MIDI devices & computers” on page 1055, “Synchronizing the playback of the KARMA function or sequencer” on page 1065, and “Synchronizing the KARMA function” on page 217 of the Operation Guide.

1-1c: MIDI Filter

Enable Program Change [Off, On]

On (checked): Program changes will be transmitted and received.

In Program mode (P0: Play), the program will be switched when a program change message is received on the global MIDI channel specified by **MIDI Channel** (1-1a). When you switch programs, a program change message will be transmitted on the global MIDI channel.

In Combination mode (P0: Play), the combination will be switched when a program change message is received on the global MIDI channel. However, it is possible to set the “Enable Combination Change” parameter so that the combination is not switched. When a program change is received on the channel specified for each timbre by **MIDI Channel** (Combination 2-1a), the program of that timbre will be switched. However, the program changes for each timbre will be affected by the setting of the “Enable Program Change” parameter (Combination 3-1a).

When you switch combinations, a program change message will be transmitted on the global MIDI channel, and also transmitted simultaneously on the channel of timbres whose **Status** (Combination 0-1b, 2-1a) is set to EXT or EX2.

In Sequencer mode, incoming program change messages on a channel that corresponds to a track whose **Status** (Sequencer 2-1a) is set to INT or BTH will switch programs on that track. When you select a song or playback sequencer data, program changes will be transmitted on the channels of tracks whose **Status** is set to BTH, EXT, or EX2.

Off (unchecked): Program changes will not be transmitted or received.

Bank Change [Off, On]

On (checked): The Bank Select control change message will be transmitted together with program change messages. This is valid when “Enable Program Change” is checked.

Off (unchecked): Bank Select messages will not be transmitted or received.

When recording on the internal sequencer, bank select messages will be recorded regardless of this setting. However for playback, this setting will apply.

Combination Change [Off, On]

On (checked): When in Combination P0: Play, an incoming program change message on the global MIDI channel set by **MIDI Channel** (1-1a) will switch combinations.

This is valid when “Enable Program Change” is checked.

An incoming program change on a channel other than the global MIDI channel will switch the program of any timbre that matches that MIDI channel.

Off (unchecked): An incoming program change message on the global MIDI channel will switch the program of any timbre whose **MIDI Channel** (Combination 2-1a) matches the global MIDI channel. The combination will not be switched.

The program changes for each timbre will be affected by the setting of the “Enable Program Change” parameter (Combination 3-1a).

Enable After Touch [Off, On]

On (checked): MIDI after touch messages will be transmitted and received.

Off (unchecked): MIDI after touch messages will neither be transmitted nor received.

When recording sounds that do not require the use of after touch, you can uncheck this parameter to save memory.

This setting has no effect when you use the internal sequencer to playback sequence data that was recorded with after touch data; i.e., after touch will be transmitted via MIDI.

The OASYS’s keyboard transmits only channel after touch; it does not transmit polyphonic after touch. However, since the OASYS does support polyphonic after touch as an Alternate Modulation Source (AMS), it can receive polyphonic after touch to control individual notes.

Enable Control Change [Off, On]

On (checked): Control change messages will be transmitted and received.

Off (unchecked): Control change messages will neither be transmitted nor received.

This setting has no effect when you use the internal sequencer to playback sequence data that was recorded with control change data; i.e., the control changes previously recorded into the sequencer will be transmitted via MIDI.

Enable Exclusive [Off, On]

On (checked): System exclusive data will be transmitted and received.

Check this if you want to edit the OASYS from a connected computer, or if you want to allow bi-directional editing.

Off (unchecked): System exclusive data will not be transmitted. Normally you will leave this unchecked. However, system exclusive data will be transmitted and received while the page menu commands (“Dump Program”–“Dump All”) of this page are displayed.

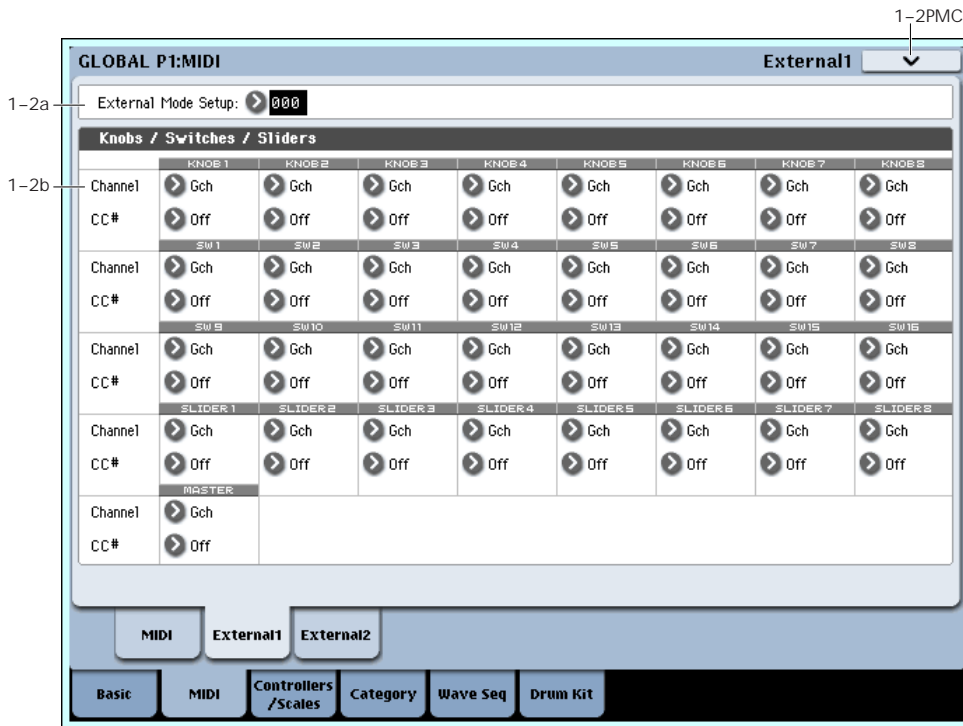
▼ **1-1: Page Menu Commands**

The number before each command shows its ENTER + number-key shortcut. For more information on these shortcuts, see “ENTER + 0-9: shortcuts for menu commands” on page 142.

- **0: Write Global Setting.** For more information, see “Write Global Setting” on page 740.
- **1: Dump Program.** For more information, see “Dump Program” on page 742.

- **2: Dump Combination.** For more information, see “Dump Combination” on page 743.
- **3: Dump Drum Kit.** For more information, see “Dump Drum Kit” on page 743.
- **4: Dump Wave Sequence.** For more information, see “Dump Wave Sequence” on page 743.
- **5: Dump Global Setting.** For more information, see “Dump Global Setting” on page 743.
- **6: Dump Sequencer.** For more information, see “Dump Sequencer” on page 743.
- **7: Dump KARMA User GE.** For more information, see “Dump KARMA User GE” on page 743.
- **8: Setup KARMA External MIDI Routing.** For more information, see “Set Up KARMA External MIDI Routing” on page 744.
- **9: Reset External Setup.** For more information, see “Reset External Setup” on page 745.

1-2: External 1



This page lets you set up the knobs, sliders, and switches for the Control Surface’s EXTERNAL mode. In this mode, each slider, knob, and switch can be assigned to a separate MIDI controller and MIDI channel.

The eight drum pads also have separate settings which apply only when Control Assign is set to External; for more information, see “1-3: External 2” on page 716.

You can create up to 128 different External Setups. For instance, you might make one setup for controlling several different pieces of MIDI gear on stage, another for controlling a software synthesizer (such as one of Korg’s Legacy Collection synths), and so on.

These External Setups are completely separate from the Program. You can think of External mode as being a separate control surface which just happens to share OASYS’s sliders, knobs, switches, and drum pads.

When you select an External Setup, it stays selected even when you change Programs, or switch to Combi or Sequencer modes. This makes it easy to select different OASYS sounds without disrupting any external MIDI control, and vice-versa.

Note: After editing the setups, make sure to save your edits using the page menu’s Write Global command. You can also call up this menu command by holding ENTER and pressing 0 on the numeric keypad.

1-2a: External Mode Setup

Setup [000...127]

This selects the Global setup to edit.

1-2b: Knobs/Switches/Sliders

Knobs 1-8

MIDI Channel (1-8) [1...16, Gch]

This sets the MIDI Channel for the knob. Each can send on a different channel, if desired.

Gch means that the knob will transmit on the Global MIDI Channel, as set in Global mode. This allows you to re-direct any number of sliders, knobs, switches, and pads to a different channel at once, without editing the individual controls.

CC# Assign (1-8) [Off, 00...119]

This sets the MIDI CC sent by the knob.

Switches 1-16

MIDI Channel (1-16) [1...16, Gch]

This sets the MIDI Channel for the switch. Each can send on a different channel, if desired.

When the switch is turned on, it sends a value of 127; when it is turned off, it sends a value of 0.

Gch means that the slider will transmit on the Global MIDI Channel, as set in Global mode.

CC# Assign (1-16) [Off, 00...119]

This sets the MIDI CC sent by the switch.

Sliders 1-8 and Master

MIDI Channel (1-8) [1...16, Gch]

This sets the MIDI Channel for the slider. Each can send on a different channel, if desired.

Gch means that the slider will transmit on the Global MIDI Channel, as set in Global mode.

CC# Assign (1-8) [Off, 00...119]

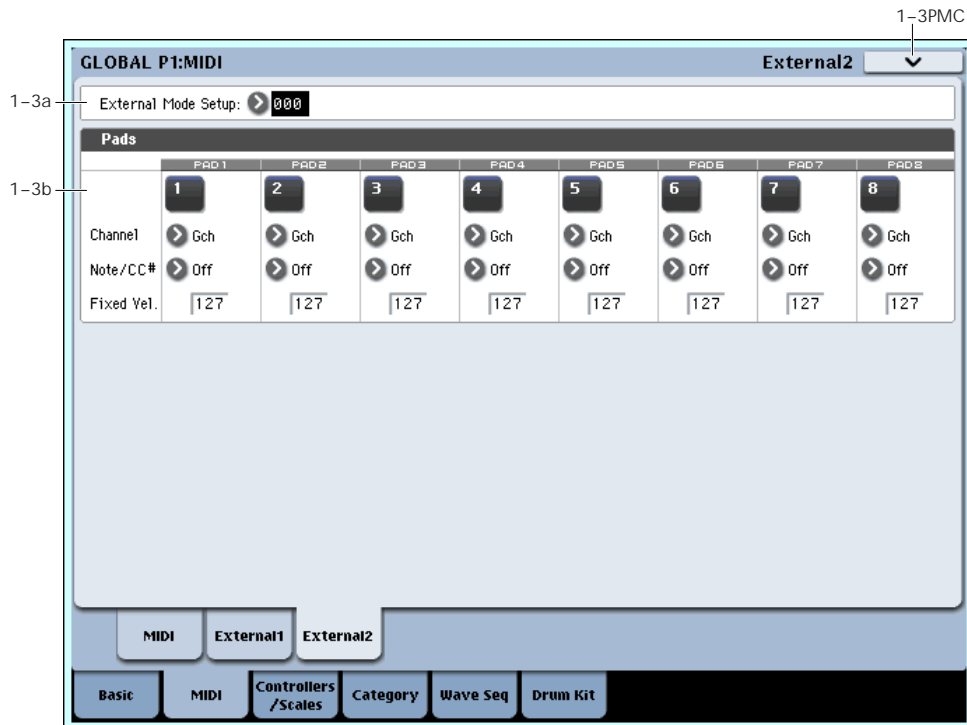
This sets the MIDI CC sent by the slider.

▼ 1-2: Page Menu Commands

The number before each command shows its ENTER + number-key shortcut. For more information on these shortcuts, see "ENTER + 0-9: shortcuts for menu commands" on page 142.

- 0: **Write Global Setting**. For more information, see "Write Global Setting" on page 740.
- 1: **Dump Program**. For more information, see "Dump Program" on page 742.
- 2: **Dump Combination**. For more information, see "Dump Combination" on page 743.
- 3: **Dump Drum Kit**. For more information, see "Dump Drum Kit" on page 743.
- 4: **Dump Wave Sequence**. For more information, see "Dump Wave Sequence" on page 743.
- 5: **Dump Global Setting**. For more information, see "Dump Global Setting" on page 743.
- 6: **Dump Sequencer**. For more information, see "Dump Sequencer" on page 743.
- 7: **Dump KARMA User GE**. For more information, see "Dump KARMA User GE" on page 743.
- 8: **Setup KARMA External MIDI Routing**. For more information, see "Set Up KARMA External MIDI Routing" on page 744.
- 9: **Reset External Setup**. For more information, see "Reset External Setup" on page 745.

1-3: External 2



This page lets you set up the drum pad assignments for the Control Surface's EXTERNAL mode. Each pad can play a note, or send a Control Change (CC) message, on any of the MIDI channels. For more information, see "1-2: External 1" on page 714.

1-3a: Setup select

Setup [000...127]

This selects the Global setup to edit.

1-3b: Pads 1-8

MIDI Channel (1-8) [1...16, Gch]

This sets the MIDI Channel for the pad. Each can send on a different channel, if desired.

Gch means that the pad will transmit on the Global MIDI Channel, as set in Global mode. This allows you to re-direct any number of sliders, knobs, switches, and pads to a different channel at once, without editing the individual controls.

Assign (1-8) [Off, C-1...G9, CC#00...119]

Each pad can send either a MIDI note or a MIDI CC message. When assigned to a CC, the pad sends a value of 127 when it is pressed down, and a value of 0 when it is released.

Velocity (1-8) [1...127]

The front-panel PAD MODE button switches the pads between being velocity sensitive (so that the loudness varies depending on how hard you hit the pad) and playing a single, fixed velocity for each note (handy if you want the same results every time, regardless of how hard you play).

This lets you set the pad's fixed velocity.

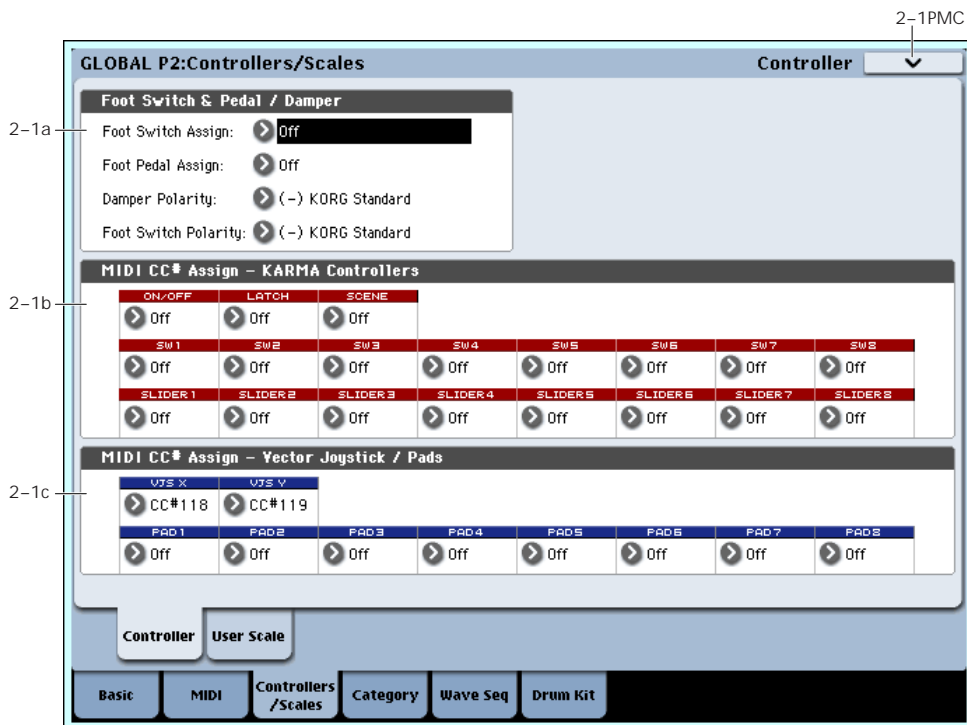
▼ 1-3: Page Menu Commands

The number before each command shows its ENTER + number-key shortcut. For more information on these shortcuts, see "ENTER + 0-9: shortcuts for menu commands" on page 142.

- 0: **Write Global Setting**. For more information, see "Write Global Setting" on page 740.
- 1: **Dump Program**. For more information, see "Dump Program" on page 742.
- 2: **Dump Combination**. For more information, see "Dump Combination" on page 743.
- 3: **Dump Drum Kit**. For more information, see "Dump Drum Kit" on page 743.
- 4: **Dump Wave Sequence**. For more information, see "Dump Wave Sequence" on page 743.
- 5: **Dump Global Setting**. For more information, see "Dump Global Setting" on page 743.
- 6: **Dump Sequencer**. For more information, see "Dump Sequencer" on page 743.
- 7: **Dump KARMA User GE**. For more information, see "Dump KARMA User GE" on page 743.
- 8: **Setup KARMA External MIDI Routing**. For more information, see "Set Up KARMA External MIDI Routing" on page 744.
- 9: **Reset External Setup**. For more information, see "Reset External Setup" on page 745.

Global P2: Controller/Scale

2-1: Controller



2-1a: Foot Switch & Pedal/Damper

Foot Switch Assign [Off...SW 2]

This selects the function that will be controlled by a pedal switch (such as the optional Korg PS-1) connected to the ASSIGNABLE SWITCH jack.

For a complete list of possible assignments, please see "Foot Switch Assignments" on page 1035.

Foot Pedal Assign [Off...Knob 4]

Selects the function that will be controlled by a foot volume pedal (XVP-10 or EXP-2 option [sold separately]) connected to the ASSIGNABLE PEDAL jack.

For a complete list of possible assignments, please see "Foot Pedal Assignments" on page 1036.

Damper Polarity [(-) KORG Standard, (+)]

Set this to match the polarity of the damper pedal connected to the DAMPER jack. If the polarity does not match, operating the damper pedal will not produce the correct result. If no damper pedal is connected, set this to (-) KORG Standard.

(-) KORG Standard: Use this setting for "open-type" damper pedals, such as the optional Korg DS-1H.

(+): Use this setting for "closed-type" pedals.

Foot Switch Polarity [(-) KORG Standard, (+)]

Set this to match the polarity of the footswitch connected to the ASSIGNABLE SWITCH jack. If the polarity does not match, operating the damper pedal will not produce the correct result. If no damper pedal is connected, set this to (-) KORG Standard.

(-) KORG Standard: Use this setting for "open-type" footswitches, such as the optional Korg PS-1.

(+): Use this setting for "closed-type" pedals.

2-1b: MIDI CC# Assign –KARMA Controllers

Here you can assign control change messages to the KARMA switches and sliders.

When you operate a switch or slider, the assigned control change message will be transmitted from the MIDI OUT connector.

The assigned control change messages can also be received from an external MIDI device connected to the MIDI IN connector, and used to control the corresponding KARMA function.

The default settings of each parameter are as shown in the LCD display above.

KARMA ON/OFF [Off, MIDI CC#00...119]

This assigns a control change message to the KARMA ON/OFF switch.

KARMA SCENE [Off, MIDI CC#00...119]

This assigns a control change message to the KARMA SCENE switch.

KARMA LATCH [Off, MIDI CC#00...119]

This assigns a control change message to the KARMA LATCH switch.

KARMA Sliders 1-8 [Off, MIDI CC#00...119]

These assign control change messages to each of the KARMA CONTROL sliders.

KARMA Switches 1-8 [Off, MIDI CC#00...119]

These assign control change messages to each of the KARMA SWITCHES.

**2-1c: MIDI CC# Assign
—Vector Joystick / Pads**

VJS X [Off, MIDI CC#00...119]

VJS Y [Off, MIDI CC#00...119]

These assign control change messages to the X-axis and Y-axis of the vector joystick. For more information, see “1-1b: MIDI Routing Setup” on page 711.

Note that if you set these to Off, the vector joystick will truly be off; it will neither send MIDI, nor affect the internal sounds.

Pads 1-8 [Off, Note C-1...G9, MIDI CC#00...#119]

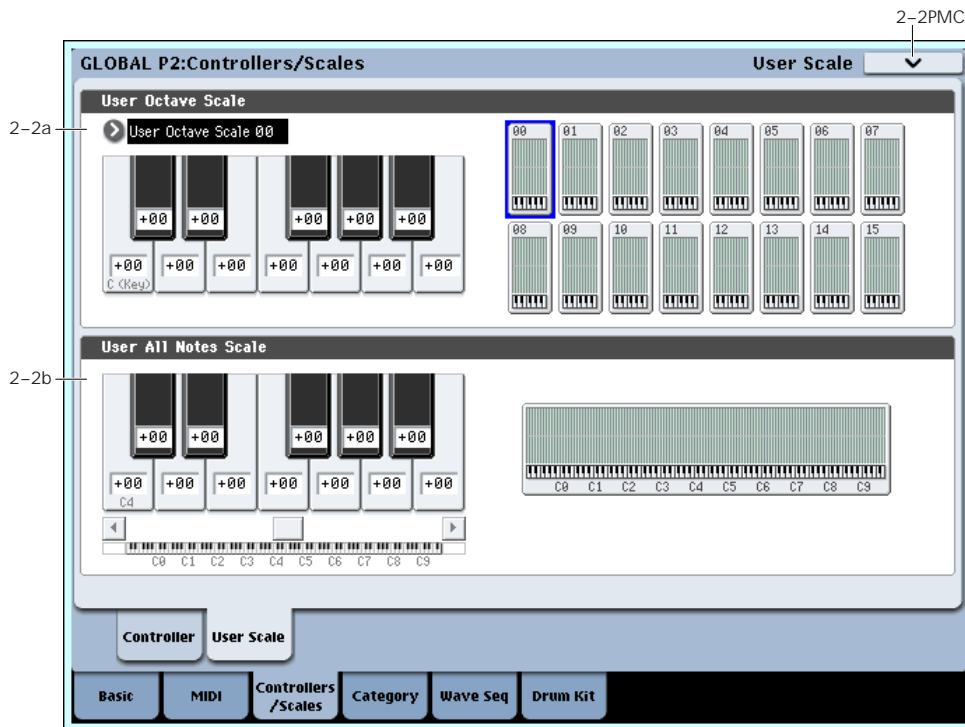
These assign note numbers or control change messages to pads 1-8. For more information, see “Pads MIDI Out” on page 711.

▼ 2-1: Page Menu Commands

The number before each command shows its ENTER + number-key shortcut. For more information on these shortcuts, see “ENTER + 0-9: shortcuts for menu commands” on page 142.

- 0: **Write Global Setting.** For more information, see “Write Global Setting” on page 740.
- 1: **Reset Controller MIDI Assign.** For more information, see “Reset Controller MIDI Assign” on page 745.

2-2: User Scale



Here you can make settings for sixteen different User Octave Scales and one User All Notes scale.

The user scales you create here can be selected from the following pages.

- HD-1 Program P1– Program Basic
- EXi Program Common P1– Program Basic
- Combination P2– Pitch
- Sequencer P2– Pitch

MIDI If you wish to keep an edited user scale after the power is turned off, be sure to write (save) your settings.

Use the page menu command **Write Global Setting** or press the SEQUENCER REC/WRITE switch to open the dialog box, and write the data.

2-2a: User Octave Scale

User Octave Scale [User Octave Scale 00...15]

Selects the User Octave Scale that you want to edit.

Tune [-99...+99]

Makes pitch settings for each note in the octave.

When you adjust the pitch of each note in the octave (C-B) in one-cent steps, your settings will be applied to all octaves. This adjustment is relative to equal temperament.

A setting of **-99** lowers the pitch approximately a semitone below normal pitch.

A setting of **+99** raises the pitch approximately a semitone above normal pitch.

The note can also be selected by holding down the ENTER switch and playing a note on the keyboard.

By executing the page menu command "Copy Scale," you can copy settings from a preset scale (other than Stretch) or from another user scale.

2-2b: User All Notes Scale

Tune [-99...+99]

Makes independent pitch settings for each of the 128 notes.

Adjust the pitch of each of the 128 notes (C-1 – G9) in one-cent steps. This adjustment is relative to equal temperament.

A setting of **-99** lowers the pitch approximately a semitone below normal pitch.

A setting of **+99** raises the pitch approximately a semitone above normal pitch.

Use the horizontal scroll bar to move to the key range that you want to set, and select the key that you want to specify.

Note: The note can also be selected by holding down the ENTER switch and playing a note on the keyboard.

By executing the page menu command "Copy Scale," you can copy settings from a preset scale (including Stretch) or another user scale.

▼ 2-2: Page Menu Commands

The number before each command shows its ENTER + number-key shortcut. For more information on these shortcuts, see "ENTER + 0-9: shortcuts for menu commands" on page 142.

- **0: Write Global Setting.** For more information, see "Write Global Setting" on page 740.
- **1: Copy Scale.** For more information, see "Copy Scale" on page 746.

Global P3: Category Name

Programs, Combinations, and KARMA GEs are organized into categories and sub-categories. Categories make it easy to find a particular type of sound, such as keyboards, bass, or drums, or a specific type of KARMA GE, such as arpeggios or gated patterns.

Each main category also has up to 8 sub-categories, for finer degrees of organization. For instance, the Program keyboard category has sub-categories for acoustic pianos, real electric pianos, synth electric pianos, and clavs and harpsichords.

Anywhere that you can select Programs, Combinations, or KARMA GEs by bank and number, you can also select them from the category pop-up.

When shipped from the factory, there are 16 preset Program and Combination categories, with 2 more left open for your use (initially named User16 and User17). There are also 12 preset KARMA GE categories.

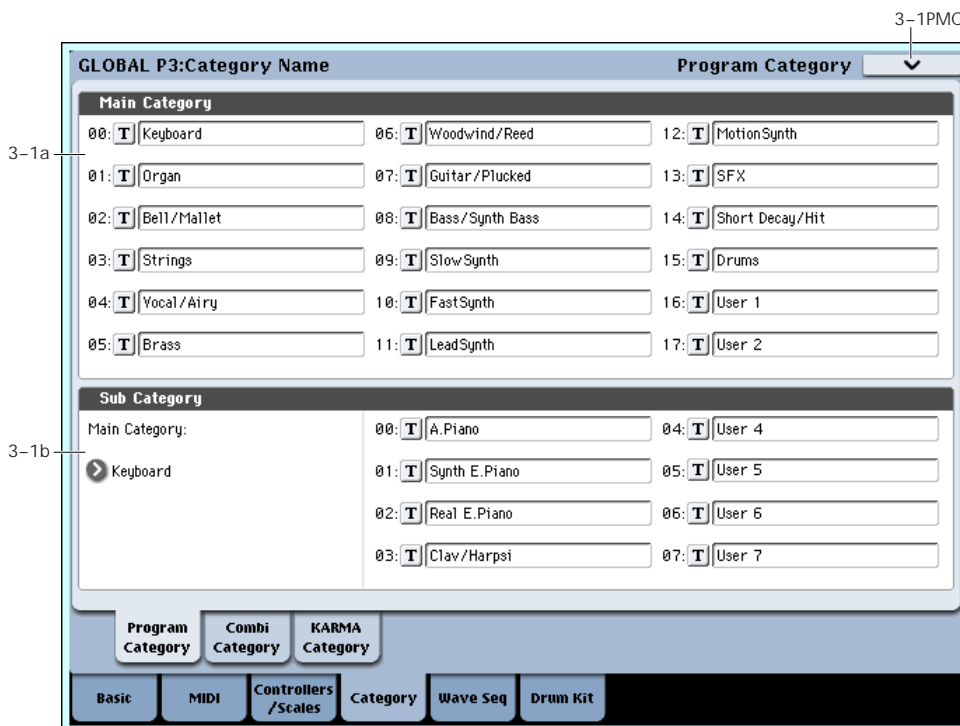
On these pages, you can:

- Change the names of any of the categories and sub-categories, including both the factory and user categories
- Add sub-categories to the factory categories (up to the limit of 8)

You can assign a Program or Combination to a category and sub-category during the Write process. For more information, see “Write Program” on page 142, and “Write Combination” on page 461.

- 🔧 To save changes to category names, you’ll need to write the Global settings. To do so, use the menu command “Write Global Setting.” For more information, see “Write Global Setting” on page 740.

3-1: Program Category



3-1a: Main Category

Main Category 00...17

Main Category Edit [(Text Editor)]

Here you can edit the main category names for programs.

Press the text edit button to open the text edit dialog box, and enter a name. You can enter up to 24 characters. (See OG p.57)

You can name each of the eighteen categories.

3-1b: Sub Category

Main Category select [00...17]

Here you can select the main category for which you will edit sub-category names.

Sub Category 00...07

Sub Category Edit [(Text Editor)]

Here you can edit the sub-category names for programs.

Use "Main Category Select" to select the main category that includes the sub-category name you want to edit. Then press the "Sub Category Select" text edit button to open the text edit dialog box, and enter a name. You can enter up to 24 characters. (See OG p.57)

You can name each of the eight categories.

▼ 3-1: Page Menu Commands

The number before each command shows its ENTER + number-key shortcut. For more information on these shortcuts, see "ENTER + 0-9: shortcuts for menu commands" on page 142.

- 0: **Write Global Setting.** For more information, see "Write Global Setting" on page 740.

3-2: Combi Category

3-3: KARMA Category

These pages let you assign the main category and sub-category names to Combinations and KARMA. Note that currently, you can rename the existing KARMA categories, but you cannot assign a GE to a different category. For more information, please see "3-1: Program Category" on page 720.

Global P4: Wave Sequence

Wave Sequences play back a series of different Multisamples over time. You can use this to create a variety of unique timbral and rhythmic effects, as described below.

Like Drum Kits, Wave Sequences are edited in Global mode, and then used within HD-1 Programs. For more information on using Wave Sequences in Programs, see “2-1c: OSC1 Multisample/Wave Sequence” on page 50.

When editing Wave Sequences, you’ll hear them as if they were being played through the parameter settings of the previously selected Program or Combination. This includes filter settings, envelopes, etc. So, before you begin, it’s best to first select a suitable sound in Program mode, and then enter Global mode.

For detailed step-by-step instructions on creating and editing Wave Sequences, please see “Using Wave Sequences” on page 156 of the Operation Guide.

Rhythmic Wave Sequences

Rhythmic Wave Sequences use short or abrupt crossfades, so that transitions between the different Multisamples create a rhythmic phrase. Flexible swing amount, rests, and ties let you build complex patterns, which you can then sync to KARMA and the system tempo.

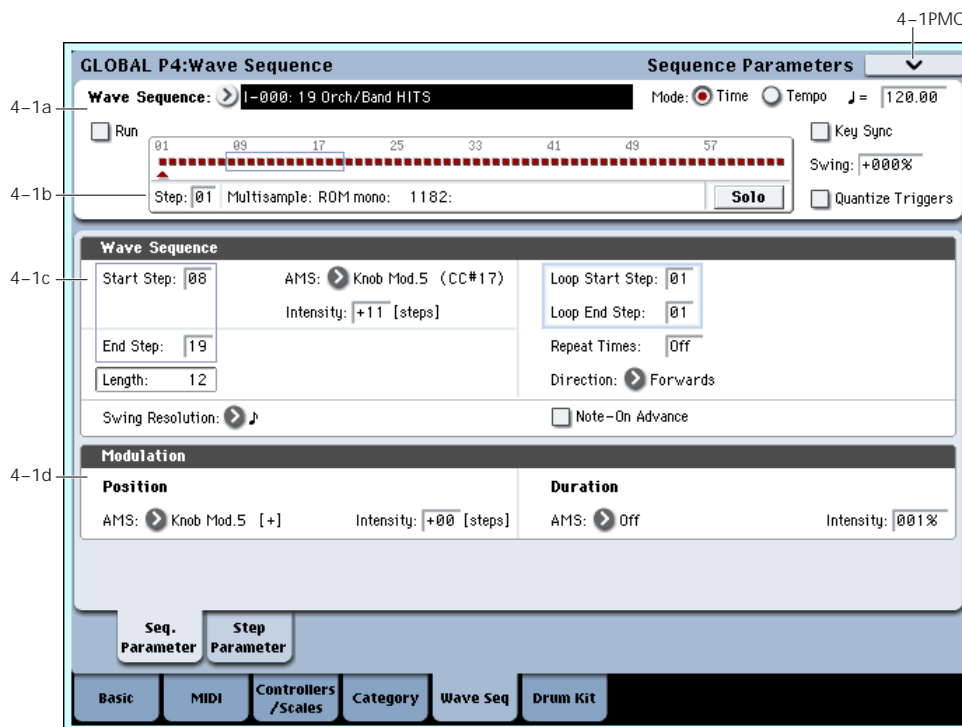
Crossfading Wave Sequences

By using long durations and crossfade times, Wave Sequences can produce complex, evolving timbres. Modulating the Start Step, Position, and Duration makes the sound even more organic, so that every note can play the Wave Sequence a little differently.

Velocity-Switching Wave Sequences

By setting each step’s duration to GATE, and then modulating the Start Step by velocity, you can create a sound with up to 64 velocity switches. For instance, you can use this to switch between a large number of different attack transients.

4-1: Sequence Parameters



This page contains parameters for the selected Wave Sequence as a whole.

4-1a: Basic

Wave Sequence [I-000...149, U-A00...U-G31]

The 150 Wave Sequences in the Internal bank (I-000 through I-149) are the built-in “factory” sounds. You can over-write them if you wish, but doing so may change the sounds of the Programs and Combis in banks INT A-E.

U-A through U-G are user banks. You can use these for storing sounds that you create yourself, optional sound banks from Korg, or third-party sound libraries. Each User bank contains 32 Wave Sequences.

Mode

[Time, Tempo]

This switches between **Time** mode (for crossfading Wave Sequences) and **Tempo** mode (for rhythmic Wave Sequences).

In **Time** mode, step durations are specified in milliseconds, and are not affected by the system tempo.

In **Tempo** mode, step durations are specified in rhythmic values, and are synchronized to the system tempo.

Each step stores separate values for the two modes, so that you can switch back and forth without losing any data.

Crossfade times are always specified in milliseconds, regardless of the **Mode** setting.

♩ = (Tempo) [040.00...240.00 BPM]

This is the current system tempo.

If the Global mode **MIDI Clock** parameter is set to **Internal**, you can adjust the tempo directly from this parameter, as well as using the Tap Tempo button or the Tempo knob.

If **MIDI Clock** is set to **External**, this will simply display “EXT.”

- 🔍 The **Tempo** parameter on this page affects the way that the Wave Sequence plays back during editing, but is not stored with the Wave Sequence itself. Instead, each Program, Combi, and Song has its own stored tempo.

Run [Off, On]

When this is **On**, the Wave Sequence will move through its steps automatically, according to the Duration and Crossfade settings for each step.

When this is **Off**, the Wave Sequence will not move from step to step automatically, and the steps' Duration and Crossfade settings will be ignored. You can then:

- Use Position Modulation to sweep through the steps manually
- Use Note-On Advance to increment the step with each new note
- Use Start Step AMS to play a different step with each note, modulated by velocity or other AMS sources

Key Sync [On, Off]

On (checked): When Key Sync is On, each note's Wave Sequence(s) will progress independently, so that each one can be on a different step, or moving at a different rate.

Off (unchecked): When Key Sync is Off, all of the Wave Sequences will be synchronized on the same step. There is one exception to this, however: if Duration is modulated with velocity or note-number, the Wave Sequences can still progress at different rates.

- 🔍 The **Key Sync** parameter on this page affects the way that the Wave Sequence plays back during editing, but is not stored with the Wave Sequence itself. Instead, each Program, each Combi Timbre, and each Track in a Song has its own **Key Sync** setting.

Swing [-300%...+000...+300%]

This parameter applies only when the **Mode** is set to **Tempo**.

Use **Swing** to add a sense of swing to the rhythm. For example, Swing provides an easy way to turn a “square” rhythm into a shuffle groove.

Swing adjusts the position of the up-beats, relative to the Wave Sequence's Resolution setting. For instance, if the Resolution is set to 1/8, Swing affects every other 8th note.

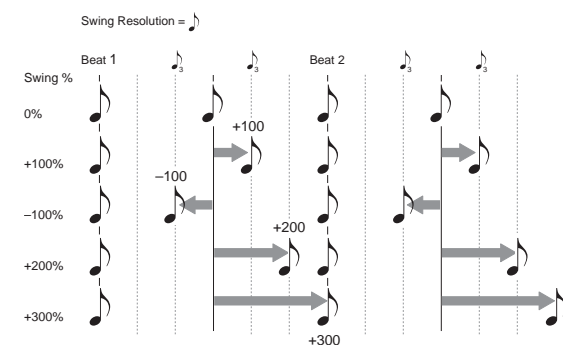
When Swing is set to **+100%**, these notes will be moved one third of the way toward the next down-beat. If the Resolution is 1/8, for example, **+100%** changes straight 8th notes into 8th note triplets.

When Swing is set to **+300%**, up-beats will be moved all the way to the next down-beat. At this point, the notes on the up-beats will not be heard at all.

Positive values make the up-beats later, and negative values make them earlier.

- 🔍 The **Swing** parameter on this page affects the way that the Wave Sequence plays back during editing, but is not stored with the Wave Sequence itself. Instead, each Program, each Combi Timbre, and each Track in a Song has its own **Swing** setting.

Wave Sequence Swing



Quantize Triggers [Off, On]

This parameter applies only when the **Mode** is set to **Tempo**.

It allows you to force most Tempo-mode Wave Sequence note-ons to be in sync, making it easier to play along with other rhythmic elements.


When **Quantize Triggers** is **On**, note-ons are quantized to 8th notes using the current tempo reference. (See below for a few more details.)

The tempo reference can come from different sources, depending on the current mode, and whether or not KARMA is on:

- In Program and Combi modes, if KARMA is off, note-ons are synchronized with the sounding Tempo-mode Wave Sequence, if any.
- In Program and Combi modes, if KARMA is on, note-ons are synchronized with KARMA.
- In Sequencer mode during playback or recording, note-ons are synchronized with the sequence.
- In Sequencer mode, while the sequencer is stopped, note-ons are synchronized with RPPR and KARMA.

On (checked): Note-ons will be quantized.

Off (unchecked): Note-ons will be played instantly, the moment that you play the keyboard.

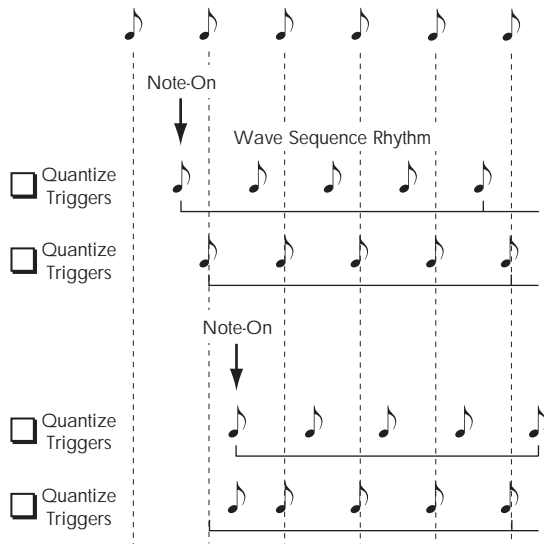
 The **Quantize Triggers** parameter on this page affects the way that the Wave Sequence plays back during editing, but is not stored with the Wave Sequence itself. Instead, each Program, each Combi Timbre, and each Track in a Song has its own **Quantize Triggers** setting.

How Quantize Triggers works

The **Quantize Triggers** feature tries to make a good guess at where you intended the note to be. If you play the note just a bit late—within a 32nd note of the 8th note—it will assume that you meant the note to sound on the beat that just passed. In this case, the note will play immediately.

On the other hand, if you play the note up to three 32nd notes early, it will assume that you're intending the note to sound on the next beat. In this case, the note-on is delayed until the next 8th note.

Quantize Triggers



4-1b: Graphic

The graphic gives you a visual overview of the Wave Sequence:

- The current step is marked by a red arrow.
- Red boxes are Multisample steps.
- Green boxes are Tie steps.
- White boxes are Rest steps.
- The length of the Wave Sequence, from the Start Step to the End Step, is shown by a rectangular outline.
- The Loop is highlighted in blue.

Step [1...64]

This selects the current step. This is convenient when setting the Start, End, Loop Start, or Loop End steps.

Multisample (Read-Only) [Bank, Number, and Name]

This shows the bank, number, and name of the current step's Multisample.

Solo [Off, On]

This button solos the current step, so that you can hear it quickly and easily. When **Solo** is **On**, the Wave Sequence will play only the current step, including the fade-in and fade-out.

4-1c: Wave Sequence

Start Step [1...64]

This is the step on which the Wave Sequence starts. You can modulate this via AMS.

Note: When **Note-On Advance** is **On**, **Start Step** modulation is disabled. For more information, see "Note-On Advance" on page 725.

AMS [List of AMS Sources]

This selects a modulation source to control the Start Step. For a list of AMS sources, see "Alternate Modulation Source (AMS) List" on page 1021.

Intensity [-63...+63]

This controls the depth and direction of the Start Step modulation. Negative modulation moves the Start Step earlier in the sequence, to the limit of Step 1. Positive modulation moves the Start Step later in the sequence, to the limit of the End Step.

End Step [1...64]

This sets the number of steps in the Wave Sequence.

Length (Read Only) [1...64]

This read-only display shows the total number of steps in the Wave Sequence, based on the **Start Step** and **End Step**.

Swing Resolution [♩^3 ...]

This sets the resolution which will be used for swing. If a Program contains multiple Wave Sequences with different **Swing Resolution** settings, the Program will use the finest value. For instance, if one Wave Sequence is set to 1/8 and the other is set to 1/16, the Program will use 1/16.

While the resolution is stored in the Wave Sequence, the swing amount is set in the Program, Combi Timbre, or Song Track. This lets you use a single Wave Sequence in different Programs, Combis, and Songs, each with different amounts of swing.

Loop Parameters

Wave Sequences can loop, so that some or all of the steps are played repeatedly—like a drum loop, or a loop in a sequencer.

You can set the start and end of the loop separately from the start and end of the Wave Sequence itself. The loop can either play for as long as the note is played, or repeat a specified number of times. Finally, you can choose whether the loop plays forwards, plays backwards, or alternates between backwards and forwards.

Loop Start Step [1...64]

This is the step on which the loop starts.

Loop End Step [1...64]

This is the step on which the loop ends. It must be after the Loop Start.

Direction [Forwards, Backwards/Forwards, Backwards]

This sets the direction in which the loop is played.

Forwards plays from the Start Step to the Loop End, and then skips back to the Loop Start.

Backwards/Forwards plays from the Start Step to the Loop End, then backwards from the Loop End to the Loop Start, and then forwards again to the Loop End, and so on.

Backwards plays from the Start Step to the Loop End, then backwards from the Loop End to the Loop Start, and then skips back to the Loop End, and so on.

For instance, let's say that **Repeat Times** is set to 1, **Loop Start** is set to 2, and **Loop End** is set to 4. In this case, the different **Loop Directions** work as shown below. The loop itself is shown in **bold italic type**.

Forwards: 1, 2, 3, 4, **2, 3, 4**, 5, 6.

Backwards: 1, 2, 3, **4, 3, 2**, 5, 6.

Backwards/Forwards: 1, 2, 3, 4, **3, 2, 3, 4**, 5, 6.

Repeat Times [Off, 1...127, INF]

This sets how many times the loop is repeated.

OFF means that the **Loop Start**, **Loop End**, and **Loop Direction** parameters have no effect. The Wave Sequence will play from the **Start Step** to the **End Step**, and then stay at the **End Step** for the remainder of the note.

When this is set between 1 and 127, the loop will repeat the specified number of times. Once the repeats have finished, it will play through to the **End Step**, and then stay there for the remainder of the note.

INF means that the loop will repeat continuously for the duration of the note.

Note-On Advance [Off, On]

This parameter lets you advance the start point of the Wave Sequence by one step with each new note-on. If **Repeat Times** is not set to **Off**, this will step through the loop, paying attention to the loop direction and number of repeats.

For instance, let's say that the Wave Sequence **Start Step** is 2, and the **End Step** is 6. Also, the **Loop Start** is set to 3, the **Loop End** is set to 5, and the **Loop Direction** is set to **Forward**.

If **Repeat Times** is **Off**, **Note-On Advance** will make the Wave Sequence play as follows:

1st note: 2, 3, 4, 5, 6

2nd note: 3, 4, 5, 6

3rd note: 4, 5, 6

4th note: 5, 6

5th note: 6

6th note: 2, 3, 4, 5, 6

7th note: 3, 4, 5, 6

8th note: 4, 5, 6

9th note: 5, 6

10th note: 6

11th note: 2, 3, 4, 5, 6

etc...

If **Repeat Times** is 1, **Note-On Advance** will make the Wave Sequence play as follows:

first note: 2, 3, 4, 5, 3, 4, 5, 6

2nd note: 3, 4, 5, 3, 4, 5, 6

3rd note: 4, 5, 3, 4, 5, 6

4th note: 5, 3, 4, 5, 6

5th note: 3, 4, 5, 6

6th note: 4, 5, 6

7th note: 5, 6

8th note: 6

9th note: 2, 3, 4, 5, 3, 4, 5, 6

10th note: 3, 4, 5, 3, 4, 5, 6

11th note: 4, 5, 3, 4, 5, 6

12th note: 5, 3, 4, 5, 6

13th note: 3, 4, 5, 6

14th note: 4, 5, 6

15th note: 5, 6

etc...

Finally, if **Repeat Times** is 1, **Note-On Advance** will make the Wave Sequence play as follows. Note that the Wave Sequence never returns to the start step, since it's outside of the loop:

first note: 2, 3, 4, 5, 3, 4, 5, 3, 4, 5, 3, 4, 5...

2nd note: 3, 4, 5, 3, 4, 5, 3, 4, 5, 3, 4, 5...

3rd note: 4, 5, 3, 4, 5, 3, 4, 5, 3, 4, 5...

4th note: 5, 3, 4, 5, 3, 4, 5, 3, 4, 5...

5th note: 3, 4, 5, 3, 4, 5, 3, 4, 5...

6th note: 4, 5, 3, 4, 5, 3, 4, 5...

7th note: 5, 3, 4, 5, 3, 4, 5...

8th note: 3, 4, 5, 3, 4, 5...

9th note: 4, 5, 3, 4, 5, 3, 4, 5...

10th note: 5, 3, 4, 5, 3, 4, 5...

etc...

Note: When **Note-On Advance** is **On**, **Start Step** modulation is disabled.

Note-On Advance and Key Sync

Note-On Advance is also affected by the setting of the **Key Sync** parameter.

If **Key Sync** is **On**, the start point will advance by one step for each note.

If **Key Sync** is **Off**, the start point will advance by one step for each new phrase. For more information, see "Key Sync," on page 723.

4-1d: Modulation

Position

AMS [List of AMS Sources]

This selects a modulation source to offset the Wave Sequence from its current position. The Wave Sequence will continue to progress through its steps during position modulation. To sweep through a sequence manually, set “Run,” above, to **Off**.

If Position AMS changes by a large value over a small amount of time, it will skip intermediate steps if necessary.

For a list of AMS sources, see “Alternate Modulation Source (AMS) List” on page 1021.

Intensity [-63...+63]

This controls the depth and direction of the Position modulation. Negative modulation moves the position earlier in the sequence, to the limit of Step 1. Positive modulation moves the position later in the sequence, to the limit of the End Step.

Position modulation and loops

Position AMS affects only the current step, and does not change the loop start or loop end. This means that Position AMS can make the Wave Sequence jump into the middle of the loop, or jump back out of the loop again.

Duration

AMS [List of AMS Sources]

This selects a modulation source to control the step duration and crossfade times. You can speed up or slow down the Wave Sequence so that it runs between 1% and 400% of the original rate. This can be very useful for making a cross-faded Wave Sequence sound more organic.

For a list of AMS sources, see “Alternate Modulation Source (AMS) List” on page 1021.

Intensity [1...400%]

This controls the amount of Duration modulation.

1% means that, at the maximum AMS value, step durations and crossfade times will be 100 times shorter than their programmed settings.

400% means that, at the maximum AMS value, step durations and crossfade times will be four times longer than their programmed settings.

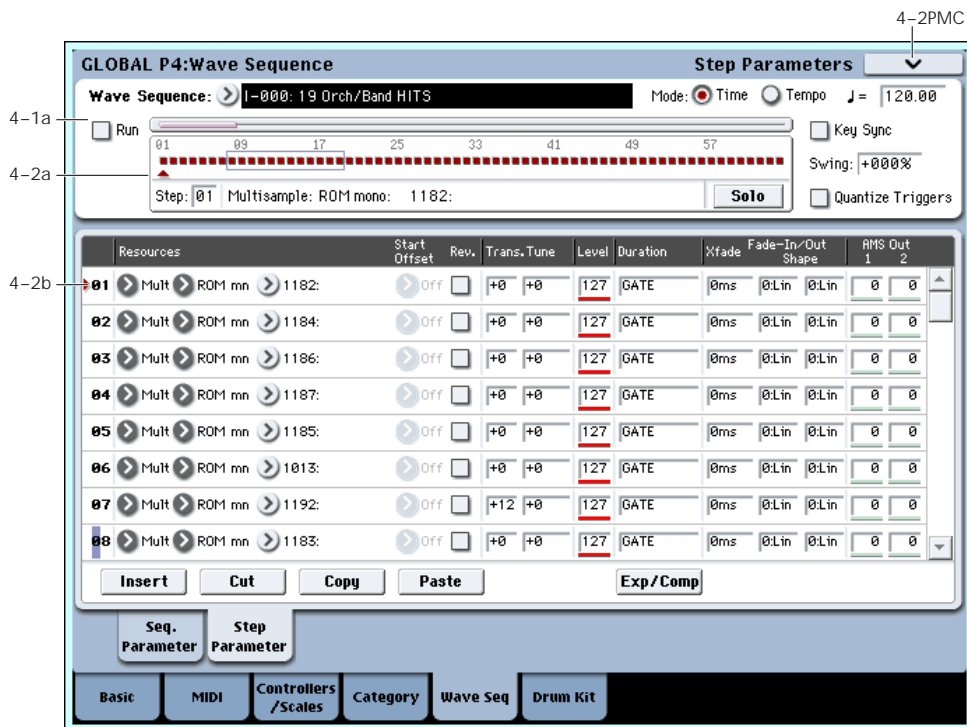
Put another way, values 99% and lower make the Wave Sequence go faster, and values 101% and higher make it go slower.

▼ 4-1: Page Menu Commands

The number before each command shows its ENTER + number-key shortcut. For more information on these shortcuts, see “ENTER + 0-9: shortcuts for menu commands” on page 142.

- 0: **Write Wave Sequence**. For more information, see “Write Wave Sequence” on page 746.

4-2: Per-Step Parameters



4-2a: Basic

Wave Sequence [I-000...149, U-A00...U-G31]

This is the bank, number, and name of the current Wave Sequence. For more information, please see “Wave Sequence,” on page 722.

Mode [Time, Tempo]

This switches between **Time** mode (for evolving, crossfaded Wave Sequences) and **Tempo** mode (for rhythmic Wave Sequences). For more information, please see “Mode,” on page 722.

♩ = (Tempo) [040.00...240.00 BPM]

This is the current system tempo. For more information, please see “Tempo,” on page 723.

Run [Off, On]

This determines whether or not the Wave Sequence will move through its steps automatically. For more information, please see “Run,” on page 723.

Key Sync [On, Off]

This determines whether each note will play its Wave Sequence separately (**Key Sync On**), or whether all of the notes will play together (**Key Sync Off**). For more information, please see “Key Sync,” on page 723.

Swing [-300%...+000...+300%]

Swing adjusts the position of the up-beats, relative to the Wave Sequence’s Resolution setting. This parameter applies only when the **Mode** is set to **Tempo**.

For more information, please see “Swing,” on page 723.

Quantize Triggers [Off, On]

This parameter allows you to force most Tempo-mode Wave Sequence note-ons to be in sync, making it easier to play along with other rhythmic elements. It applies only when the **Mode** is set to **Tempo**. For more information, please see “Quantize Triggers,” on page 723.

4-2b: Graphic

The graphic gives you a visual overview of the Wave Sequence. There’s one addition from the graphic shown on the other page: a scroll-bar over the top of the graphic shows the 8 currently displayed steps.

For more information, please see “4-1b: Graphic,” on page 724.

Step [1...64]

This selects the current step, which applies to the Cut, Copy, Paste, and Insert commands.

Multisample (Read-Only) [Bank, Number, and Name]

This shows the bank, number, and name of the current step’s Multisample.

Solo [Off, On]

This button solos the current step, so that you can hear it quickly and easily. When **Solo** is **On**, the Wave Sequence will play only the current step, as if **Run** were **Off**.

4-2c: Step parameters

This list shows the parameters for eight steps at a time. Use the scroll bar at the right of the screen to change which steps are in view.

Type [Multisample, Rest, Tie]

This sets the step to one of three basic types.

Multisample means that the step will sound a new Multisample, as set by the **Multisample Select** parameter, below.


Rest means that the step will be silent.

Tie is an alternate way of creating rhythmic values, which may sometimes be more convenient than using the Base Note and x (Multiply Base Note By) parameters. Steps set to **Tie** simply extend the duration of the previous step; all parameters other than **Duration**, **Crossfade**, and **Fade-Out Shape** will be grayed out.

Additionally, the **Crossfade** and **Fade-Out Shape** settings of the previous step have no effect.

Multisample Select [List]

This menu selects the step's Multisample.

-  Some Multisamples may have an upper limit to their keyboard range, above which they may not produce any sound.

Bank (Multisample) [ROM mono...EXs stereo]

This menu will appear if the **Type** is set to Multisample.

There are three main types of Banks: **ROM**, **RAM**, and **EXs**. For each type, you can also choose between looking at mono and stereo Multisamples. Note that stereo Multisamples will require twice as many voices as mono Multisamples.

ROM Multisamples are the built-in "factory" sounds, and are always available.

RAM Multisamples include Akai, AIFF or WAV files loaded from disk, and samples created in Sampling mode.

EXs Multisample banks are PCM expansion sets created especially for the OASYS. Each has its own unique number; for instance, a piano expansion might be EXs 4, and an orchestral expansion might be EXs 7. Only the currently loaded EXs banks will appear on this menu.

Start Offset [Off, 1st...8th]

In addition to simply starting playback from the beginning, ROM and EXs Multisamples can have up to 8 different pre-programmed alternate starting points, called Start Offsets.

Similarly, RAM Multisamples can play either from the beginning of the waveform, or from the loop start point.

Start Offsets: ROM and EXs Multisamples

With ROM and EXs Multisamples, the Start Offset specifies whether to use the normal start point (**Off**), or to use one of the alternate start points (**1st-8th**).

Some ROM and EXs Multisamples may have fewer than 8 pre-programmed points, in which case only the available points can be selected.

Start Offsets: RAM Multisamples

With RAM Multisamples, only **Off** and **1st** are available. **Off** uses the normal start point, and **1st** uses the loop start instead. **2nd** through **8th** will be grayed out.

Rev. (Reverse) [Off, On]

This lets you play the selected Multisample backwards, without looping.

Note: If the individual samples within the Multisample are already set to Reverse, they will still play in reverse, regardless of this setting.

On (checked): The Multisample will play back in reverse.

Off (unchecked): The Multisample will play back normally.

Trans. (Transpose) [+/- 24 semitones]

This controls the step's coarse tuning, in semitones.

Tune [+/- 1200 cents]

This sets the step's fine tuning, in cents (1/100 of a semitone).

Level [0-127]

This sets the volume level for the step.

Duration: Mode = Time

The format for setting the Duration will be different depending on whether the Wave Sequence **Mode** is set to **Time** or **Tempo**.

Duration [0ms...10 sec, GATE]

This sets the duration of the step, in milliseconds or seconds. In Time mode, the duration is not affected by the system tempo.

When set to **GATE**, the sequence pauses at the step until note-off, and then the sequence continues.

Multiple steps can be set to **GATE**, for modulation via Start Step AMS, Position AMS, or Note-On Advance.

Duration: Mode = Tempo

In this mode, the Wave Sequence synchronizes to the system tempo, as set by either the Tempo knob or MIDI Clock. The step durations are controlled by the **Base Note** and **Multiply** parameters, below

(Base Note) [♪... ∞ GATE]

This sets the basic duration of the step, relative to the system tempo. The values range from a 32nd note to a whole note, including triplets.

GATE works the same as in Time mode.

x (Multiply Base Note by...) [01...32]

This multiplies the length of the Base Note. For instance, if the Base Note is set to a sixteenth note, and Times is set to 3, the step's duration will be a dotted eighth note.

Xfade [0ms...10 sec]

This determines the time it takes to fade into the *next* step. For example, Step 1's Crossfade determines the time to fade between Step 1 and Step 2.

Crossfades use millisecond units for both **Time** and **Tempo** modes.

Note: In **Time** mode, the **Xfade** time cannot exceed the total duration of the two steps being crossfaded; in **Tempo** mode, it cannot exceed twice the duration of the shorter of the two steps.

The **Fade-In** and **Fade-Out Shape** parameters, below, allow linear, equal-power, and custom crossfades.

Fade-Out Shape [Off, Log, -126...-1, Linear, +1...126, Exp]

This sets the shape for the first step's fade-out within the crossfade.

Off means that the step will continue to sound at full volume for the full duration of the crossfade, and then cut off abruptly.

Log means that the step will fade out slowly at first, and then move more rapidly as it approaches the end of the crossfade. You can create an equal-power crossfade by using this shape for both the fade-out of one step and the fade-in of the next step.

Linear means that the step will fade out steadily, at a constant rate, over the duration of the crossfade.

Exp means that the step will fade out quickly at first, and then fade out more slowly as it nears the end of the crossfade.

Fade-In Shape [Off, Log, -126...-1, Linear, +1...126, Exp]

This sets the shape for the second step's fade-in within the crossfade.

Off means that the step will start to sound at full volume at the very beginning of the crossfade.

Log means that the step will fade in quickly at first, and then move more slowly as it nears the end of the crossfade.

Linear means that the step will fade in steadily over the duration of the crossfade.

Exp means that the step will fade in slowly at first, and then moved more rapidly as it nears end of the crossfade.

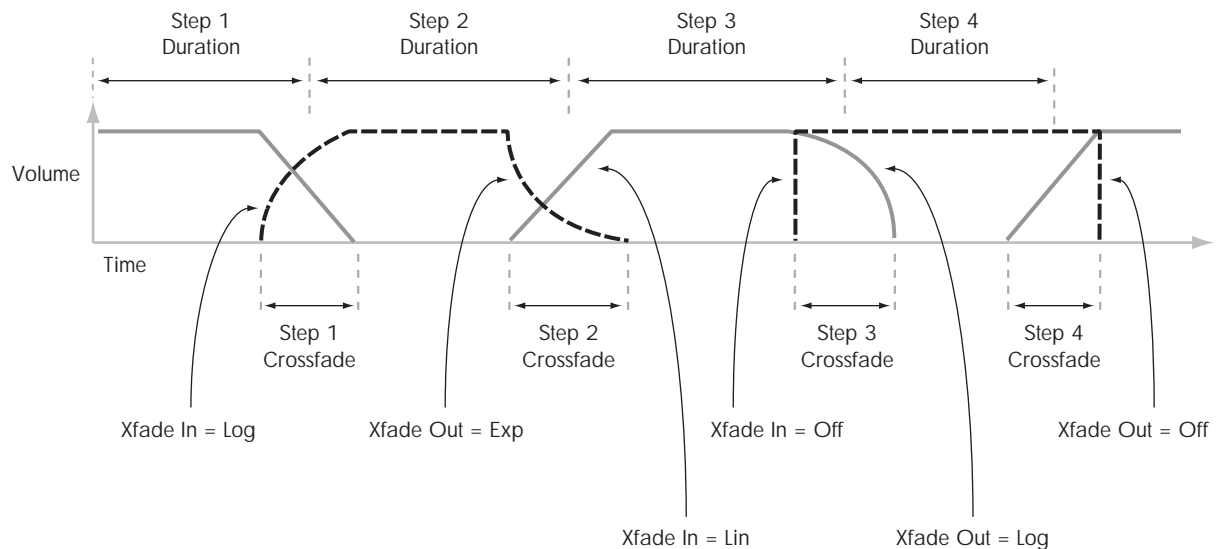
AMS Output 1 [0...127]

Sets the step's first AMS output. You can use this as a modulation source for any AMS destination—for instance, to change the filter cutoff or pan position for each step. For more information, see "Modulating Program parameters per step" on page 158 of the Operation Guide.

AMS Output 2 [0...127]

This sets the step's second AMS output.

Wave Sequence step Durations, Crossfade times, and Fade-In and Fade-Out shapes

**4-2d: Command buttons****Insert**

This command inserts the previously **Cut** or **Copied** step before the current step.

Cut

This command removes the current step from the Wave Sequence, and moves the subsequent steps forward. The removed step can then be **Pasted** or **Inserted** into another location, if desired.

Copy

This command copies current step. You can then **Paste** or **Insert** the step into another location.

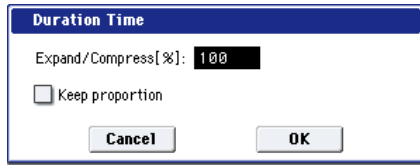
Paste

This command replaces the current step with the previously **Cut** or **Copied** step.

Exp/Comp (Mode = Time)

This command appears only when the **Mode** is set to **Time**. It brings up a dialog box, which allows you to expand or compress all of the duration and crossfade times by a specified percentage.

Duration Time dialog box



Expand/Compress [%] [0...100,000]

100% means the current duration and crossfade times. Values 99 and below make the times shorter, and values 101 and above make them longer.

/2 (Mode = Tempo)

This command appears only when the **Mode** is set to **Tempo**. It cuts the step durations and/or **Multiply Base Note** settings in half, so that 1/4 notes become 1/8 notes, 1/8 notes become 1/16 notes, and so on.

x2 (Mode = Tempo)

This command also appears only when the **Mode** is set to **Tempo**. It multiplies the step durations and/or **Multiply Base Note** settings by two, so that 1/8 notes become 1/4 notes, 1/4 notes become 1/2 notes, and so on.

▼ 4-2: Page Menu Commands

The number before each command shows its ENTER + number-key shortcut. For more information on these shortcuts, see "ENTER + 0-9: shortcuts for menu commands" on page 142.

- 0: **Write Wave Sequence**. For more information, see "Write Wave Sequence" on page 746.

Global P5: Drum Kit

Here you can create drum kits by assigning a drum instrument (drum sample) to each key.

A drum kit you edit here can be sent through the filter, amp, and effects and played in the same way as oscillators for multisamples or wave sequences (if **Oscillator Mode** is Single or Double). To do so, go to the Program mode (HD-1) P1- Program Basic page and set **Oscillator Mode** to Drums, and select it as an oscillator in the P1- OSC1 Basic page.

When you wish to edit a drum kit, enter Program mode, select a program that uses a drum kit (i.e., whose **Oscillator Mode** is Drums), and then move to this page. A program that uses a drum kit will already have filter, amp, and effect settings etc. suitable for drum sounds. (Programs in the separate "VNL" that use a drum kit are indicated by a symbol.)

You must set "Octave" (Program 2-1d) to +0[8']. With any setting other than +0[8'], the key locations and drum sounds will not correspond correctly.

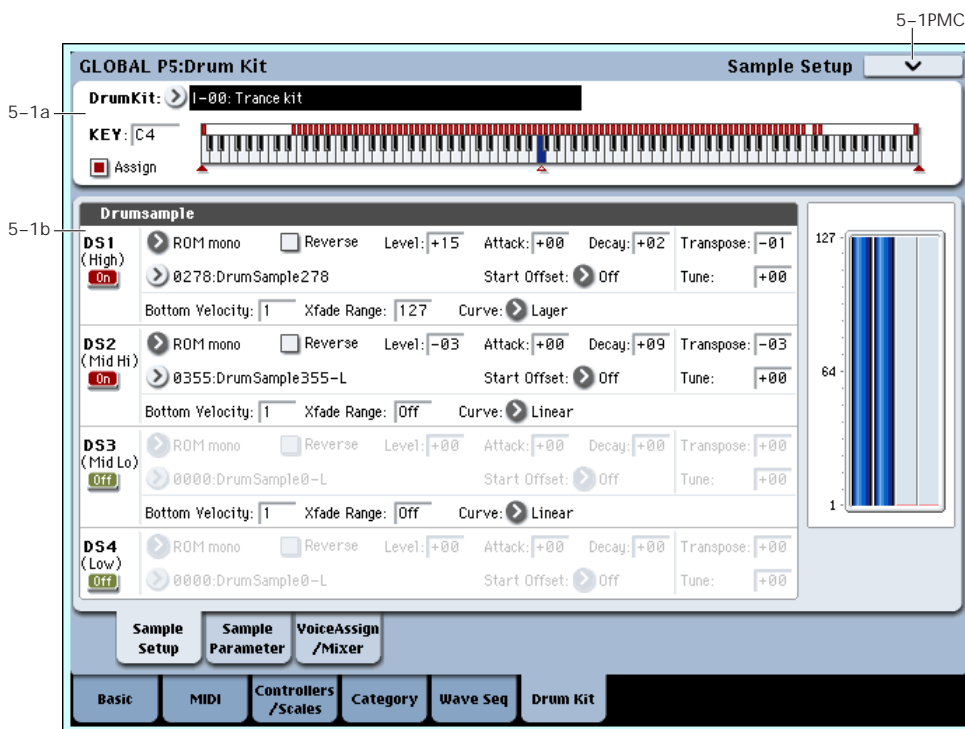
Even if a program with an **Oscillator Mode** of Single or Double is selected in Program mode, the program will sound using its own filter and amp settings etc. Effects will sound according to the settings of the program you selected.

Use "Write Drum Kit" to write an edited drum kit into internal memory. If you turn off the power or select another drum kit before writing, your edits cannot be recovered. Execute the "Write Drum Kit" page menu command or press the SEQUENCER REC/WRITE switch to open the dialog box, and write the edited drum kit. When you edit a drum kit, all programs that use that drum kit will be affected.

If "Enable Exclusive" (1-1c) is checked, the drum kit can be edited using exclusive data.

For detailed step-by-step instructions on creating drum kits, please see "Using Drum Kits" on page 164 of the Operation Guide.

5-1: Sample Setup



Here you can select a drum kit and specify DS1-4 (Drum sample 1-4) as the drum samples assigned to each key. Here you can also edit drum sample parameters for each DS.

Note: GM0-GM8 are GM2-compatible preset drum kits, and as with GM bank programs, cannot be edited directly. However if you write one of these programs as a user drum kit, it can then be edited.

5-1a: Drum Kit, Key Select, Assign

Drum Kit

[INT-00...USER-G15]

Selects the drum kit that you wish to edit.

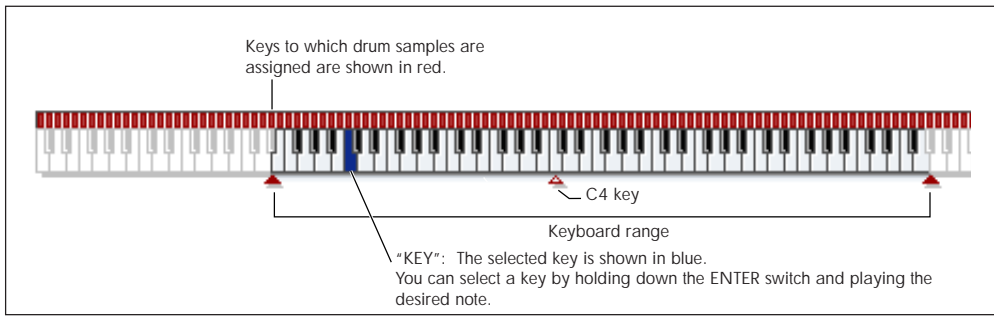
INT-00...INT-031	OASYS preloaded drum kits
USER-A00...USER-G15	User drum kits

KEY [C-1...G9]

Selects the key to which the drum sample (and its settings) will be assigned.

Use the VALUE controller to specify the key. You can also select the key by holding down the ENTER switch and playing a note on the keyboard. You can assign four drum samples (DS1, 2, 3, 4) to each key, and switch between them by velocity.

Drum Kit, Key Select, Assign



If you check "Assign" for the key you select here, the DS1-4, Voice Assign Mode, and Mixer parameters (see below) will be used.

Assign [Off, On]

On (checked): The drum samples you assigned for DS1-4 will sound. Normally you will check this parameter.

Off (unchecked): The selected drum samples will be invalid, and the drum samples of the key to the right will sound. At this time, the pitch will be a semitone lower than the pitch of the key to the right. Uncheck this parameter when you wish to play a drum sample at differing pitches.

5-1b: Drumsample

You can specify up to four drum samples. The process is the same as for the Single or Double multisample settings in Program mode (HD-1). "Bottom Velocity" and "Xfade Range" specify the velocity zone in which DS1, 2, 3, and 4 will sound.

DS1 (High): (Drumsample1 High)

These are the settings for the first (High) velocity zone.

If you want to create a simple setup using only one drum sample, make the appropriate settings in DS1, and then set "Bottom Velocity" to 1 and "Xfade Range" to Off.

DS1(High) On/Off [Off, On]

On (checked): Check this if you want to use DS1 (High). The selected drum sample will sound.

Off (unchecked): DS1 (High) will not be used. The drum sample will not sound.

Note: Normally, you will start by using DS1 (before using DS2-4). If you don't want to switch drum samples by velocity, turn on only DS1. If you're using multiple velocity-switched drum samples, make settings as follows.

One velocity zone

DS1: On, DS2: Off, DS3: Off, DS4: Off

Two velocity zones

DS1: On, DS2: On, DS3: Off, DS4: Off

Three velocity zones

DS1: On, DS2: On, DS3: On, DS4: Off

Four velocity zones

DS1: On, DS2: On, DS3: On, DS4: On

Bank [ROM mono, ROM stereo, RAM mono, RAM stereo, EXs* mono, EXs* stereo]

Drumsample Select [000...416, 0000...3999, 000...]

Specify the DS1 drum sample by bank and drum sample number.

The banks are organized into three main types; ROM, RAM, and EXs. For each type, you can choose either mono or stereo multisamples. However, stereo multisamples use up twice as many voices as mono multisamples.

ROM: These are the OASYS's standard preset drum samples.

RAM: These are user samples. You can choose samples you created in Sampling mode or loaded in Disk mode. In Disk mode, you can load not only KORG format sample files, but also AKAI S1000/S3000 format, AIFF format, and WAVE format data as samples, and use them as drum samples.

EXs*: These are the OASYS's standard EXs drum samples. In addition, if you have installed/loaded EXCD-SND series OASYS PCM Expansion Option CDs, these will be displayed with their type shown in the * area, and can be selected. The number of drum samples will differ depending on the EXs.

ROM mono, ROM stereo Select menu

When you press the "Drumsample Select" popup button a drum sample list will appear, allowing you to choose drum samples from the list.

Use the tabs to choose a category, and then choose a drum sample from within the category. Press the OK button to execute, or press the Cancel button to cancel.

It is not possible to edit the category names of drum samples, or to re-assign the category.

If you choose "Bank" ROM Mono:

Mono drum samples will be displayed. The L-channel or R-channel of the stereo drum samples selectable via Bank: ROM Stereo can also be selected as mono drum samples. In these cases, -L or -R is shown following the drum sample of the same name.

If you choose "Bank" ROM Stereo:

Only stereo drum samples will be displayed.

RAM mono, RAM stereo Select menu

Use the tabs to select a group of one thousand, and then choose a RAM sample within that group. Press the OK button to execute, or press the Cancel button to cancel.

If you choose “Bank” RAM mono:

Mono drum samples will be displayed. The L-channel or R-channel of stereo drum samples can also be selected as mono drum samples. In these cases, -L or -R is shown following the drum sample of the same name.

If you choose “Bank” RAM stereo:

Only stereo drum samples will be displayed, using the same numbers and names as the mono samples. The same stereo sample will be specified regardless of whether you select -L or -R.

Start Offset [Off, 1st...8th]

In addition to simply starting playback from the beginning, ROM and EXs drum samples can have up to 8 different pre-programmed alternate starting points.

Similarly, RAM drum samples can play either from the beginning of the waveform, or from the loop start point.

ROM and EXs samples

With ROM and EXs drum samples, the Start Offset specifies whether to use the normal start point (**Off**), or to use one of the alternate start points (**1st–8th**).

Some ROM and EXs drum samples may have fewer than 8 pre-programmed points, in which case only the available points can be selected.

RAM samples

With RAM drum samples, only **Off** and **1st** are available. **Off** uses the normal start point, and **1st** uses the loop start instead. **2nd** through **8th** will be grayed out.


Reverse [Off, On]

This lets you play the selected drum sample backwards, without looping.

On (checked): The drum sample will play back in reverse.

The location at which reverse playback starts and ends is already specified for each drum sample. In the case of RAM bank samples whose “Start” and “End” (Sampling 2-1d) are specified, the sample will play (backward) from “End” to “Start.”

Off (unchecked): The drum sample will play back normally.

 This parameter will not change the playback direction of a sample for which “Reverse” (Sampling 2-1d) is checked.

Level (Amp Level) [-99...+99]

Specifies the volume.

Keys for which a value of **+99** is specified will sound at a volume twice as high as the amp level of the program which uses that drum kit. Keys for which a value of 0 is specified will sound at the volume of the amp level of the program which uses that drum kit.

Keys for which a value of **-99** is specified will not sound.

Attack (Amp EG Attack) [-64...+63]

Adjusts the attack time of the volume (Amplifier). The attack time for each key is determined by adding this value to the amp EG Attack Time of the program that uses this drum kit.

Decay (Amp EG Decay) [-64...+63]

Adjusts the decay time of the volume (Amplifier). The decay time for each key is determined by adding this value to the amp EG Decay Time of the program that uses this drum kit.

Transpose [-64...+63]

Adjusts the pitch in semitone steps.

+12 is one octave up, and **-12** is one octave down.

Tune [-99...+99]

This adjusts the pitch in cents, over a range of ± 1 octave. A cent is 1/100 of a semitone.

Bottom Velocity [1...127]

This sets the lowest velocity at which the drum sample will sound. DS1’s Bottom Velocity can be equal to, but not lower than, than that of DS2.

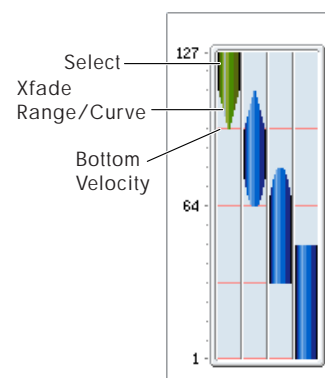
Xfade Range [Off, 1...127]

This specifies the velocity range starting at “Bottom Velocity” over which DS1 will fade-out and DS2 will fade-in.

For instance, if the Bottom Velocity is set to 64, and the Xfade Range is set to 20, DS2 will start to fade in at velocities of 84 and below.

When velocities are within the Xfade Range, the Oscillator will use twice as much polyphony as it would normally.

Note: You can only fade between two zones at once.

**Curve [Linear, Power, Layer]**

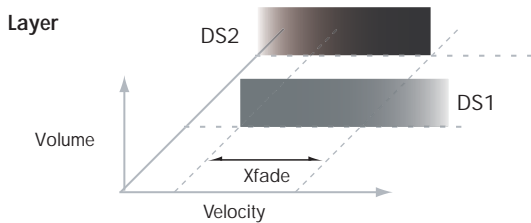
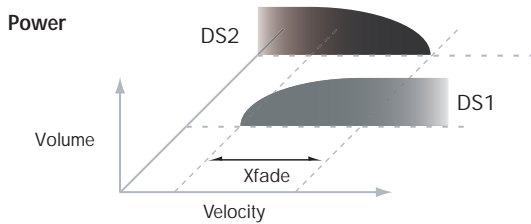
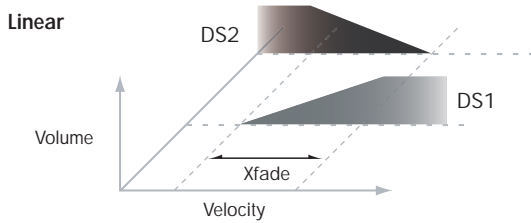
This controls the volume curve of the crossfade. **Linear** and **Power** (short for Equal Power) let you fine-tune the way that the two drum samples mix together; one or the other may be more appropriate for a given pair of drum samples. **Layer**, true to its name, lets you layer the two drum samples together without any crossfading.

Linear means that the two samples will each be at 50% of their full volume in the middle of the crossfade. Sometimes, this may create a dip in the volume level; if so, try using **Power** instead.

Power, short for Equal Power, means that the two samples will each be at around 70% of their full volume in the middle of the crossfade. Sometimes, this may create a bump in the volume level, in which case you might try selecting **Linear** instead.

Layer means that the two drum samples will be layered together, both at full volume, for the entire range of the crossfade.

Crossfade Curves



DS2(Mid Hi): (Drumsample2 Mid High)

DS3(Mid Lo): (Drumsample3 Mid Low)

DS4(Low): (Drumsample4 Low)

These are the settings for the second, third, and fourth velocity zones. The parameters for DS2 (Mid Hi) and DS3 (Mid Lo) are exactly the same as those for DS1, as described above.

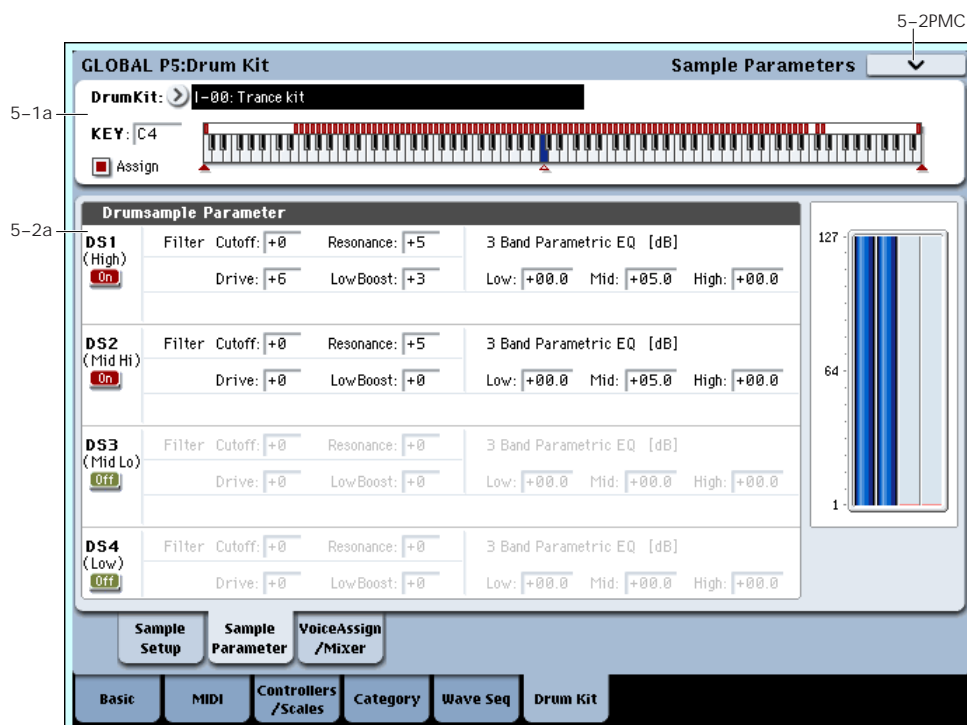
The parameters for DS4 (Low) are also similar to those for DS1, except that DS4 (Low) has no settings for Bottom Velocity (which is always fixed at 1), Xfade Range, or Curve.

▼ 5-1: Page Menu Commands

The number before each command shows its ENTER + number-key shortcut. For more information on these shortcuts, see "ENTER + 0-9: shortcuts for menu commands" on page 142.

- 0: **Write Drum Kit**. For more information, see "Write Drum Kit" on page 747.
- 1: **Copy Key Setup**. For more information, see "Copy Key Setup" on page 747.
- 2: **Swap Key Setup**. For more information, see "Swap Key Setup" on page 747.

5-2: Sample Parameters



Here you can edit the filter cutoff, resonance, and three-band EQ gain for each drum sample. These settings are offsets that are applied to the settings of the program.

5-2a: Drumsample Parameters

DS1 (High): (Drumsample 1 High)

DS1(High) On/Off [Off, On]

On (checked): Check this if you want to use DS1 (High). The selected drum sample will sound.

Off (unchecked): DS1 (High) will not be used. The drum sample will not sound.

Filter Cutoff [-64...+63]

Adjust the cutoff frequency of the filter. The cutoff frequency for each key and drum sample is determined by adding this value to the filter

Frequency (Program 3-1b) of the program that uses this drum kit.

Resonance (Filter Resonance) [-64...+63]

This adjusts the filter resonance. This offset value for each key and drum sample is applied to the filter "Resonance" (Program 3-1b) of the programs that use this drum kit.

Driver Drive [-99...+99]

This adjusts the drive level. This offset value for each key and drum sample is applied to the driver "Drive" (Program 4-1a) setting of the programs that use this drum kit.

Low Boost (Driver Low Boost) [-99...+99]

This adjusts the low boost level of the driver. This low boost setting for each key and drum sample is applied to the driver "Low Boost" (Program 4-1a) setting of the programs that use this drum kit.

3 Band Parametric EQ [dB]

Low [-36.0...+36.0]

Mid [-36.0...+36.0]

High [-36.0...+36.0]

These parameters adjust the gain for each band of the three-band parametric EQ. The gain settings for each key and drum sample are applied to the "Low Gain," "Mid Gain," and "High Gain" (Program 4-9a) settings of the programs that use this drum kit.

DS2(Mid Hi): (Drumsample2 Mid High)

DS3(Mid Lo): (Drumsample3 Mid Low)

DS4(Low): (Drumsample4 Low)

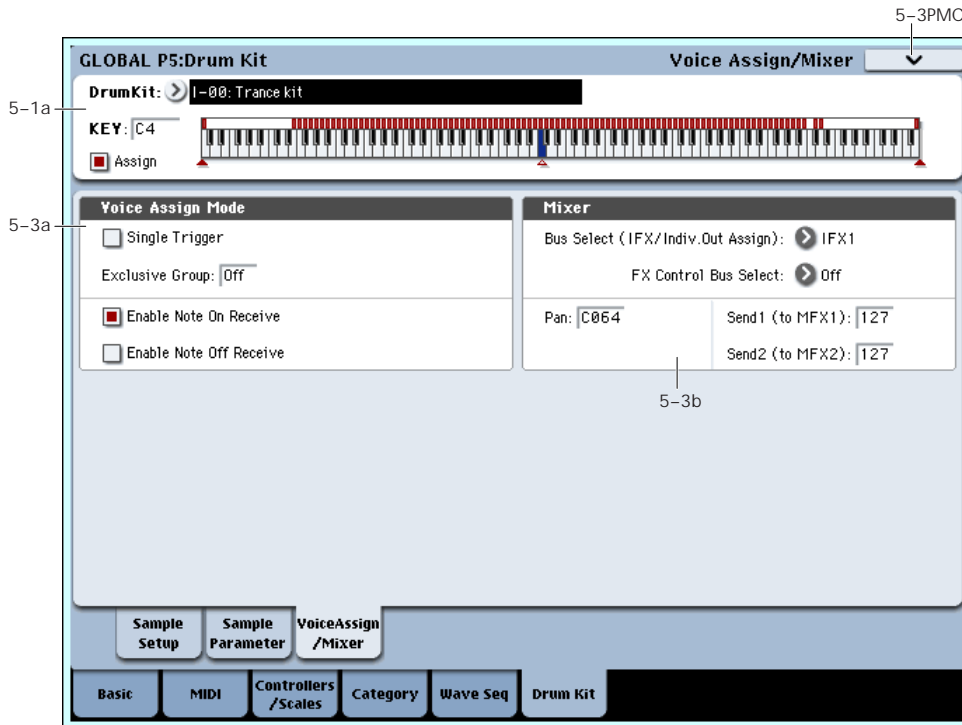
Here you can edit the sample parameters for the second, third, and fourth drum samples. The parameters are the same as for DS1, as described above. See "DS1 (High): (Drumsample 1 High)."

▼ 5-2: Page Menu Commands

The number before each command shows its ENTER + number-key shortcut. For more information on these shortcuts, see "ENTER + 0-9: shortcuts for menu commands" on page 142.

- 0: **Write Drum Kit**. For more information, see “Write Drum Kit” on page 747.
- 1: **Copy Key Setup**. For more information, see “Copy Key Setup” on page 747.
- 2: **Swap Key Setup**. For more information, see “Swap Key Setup” on page 747.

5-3: Voice Assign/Mixer



Specify the voice assign, pan, and effect routing etc. for each key of the drum kit.

5-3a: Voice Assign Mode

Single Trigger [Off, On]

On (checked): Even when the same key (note) is played repeatedly, the previous note will be halted before the new note is begun, so that the notes will not overlap. Normally you will leave this unchecked.

Exclusive Group (Exclusive Assign)[Off, 001...127]

001-127: This allows you to assign keys to any of 127 groups. Keys assigned to the same group will be treated as a single group, and will be played monophonically with last-note priority. For example you might assign closed and open hi-hat sounds to the same group so that two or more hi-hat sounds can not sound simultaneously.

Off: Keys will not be grouped. This is the default setting.

Enable Note On Receive [Off, On]

On (checked): Note-on messages will be received. Normally you will check this, but you can uncheck it if you do not want specific notes to sound.

Enable Note Off Receive [Off, On]

On (checked): Note-off messages will be received. Normally you will uncheck this. This parameter is valid when “Hold” (Program 1-1d) is checked (Hold On). In the case of a drum program, you will normally select Hold On. In this case if “Enable Note Off Receive” is checked, note-off messages will be received, and the sound will stop (the release segment of the EG will begin) when the key is released.

5-3b: Mixer

- ▶ Drum kits will sound using the settings of the program that is selected in Program mode. **Pan** is valid if “Use DKit Setting” (Program 4-1c) is checked. **Bus Select**, **FX Control Bus**, and “Send 1/2” are valid if “Use DKit Setting” (Program 8-1b) is checked. Be aware that while editing a drum kit, the edited results will not be reflected unless these settings have been made.

Bus Select (IFX/Indiv.Out Assign) [L/R, IFX1...12, 1...8, 1/2...7/8, Off]

For each key, specify the bus to which the sound will be sent.

For example, you might send Snare sounds to IFX1 and Kick sounds to IFX2 to apply separate insert effects, and send the remaining sounds to L/R without applying insert effects.

Tip: In most of the preloaded drum kits, the following types of drum instrument have the same **Bus Select** settings.

Tip: Most of the preloaded drum kits use the same basic **Bus Select** settings, as shown below:

- Snares → IFX1
- Kicks → IFX2
- Toms → IFX3
- Cymbals → IFX4
- Percussion etc. → IFX5

FX Control Bus [Off, 1, 2]

For each key, you can select whether the signal will be sent to FX Control bus (stereo two-channel) FX Ctrl1 or 2.

Normally you will leave this off, but you can use this setting if you want to control an effect by playing a specific key.

You can use this with the following effects:

Vocoders:

- 026: Vocoder

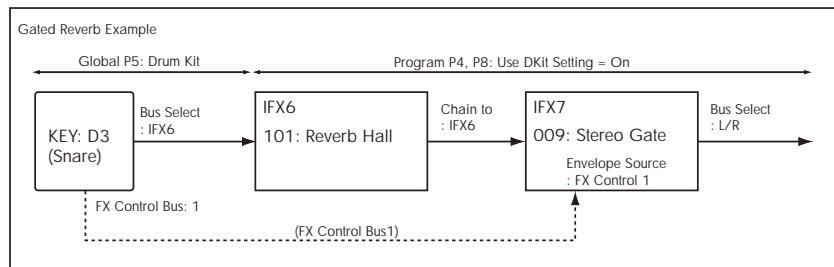
Compressor and gate-type effects:

- 002: Stereo Compressor
- 003: Stereo Expander
- 005: Stereo Limiter
- 009: Stereo Gate
- 010: Stereo Noise Reduction

Example: Gated Reverb

This is an example of applying a gated reverb to only a specific snare sound. When using a gate effect on reverb, you may not be able to control the gating timing correctly if you use the extended reverberant sound to control the gate. Normally, you will control the gate using sound from before reverb is applied.

For the key for which you've selected the snare sample, set **Bus Select** to IFX6. Also use **FX Control Bus Select** to send the signal to FX Control Bus 1. In IFX7: Stereo Gate, choose FX Control 1 as the Envelope **Source**. Now you can use a signal other than the input (reverberant sound) to control the gate.



Pan [Random, L001...C064...R127]

Specifies the panning for each key.

L001 places the sound at far left, and **R127** places the signal at far right. With a setting of **Random**, the drum sample will be panned randomly at each note-on.

Send1 (to MFX1) [000...127]

Send2 (to MFX2) [000...127]

For each key, specify the send levels to master effects 1 and 2.

These settings are valid when **Bus Select** (5-3b) is set to L/R or Off. If **Bus Select** is set to IFX1-12, the send level to master effects 1 and 2 will be determined by the Program, Combination, or Sequencer mode P8: Insert FX page parameters **Send1** and **Send2** which are located after the sound passes through IFX1-12.

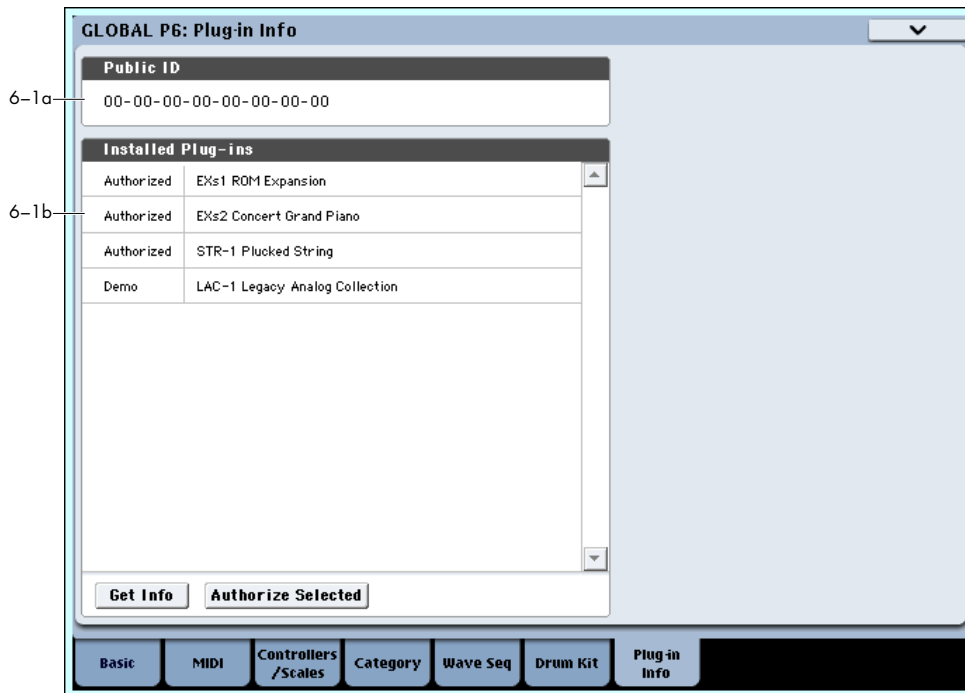
- **2: Swap Key Setup.** For more information, see "Swap Key Setup" on page 747.

▼ **5-3: Page Menu Commands**

The number before each command shows its ENTER + number-key shortcut. For more information on these shortcuts, see "ENTER + 0-9: shortcuts for menu commands" on page 142.

- **0: Write Drum Kit.** For more information, see "Write Drum Kit" on page 747.
- **1: Copy Key Setup.** For more information, see "Copy Key Setup" on page 747.

Global P6: Plug-in Info



This page lets you manage your installed EXi, EXf, and EXs plug-ins. Here, you can:

- View information on all installed plug-ins and plug-in bundles
- Authorize plug-ins with codes purchased from www.korguser.net/oasys/exi, or from your Korg distributor

6-1a: Public ID

Public ID [nn nn nn nn nn nn nn nn]

This is a unique identifier, like a very specific name; it is different for each and every OASYS. The Public ID is 16 characters long, and uses only the characters 0-9 and A-F. You'll need this ID when registering on korguser.net, which is required for purchasing plug-ins.

6-1b: Installed Plug-ins

This section shows all of the installed plug-ins or plug-in bundles, including EXi, EXf, and EXs, and whether they are authorized or in demo mode.

Some plug-ins, like the Legacy Analog Collection, may be bundles of multiple EXi, EXf, and/or EXs. In this case, the list will show the name of the bundle. To see all of the EXi, EXf, and EXs in the bundle, select the bundle in the list and press the **Get Info** button.

Demo plug-ins are installed on the system, but have not yet been purchased and authorized. When a plug-in is in demo mode, you can play, edit, and save Programs, Combis, and Songs which use it—but until you purchase and enter an authorization code, any

sound which uses the plug-in will fade out periodically. For more information, see "Authorizing plug-ins," below.

Authorized plug-ins are fully functional. Some plug-ins, such as EXs1, EXs2, and the STR-1, may already be authorized by default.

Get Info button

Pressing the Get Info button calls up a window containing information for the selected plug-in or plug-in bundle. For instance, it shows all individual EXi, EXf, and/or EXs within a bundle.

Authorize Selected button

Once you've purchased an authorization code, select the plug-in from the list, and press this button to enter the code into the OASYS. For more information, see "Authorizing plug-ins," below.

Authorizing plug-ins

Authorizing OASYS plug-ins is simple. First, you'll purchase an authorization code; then, you'll enter it on this page. To do so:

1. **Write down the Public ID. Make sure that you've copied it accurately.**
2. **If you have access to the internet, follow the instructions under "Purchasing plug-in licenses via korguser.net," below.**

or:

If you do not have internet access, follow the instructions under "Purchasing plug-in licenses from your Korg distributor," below.

Purchasing plug-in licenses via korguser.net

1. Go to <http://www.korguser.net/oasys/exi>

2. Log in under your registered member name.

If you aren't already registered, follow the online instructions for registering as a member of korguser.net. After registering as a member, register your OASYS.

3. Purchase the authorization code for the desired plug-in.

After purchasing, you'll receive an email from KORG with your authorization code. Note that this code is tied to your Public ID, and will not work on other OASYS systems. If you have more than one OASYS, you'll need to purchase authorizations for each one separately.

4. Once you have the authorization code, follow the instructions under "Authorizing plug-ins on the OASYS," below.**Purchasing plug-in licenses from your Korg distributor**

If you do not have access to the internet, your national Korg distributor will be happy to assist you in purchasing plug-in authorization codes.

1. **Write down your OASYS Public ID.**
2. **Contact your Korg distributor, and ask them for assistance with purchasing plug-in authorizations for OASYS.**

You can find contact information for your Korg distributor by contacting your Korg dealer, or from the following page on the Korg website:

<http://www.korg.co.jp/English/index.html>

3. **After you purchase the authorization code(s), proceed to "Authorizing plug-ins on the OASYS," below.**

Authorizing plug-ins on the OASYS

1. **Go to the Global Plug-in Info page.**
2. **Select the plug-in to authorize from the list of Installed Plug-ins.**
3. **Press the Authorize Selected button.**

The Authorize Selected window will appear. You'll see the name of the selected plug-in or plug-in bundle at the top of the window. The window also includes an on-screen keyboard, so that you can enter your authorization code.

4. **Enter the authorization code.**
5. **Press OK.**

Provided that you entered a valid authorization code, the list will now show the plug-in or plug-in bundle as **Authorized**, and the audio limitations of **Demo** mode will be removed.

▼ 6-1: Page Menu Commands

The number before each command shows its ENTER + number-key shortcut. For more information on these shortcuts, see "ENTER + 0-9: shortcuts for menu commands" on page 142.

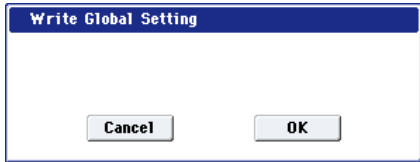
- **0: Write Global Setting.** For more information, see "Write Global Setting" on page 740.

Global: Page Menu Commands

Write Global Setting

This command writes Global mode settings (except for Drum Kits and Wave Sequences).

1. Select Write Global Setting to open the dialog box.



2. To write the data, press the OK button. To cancel without writing, press the Cancel button.

You can also use the SEQUENCER REC/WRITE switch to write data in the same way as the Write Global Setting command.

Press the SEQUENCER REC/WRITE switch to access the "Update Global Setting" dialog box, and press the OK button to write the data.

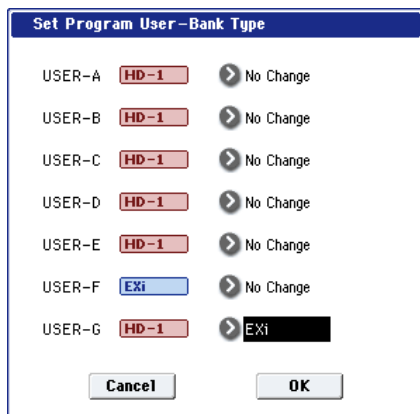
Note: To write a Drum Kits or Wave Sequences, execute the appropriate page menu command. (t: "Write Drum Kits," s: "Write Wave Sequences")

Set Program User-Bank Type

This specifies the bank type for Program mode program banks USER-A through G. When you execute this, the programs within the bank will be initialized to programs of the specified bank type.

- Before you execute, uncheck Program in "Memory Protect" (0-1e). If you execute with this item still checked, a message of "Memory Protected" will appear, and the data will not be loaded.

1. Choose "Set Program User-Bank Type" to open the dialog box.



This indicates the current type for each user bank.

2. Specify the bank type for each bank.

No Change: The bank type will not be changed. The data will remain unchanged.

HD-1: The bank type will be set to HD-1.

EXi: The bank type will be set to EXi.

Note: If you execute with a setting other than No Change, all data in that bank will be initialized –

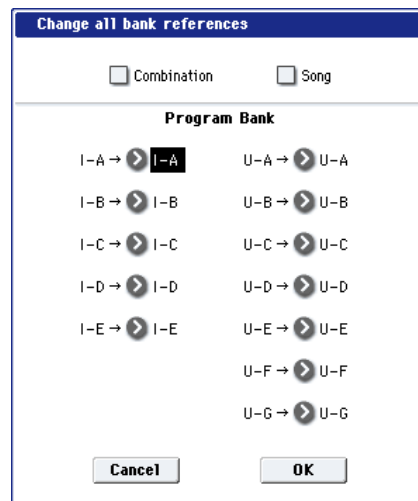
even if you have specified the same bank type as before. If you want to keep your data, you must first use "Save All" or "Save PCG" to save it.

3. Press the OK button to execute, or press the Cancel button to cancel. A dialog box will ask you to confirm the operation.
4. Verify the settings. Then press the OK button to execute, or press the Cancel button to cancel.

Change all bank references

This command changes all program banks specified for timbres in combinations or tracks of songs.

1. Select "Change all bank references" to open the dialog box.



2. If you wish to change bank references for combinations, check "Combination."

If you wish to change bank references for songs, check Song.

3. In "Program Bank," specify the replacement for each bank.
4. To execute the Change All Bank References command, press the OK button. To cancel, press the Cancel button.

- If you change two or more different banks to the same bank, it will not be possible to use this function to change them back to different banks. Be careful that the change destination banks do not overlap.

Touch Panel Calibration

If input via the LCD screen does not work as you expect, or if the edit cell moves to a location other than where you pressed the LCD screen, use this command to adjust the sensitivity of the LCD screen.

1. Select "Touch Panel Calibration" to open the dialog box.




2. If you are unable to select this command from the page menu, go to the main Global page as normal, and then hold down the ENTER button and press 3 on the numeric keypad. This will call up the calibration dialog.
3. Press the square in the upper left of the LCD. When your touch has been detected correctly the square will be highlighted.
4. Press the square in the lower right of the LCD. When your touch has been detected correctly the square will be highlighted.
5. Press the Done button.

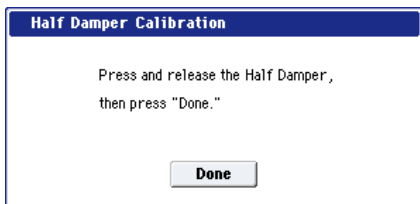
If your touch was not detected correctly, an error message will appear. Please perform the procedure once again.

Half Damper Calibration

If a damper pedal that supports half damper (the DS-1H option) is connected to the DAMPER jack, here's how you can adjust the sensitivity if the damper effect is not applied appropriately.

 Since the half-damper pedal is highly sensitive, please use the optional DS-1H. Other pedals may not produce the appropriate effect, or may be impossible to calibrate correctly.

1. Connect a half-damper pedal to the DAMPER jack.
2. Select "Half Damper Calibration" to open the dialog box.



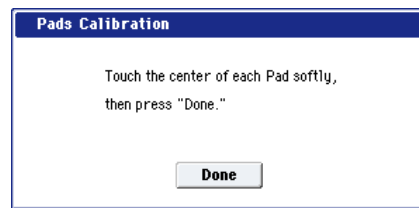
3. Press the half-damper pedal, and then release your foot from the pedal.
4. Press the Done button.

If the adjustment could not be performed correctly, an error message will be displayed. Please perform the procedure once again.

Pad Calibration

This adjusts the velocity sensitivity of the pads.

1. Select "Pad Calibration" to open the dialog box.



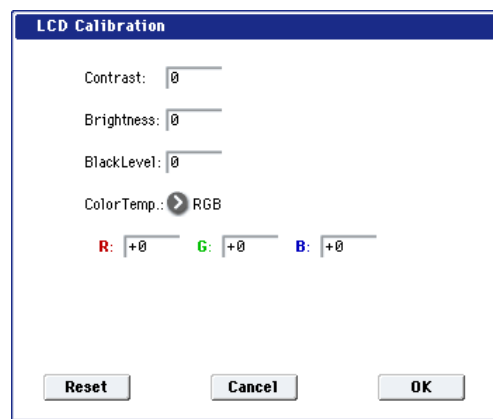
2. Press the center of each pad as lightly as possible.
3. Press the Done button.

If the calibration could not be performed correctly, an error message will appear. Please perform the procedure again.

LCD Setup

This adjusts the color, contrast, and backlight brightness of the LCD screen.

1. Choose LCD Setup to open the dialog box.



2. Adjust the parameters.

Contrast: 0...255 (64 is the default)

Adjusts the contrast of the LCD screen.

Brightness: 0...63 (63 is the default)

Adjusts the brightness of the display's backlight.

Black Level: 0...255 (0 is the default)

Adjusts the black level of the LCD screen.

Color Temperature: User-RGB, 4200K, 5000K, 5400K, 6500K, 7500K, 9300K

Adjusts the color temperature of the LCD screen. This will affect the hue.

User-RGB


These settings are used if you choose User-RGB for Color Temperature.

R, G, B: Adjust each color in a range of -1024 - +1023. (255 is default)

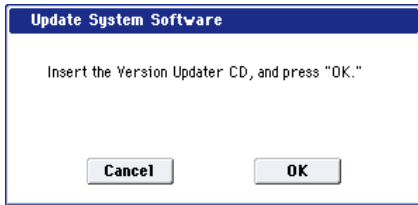
The specified color settings will be used if Color Temperature = User-RGB.

3. Pressing the Reset button will reset the settings to the default values.
4. To execute the LCD Setup, press the OK button. To cancel, press the Cancel button.

Update System Software


 Before you begin updating the system, back up important data on external USB storage media.

1. **Insert the CD-R/RW disc containing the system file into the CD-R/RW drive.**
2. **Access the Global P0- Basic Setup page.**
Press the MODE GLOBAL switch to enter Global mode, and press the EXIT switch up to four times.
3. **Choose the page menu command “Update System Software” to open the dialog box.**

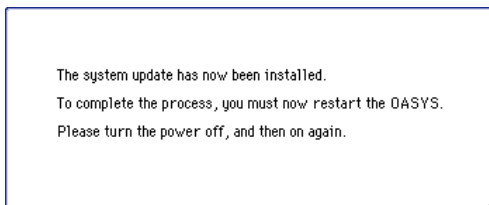


4. **Press the OK button to execute the update.**

A dialog box will ask you for confirmation. Press the OK button to begin updating the system software.

 While the system is being updated, do not touch the OASYS’ switches, and never turn off the power. If the power is accidentally turned off while the system is being loaded, the OASYS may become inoperable. If this occurs, please contact your local Korg distributor.

5. **When the update has been completed, a dialog box with the following message will appear.**



“The system update has now been installed. To complete the process, you must now restart the OASYS. Please turn the power off, and then on again.”

6. **Power-off the OASYS. Wait approximately ten seconds, and then turn the power on again.**

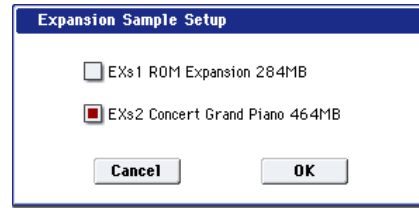
The system version number is shown in the lower left of the opening screen. Verify that it is correct.

Expansion Sample Setup


You can change which EXs are loaded at any time, as long as there is enough RAM to accommodate them. The OASYS remembers which EXs you’ve selected, and will automatically load them at startup. To select which EXs are loaded:

1. **Select Expansion Sample Setup to open the dialog box.**

The Expansion Sample Setup dialog box will appear. Each installed EXs will be shown, with a check-box next to its name; from the factory, this includes EXs1 and EXs2.



2. **Check the boxes for the EXs that you want to load, and un-check the boxes for the ones that you do not.**

 To load both EXs1 and EXs2 at the same time, you must first expand the installed RAM to at least 1.5 GB.

For information on installing additional memory, see “Installing memory” on page 1092.

3. **Press the OK button.**

After pressing OK, the EXs configuration will be adjusted immediately, and samples will be loaded or un-loaded as necessary. Loading samples may take some time.

The selected EXs will also be loaded automatically at power-on.

If there isn’t enough free sample RAM for your selection, a “memory full” message will appear, and the operation will be cancelled. This might occur if insufficient RAM is installed, or if a large amount of RAM samples have also been loaded.

Display Public ID

The Public ID is a unique identifier, like a very specific name; it is different for each and every OASYS. It’s 16 characters long (not counting the dashes between each pair of characters), and uses only the characters 0-9 and A-F.

You’ll need to know the instrument’s Public ID when purchasing OASYS software options, or if you have to re-authorize the OASYS software.

This simple dialog displays the instrument’s Public ID.

1. **Select Display Public ID to open the dialog box.**
2. **Write down the 16-character Public ID, as displayed on the screen.**
3. **Press OK to close the dialog box.**

Dump Program

This command lets you send the internal memory’s Program data as a System Exclusive data dump. You can choose to send all of the Programs from all of the banks, all of the Programs from a single bank, or a single Program.

For more information, see “System Exclusive Data Dumps,” below.

Dump Combination

This command lets you send the internal memory's Combination data as a System Exclusive data dump. You can choose to send all of the Combinations from all of the banks, all of the Combinations from a single bank, or a single Combination.

For more information, see "System Exclusive Data Dumps," below.

Dump Drum Kit

This command lets you send the internal memory's Drum Kit data as a System Exclusive data dump. You can choose to send all of the Drum Kits from all of the banks, all of the Drum Kits from a single bank, or a single Drum Kit.

For more information, see "System Exclusive Data Dumps," below.

Dump Wave Sequence

This command lets you send the internal memory's Wave Sequence data as a System Exclusive data dump. You can choose to send all of the Wave Sequences from all of the banks, all of the Wave Sequences from a single bank, or a single Wave Sequence.

For more information, see "System Exclusive Data Dumps," below.

Dump Global Setting

This command lets you send the internal memory's Global Settings data as a System Exclusive data dump. For more information, see "System Exclusive Data Dumps," below.

Dump Sequencer

This command lets you send the internal memory's Sequencer data, including all Songs in memory, as a System Exclusive data dump.

For more information, see "System Exclusive Data Dumps," below.

Dump KARMA User GE

This command lets you send the internal memory's KARMA GE data as a System Exclusive data dump. You can send all GE data and templates, banks of GE data or templates, or individual GEs. For more information, see "System Exclusive Data Dumps".


System Exclusive Data Dumps

These commands allow the OASYS internal data to be transmitted to another OASYS, MIDI data filter, or computer in the form of MIDI System Exclusive data.

Select the desired command (refer to the following table), and a dialog box will appear. Then, select the bank or timbre etc. of the data to be dumped, and press

Dump Program	Programs of all banks, programs of one bank, one program
Dump Combination	Combinations of all banks, combinations of one bank, one combination
Dump Drum Kit	All drum kits, drum kits of one bank, one drum kit
Dump Wave Sequence	All wave sequences, wave sequences of one bank, one wave sequence
Dump Global	Global settings (except for the Drum Kits and User Wave Sequences of Global mode)
Dump Sequencer	All song data and region data
Dump KARMA User GE	All: Dump all user GEs and user templates. GE Bank: "All" will dump all user GEs, and USER-A – USER-L will dump individual banks. GE Single: Dump an individual GE. User Template: Dump user templates used by user GEs. "All" will dump data for all four user templates, and USER-A...USER-D will dump individual template banks.

Sending SysEx data dumps

 Do not touch the OASYS's switches or turn off the power while data is being transmitted.

1. Connect the OASYS to the device that will receive the data dump.

If you're using a computer that is able to receive MIDI System Exclusive messages, connect the MIDI IN connector of your computer's MIDI interface to the OASYS's MIDI OUT connector.

If you are using a MIDI data filer, connect the OASYS's MIDI OUT connector to the MIDI IN connector of the MIDI data filer.

2. Select Global P1: MIDI.

3. The following illustration shows the dialog box that will appear when "Dump Program" is selected.

If To dump one bank select "Bank," or to dump one program select "Single."

4. Press the OK button to transmit the data.

While the data is being transmitted, the display will indicate "Now Transmitting MIDI Data."

The size of the data and the time required for transmission will depend on the type of data.

The following table shows the size of each data dump, and the time required.

Type of data to be dumped	Data size (Bytes)	Time required (Sec.)
Program All	6467584... 7571456	2213.9... 2589.5
Program Bank (HD-1)	485376	165.1
Program Bank (EXi)	643072	218.8
Program Single (HD-1)	3792	1.2
Program Single (EXi)	5024	1.7
Combination All	15925504	5433.5
Combination Bank	1137536	387.1

Type of data to be dumped	Data size (Bytes)	Time required (Sec.)
Combination Single	8887	3.0
Drum Kit All	1962624	675.8
Drum Kit Bank (INT)	516480	175.7
Drum Kit Bank (U-A...U-G)	206592	70.3
Drum Kit Single	12912	4.4
Wave Sequence All	513876	172.7
Wave Sequence Bank (INT)	206100	60.0
Wave Sequence Bank (U-A...U-G)	43968	15.0
Wave Sequence Single	1374	0.5
Global Setting	28146	9.5
Sequencer	24265... 6065067	6.4...1651.5
User GE All	4789804	1596.6
User GE Bank	373640	124.5
User GE Single	2927	1.0
User Template Bank	76531	25.5

* More time will be required if the song data contains System Exclusive events, since these must be converted.

When performing a data dump from the OASYS onto a MIDI data filer, do not transmit multiple data dumps together. If multiple data is saved together, the OASYS will have less than the required time (right column in the table above) to write the data into memory, and will be unable to receive all of the data correctly.

Receiving SysEx data dumps

- Do not touch the OASYS's switches or turn off the power while data is being received.
- Before receiving MIDI data, we recommend that you close any open dialog box or menu, with the exception of the Disk page menu command "Save Exclusive (Receive and Save MIDI System Exclusive Data)" dialog box.-
- After a data dump is received, the OASYS will require approximately one second to process the data and write it into memory. During this time, the display will show the message, "Now writing into internal memory." While this message is shown, you must under no circumstances turn off the power of the OASYS. If the power is turned off during this time, the OASYS may fail to operate correctly when the power is turned on again. Transmission and reception of MIDI data is also impossible during this time. When receiving multiple data dumps in succession, you must allow enough time between each data dump for the message to disappear from the screen.
- MIDI cannot be transmitted or received while data is being written into internal memory. Also, transmission of Active Sensing (FEh) from the MIDI OUT connector and USB connector will be halted.

Cautions when receiving Program data

- When receiving a data dump for a bank or a single program, and the bank type of the received program is different, a message of "Program Bank Type Conflicts" will appear, and the data will not be received. For the USER-A through G banks, use Global "Set Program User-Bank Type" to specify the appropriate bank, and then receive the data again.
- When receiving an All Programs data dump, only bank data whose bank type matches will be received. If banks of a different bank type are received, a message of "Program Bank Type Conflicts" will be displayed.

Data dump reception procedure

1. If you're using a computer that is able to receive MIDI System Exclusive messages, connect the MIDI OUT connector of your computer's MIDI interface to the OASYS's MIDI IN connector (see p.258).

If you are using a MIDI data filer, connect the OASYS's MIDI OUT connector to the MIDI IN connector of the MIDI data filer.

2. Set the MIDI channel of the MIDI device to match the global MIDI channel (1-1a) of the OASYS.

If you want the OASYS to receive data that was previously transmitted to a MIDI device, you must set the global MIDI channel of the OASYS to the same global MIDI channel that was used when the data was transmitted.

To set the MIDI channel of the transmitting device, refer to the owner's manual for that device.

3. Either check "Enable Exclusive" (1-1c), or display one of the page menu commands of this page.

When one of these page menu commands is displayed, data dumps can be received regardless of the "Enable Exclusive" setting.

4. Transmit the data from the other device. For the procedure, refer to the owner's manual for the device you are using.

While the data is being received, the display will indicate "Now received MIDI data."

Set Up KARMA External MIDI Routing

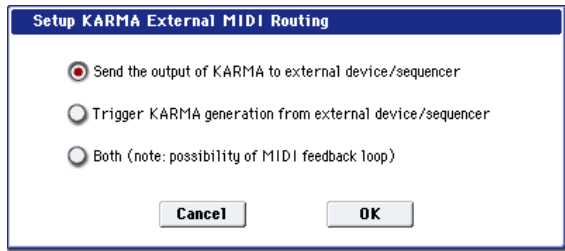
When using the KARMA function in conjunction with an external sequencer, you can execute this command with the appropriate setting to automatically make settings for Global mode "Enable KARMA Module to MIDI Out," "Enable MIDI In to KARMA Module," and "Local Control On" (1-1a).

1. Choose "Setup KARMA External MIDI Routing" to open the dialog box.

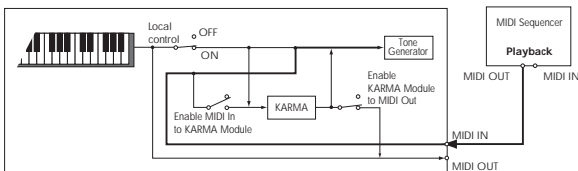
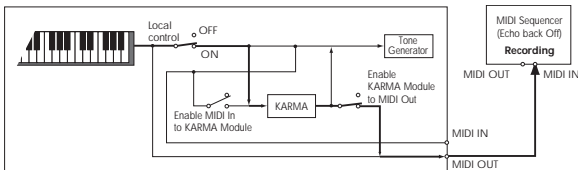
2. Select the desired routing.

Send the output of KARMA to external device/sequencer

Choose this if you want the phrases generated by the OASYS's KARMA Module to be sent via MIDI to control your external MIDI device or to be recorded on your external MIDI sequencer.



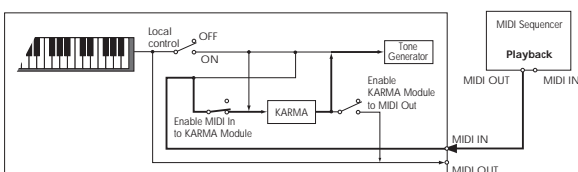
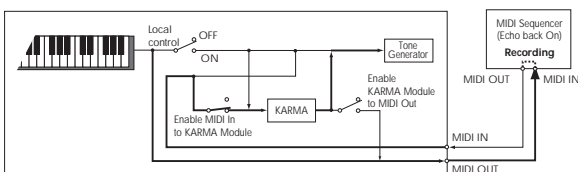
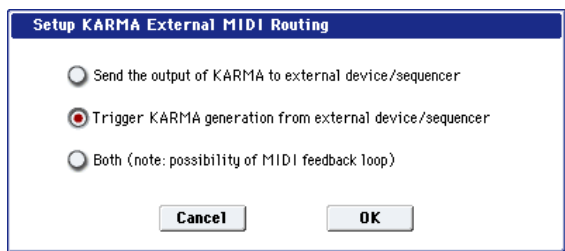
Local Control On



Trigger KARMA generation from external device/sequencer

Choose this if you want the KARMA Module to be triggered by MIDI input from an external MIDI device or MIDI sequencer.

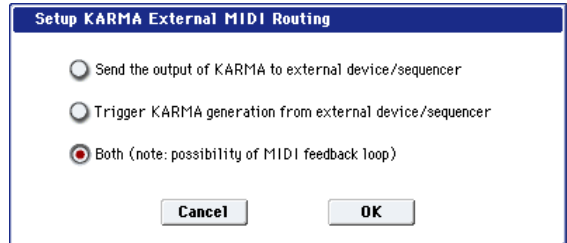
You can also select this if you want only the OASYS's keyboard performance that triggers the KARMA Module to be sent as MIDI output and recorded on an external sequencer, and then use the echo-back or playback from the external sequencer etc. to trigger the KARMA Module.



Both (note: possibility of MIDI feedback loop)

Choose this if you want to make both of the above settings.

Be aware that in some cases, the phrases generated by the KARMA Module will pass through the external MIDI device (MIDI sequencer) and re-trigger the KARMA Module – producing a MIDI feedback loop that may cause undesired operation. You will need to manage the MIDI signal routing to ensure that MIDI feedback does not occur, for example by disabling MIDI IN→OUT echo-back in your MIDI sequencer.



3. Press the OK button to execute the Setup KARMA External MIDI Routing command, or press the Cancel button to cancel.

Reset External Setup

This command initializes the external controller settings.

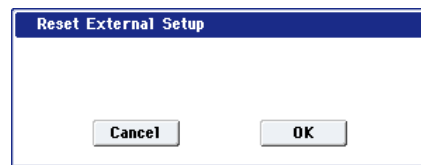
All settings for Knob 1–8, Switch 1–16, Slider 1–8, Master Slider, and Pad 1–8 will be initialized for the selected setup number.

“Channel” = Gch

“Assign” = Off

Pad Only “Velocity” = 127

1. Select the setup number that you want to reset.
2. Choose Reset External Setup to open the dialog box.



3. Press the OK button to execute Reset External Setup, or press the Cancel button to cancel.

Reset Controller MIDI Assign

This command resets the MIDI control change (CC) assignments for the KARMA Sliders and Switches, the 8 pads, and the Vector Joystick. You can use this command to restore the standard settings, and then adjust any or all of the assignments manually, if you like.

For more information on these settings, see “2-1: Controller” on page 717.

1. Choose “Reset Controller MIDI Assign” to open the dialog box.
2. Set the “To” field to the desired reset method.

All Off: All settings will be Off.

Default Setting: The KARMA controls and pads will all be set to Off; the Vector Joystick will be set to its default CCs.

CC Default: The parameters will be reset to the typical settings, including the standard settings for the pads and the KARMA sliders and switches. The default values are shown in the table below.

If you want to record KARMA controllers in Sequencer mode, or use the controllers to control an external MIDI device, we recommend using this setting.

(You are also free to assign different MIDI control change messages to the controllers, if you wish.)

3. Press the OK button to execute the reset command, or press the Cancel button to cancel.

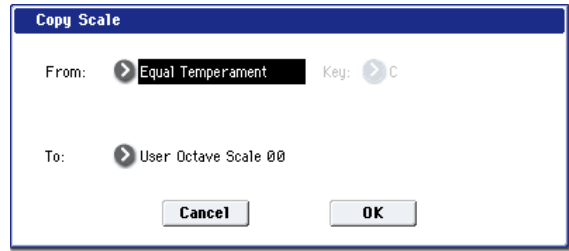
Reset Controller MIDI Assign Default

OASYS Controls		CC Default	Default Setting
KARMA	ON/OFF	CC#14	Off
	SCENE	CC#30	
	LATCH	CC#31	
KARMA Sliders	1	CC#22	
	2	CC#23	
	3	CC#24	
	4	CC#25	
	5	CC#26	
	6	CC#27	
	7	CC#28	
	8	CC#29	
KARMA Switches	1	CC#102	
	2	CC#103	
	3	CC#104	
	4	CC#105	
	5	CC#106	
	6	CC#107	
	7	CC#108	
	8	CC#109	
Pads	1	CC#110	
	2	CC#111	
	3	CC#112	
	4	CC#113	
	5	CC#114	
	6	CC#115	
	7	CC#116	
	8	CC#117	
Vector Joystick	VJS X	CC#118	CC#118
	VJS Y	CC#119	CC#119

Copy Scale

This command copies data from a preset scale or between user scales. For details on the preset scales, refer to "Type" (Program 1-1e).

1. Select "Copy Scale" to open the dialog box.



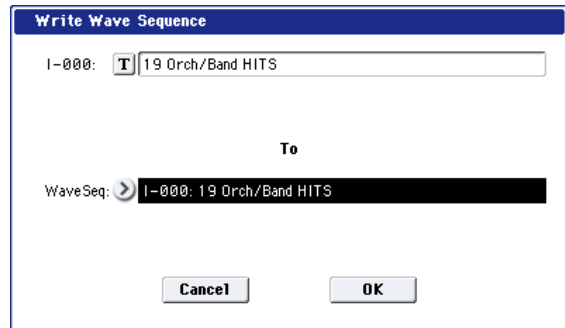
2. Use "From" to select the copy-source scale. If you select Pure Major or Pure Minor, specify the "Key" (located at the right) as well. Stretch cannot be selected if "To" is User All Notes Scale.
3. In "To," selects the copy destination scale.
4. To execute the Copy Scale command, press the OK button. To cancel, press the Cancel button.

Write Wave Sequence

A dialog box for saving a wave sequence will appear. You can select a new location, and edit the name of the wave sequence.

You must write an edited wave sequence if you want to keep it. An edited wave sequence cannot be recovered if you turn off the power or select a different wave sequence before writing it.

1. Choose "Write Wave Sequence" to open the dialog box.



2. The upper line shows the wave sequence name. If you want to edit the wave sequence name, input the desired name in the text edit box.
3. Use the lower line "To Wave Sequence" to select the writing-destination. You can also press the popup button and choose the writing-destination from the "Wave Sequence Select" menu. If you select the "Wave Sequence Select" menu, press the OK button to confirm or press the Cancel button to cancel your selection.
4. Press the OK button to execute the Write Wave Sequence command, or press the Cancel button to cancel without executing.

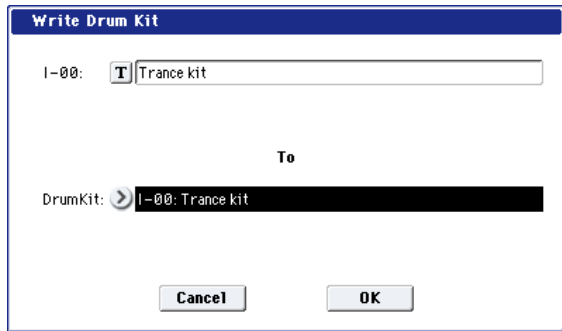
Note: You can also use the SEQUENCER REC/WRITE switch to write in the same way as the "Write Wave Sequence" command. Press the SEQUENCER REC/WRITE switch to access the Update Wave Sequence dialog box, and write the wave sequence. In this case, the data will be written to the currently selected wave sequence.

Write Drum Kit

This command writes an edited drum kit into internal memory.

You must write an edited drum kit if you want to keep it. An edited drum kit cannot be recovered if you turn off the power or select a different drum kit before writing it.

1. Choose "Write Drum Kit" to open the dialog box.



2. The upper line shows the drum kit name. If you want to edit the drum kit name, input the desired name in the text edit box.
3. Use the lower line "To Drum Kit" to select the writing-destination.

You can also press the popup button and choose the writing-destination from the "Drum Kit Select" menu. If you select the "Drum Kit Select" menu, press the OK button to confirm or press the Cancel button to cancel your selection.

Note: You can't write to GM0 through GM8. If you've edited one of these drum kits and want to write it, write the drum kit to INT-00 through USER-G15.

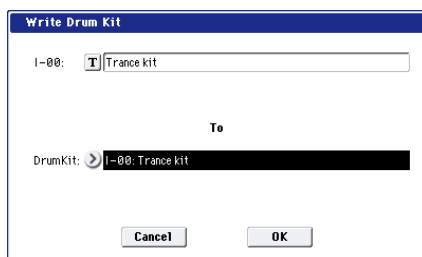
4. Press the OK button to execute the Write Drum Kit command, or press the Cancel button to cancel without executing.

Note: You can also use the SEQUENCER REC/WRITE switch to write in the same way as the "Write Drum Kit" command. Press the SEQUENCER REC/WRITE switch to access the Update Drum Kit dialog box, and write the drum kit. In this case, the data will be written to the currently selected drum kit.

Copy Key Setup

This command copies the settings of an individual key to another key. You can also copy settings from two or more contiguous keys at once.

1. Select Copy Key Setup to open the dialog box.



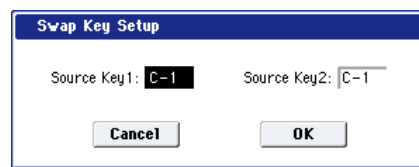
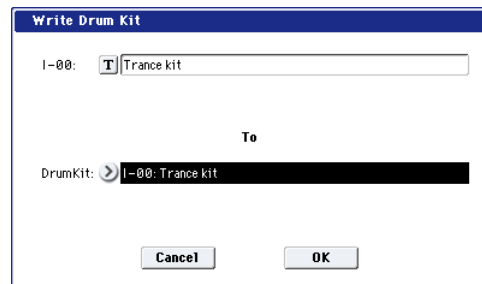
2. In "From Key," select the range of keys that you wish to copy.

3. In "To Key," select the copy destination key. If you selected two or more keys in "From Key," their settings will be copied to the keys starting at "To Key" and continuing upward.
4. To execute the Copy Key Setup command, press the OK button. To cancel, press the Cancel button.

Swap Key Setup


This command exchanges (swaps) the settings of one key with the settings of another key.

1. Choose Swap Key Setup to open the dialog box.



2. Use "Source1" and "Source2" to specify the keys whose settings you want to swap.
3. Press the OK button to execute the Swap Key Setup command, or press the Cancel button to cancel.

Disk mode

 To prevent data errors, you must be careful not to subject the OASYS to physical impact or vibration while writing data to the internal CD-R/RW drive (or while formatting a disc).

Disk mode is where you can save data from internal memory or sample RAM to the internal hard disk, internal CD-R/RW drive, or an external USB-connected device, or load data from media into internal memory or sample RAM. You can also copy or delete files, or format media.

Finally, you can create audio CDs from WAVE files, using either the internal CD-R/RW or external USB CD-R/RW drives.

In addition to the internal hard drive and CD-R/RW, OASYS supports most USB storage devices, including:

- Hard disk drives
- Removable disk drives
- USB flash media
- CD-R/RW drives

With external drives and flash media, the OASYS supports MS-DOS FAT16 and FAT32 disk formats. FAT 16 supports up to 4 GB; FAT 32 supports up to 2 Terabytes (2,000 GB).

CD-R/RW

The OASYS can read and write UDF format CD-R/RW disks. For more information, see “CD-R/RW disks on the OASYS: UDF and packet-writing” on page 1086.

CD-DA (audio data) can be recorded/played, and ISO9660 (level 1) format can be read.

Files, directories, and icons

The OASYS manages data on disks and other media in a hierarchical manner, using files and directories. The contents of a file (whether it is a file or a directory) are indicated not only by the name but also graphically by an icon. Files and directories have differently shaped icons.

The OASYS collectively refers to files and directories recognizable by MS-DOS (readable by a MS-DOS computer), and UDF format and ISO9660 format files and directories as “DOS files” and “DOS directories.” Different types of DOS file are distinguished by the extension added to their filename.

In the case of a DOS file with an extension other than listed below, selecting “Load selected” to open the dialog box will cause the file to be considered to be a Standard MIDI File (SMF). However, in this case non-SMF files cannot be loaded.

Extension	Type
.PCG	Program, combination, drum kit, wave sequence, global settings (OASYS format)
.SNG	Songs and regions (OASYS format)
.MID	Standard MIDI File (SMF)
.EXL	MIDI System Exclusive data

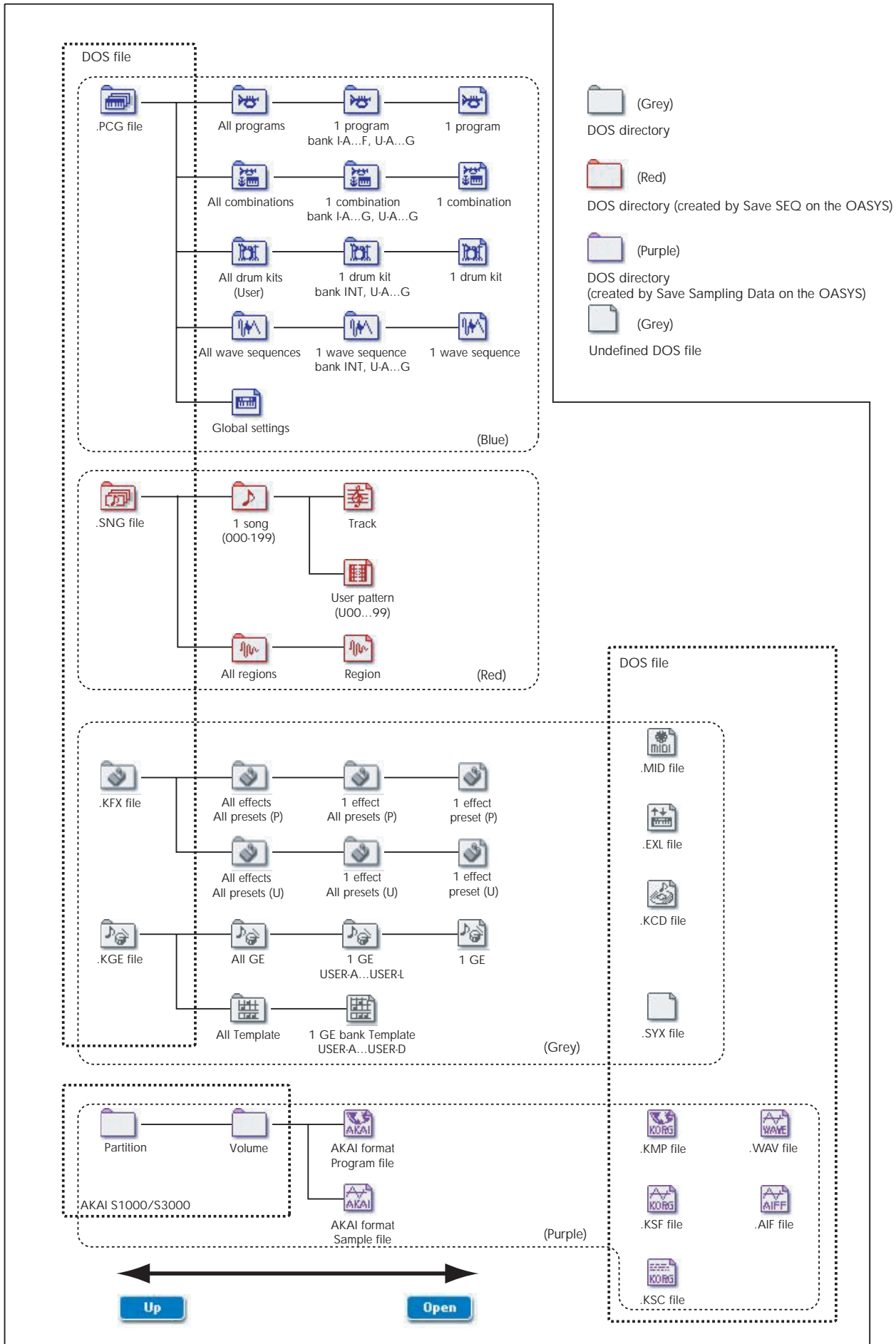
Extension	Type
.KGE	KARMA Generated Effects file
.KMP	Korg Multisample Parameter file Songs and regions (OASYS format)
.KSF	Korg Sample File (Korg format)
.KSC	Korg Script File (Korg format)
.AIF	AIFF file
.WAV	WAVE file
.KCD	Audio CD track list (OASYS format)
.KFX	Effect preset (OASYS format)

When OASYS data is saved, one of these filename extensions will be added automatically, according to the type of data. If these filename extensions are modified on a computer, the file will be treated as an undefined file when it is reloaded back into the OASYS, and will be handled as a Standard MIDI File.

The diagram on the next page shows how the OASYS handles files.

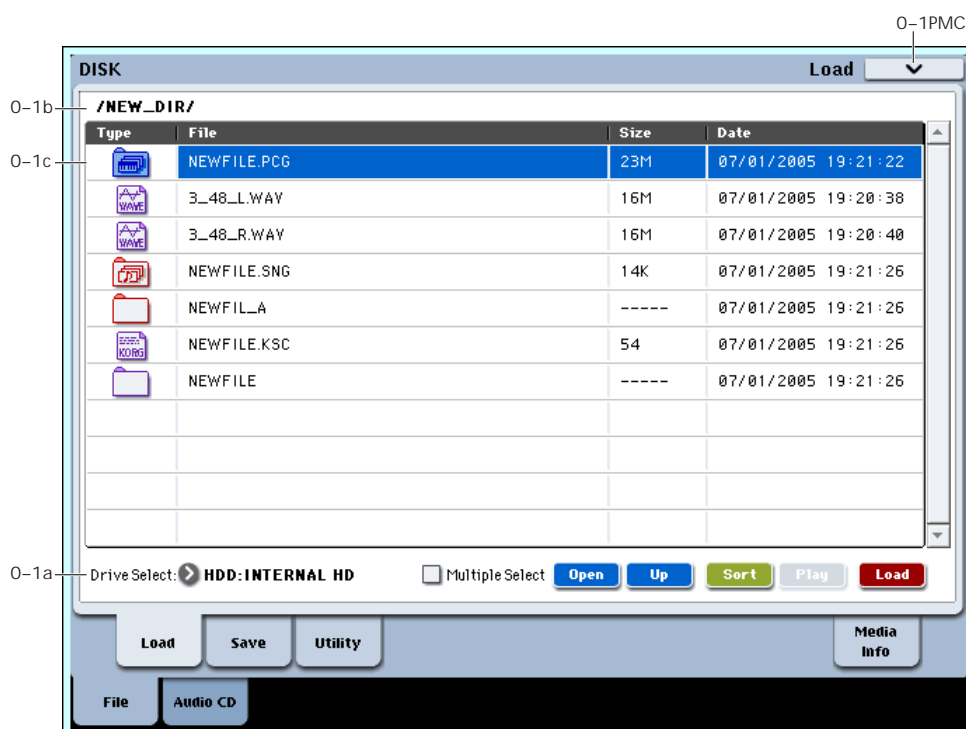
Since .PCG, .SNG, and .KFX files can be opened to divide their contents, they are displayed as directory icons. Different colors are used to indicate different types of file.

Files available in Disk Mode



Disk P0: File

0-1: Load



This page lets you load a selected file or directory into internal memory. Use the Open button and Up buttons to select the desired file or directory, and press the Load button to load it. You can also load data by using the **Load selected** page menu command.

Mounting USB devices

Before you can load from or save to a USB device, such as hard drives or flash media, you need to mount the device. To do so:

1. Go to the **Media Info** page.
2. Select the **Scan device** command from the page menu.

The USB device will now appear in the Drive Select menu.

Auditioning sounds from disk

Whenever you've selected an individual Program, Combination, Drum Kit, or Wave Sequence from within a PCG file, you can play it from the keyboard immediately—no need to load it into memory!

To do this:

1. Select a PCG file on the disk.
2. Use the **OPEN** button to open the PCG file, so that you can see its contents.
3. Continue to use the **OPEN** button to navigate through the folders, until you've can see the name of the sound you'd like to audition.
4. Touch the name of the sound.

5. Play the sound from the keyboard.

When auditioning a Combination, the Timbres will use the Programs currently loaded into internal memory—which may be different from the Programs stored in the PCG file.

Auditioning Drum Kits and Wave Sequences

When auditioning Drum Kits or Wave Sequences, you'll hear them as if they were being played through the parameter settings of the previously selected Program or Combination. This includes filter settings, envelopes, etc. So, before you start auditioning sounds, it's best to first select a suitable sound in Program mode, and then return to Disk mode.

Auditioning sounds which use RAM or EXs samples

When auditioning sounds from disks, the system can only use samples and multisamples which are already loaded. If a Program, Drum Kit, or Wave Sequence uses RAM or EXs samples which are not loaded, it will not sound correct when auditioned from disk.

Auditioning WAVE files

You can also audition 48kHz WAVE files directly from disk. For more information, see "Play (WAVE Preview)" on page 752.

0-1a: Drive Select, Command buttons

Drive Select [HDD:INTERNAL HD, CDD, HDD, RDD: name]

Selects the device (hard disk, CD, etc.) that you will use for loading/saving.

The volume label assigned to the media will be displayed.

Note that USB devices will not appear until you have mounted them; for more information, see “Mounting USB devices,” above.

Drive types

HDD: INTERNAL HD: Internal hard disk drive

CDD: Internal CD-R/RW drive, or a USB-connected CD-ROM or CD-R/RW drive

HDD: USB-connected hard disk drive

RDD: Removable media such as flash media readers or MO (Magneto-Optical) drives

Volume label

No Label: Media that has no volume label

Unformatted: Media that has not been formatted

No Disc: Media is not inserted in the CD-ROM or CD-R/RW drive

No Media: Media is not inserted in the removable media drive (other than a CD-ROM or CD-R/RW drive)

The volume label display of a CD-R/RW drive will depend on the inserted media and the page.

Blank Disc: Blank media. (If you want to use this disc as a packet-writing-compatible disc, you must format it. If you want to use this disc to create an audio CD, you do not need to format it.)

Media volume label: Media that contains data

Audio CD: Audio CD

Unfinalized: An audio CD that has not been finalized

Audio CD or media volume label: Media that contains both data and audio. In this case, “Audio CD” will be displayed in both the Make Audio CD page and the Play Audio CD page, and the volume label of the media will be displayed in all other pages.

Multiple Select Multiple Select [Off, On]

If this is checked, you will be able to select more than one file or directory. The check mark will turn on or off each time you press it, enabling or disabling multiple selection. Use this when you want to load or copy multiple files in a single operation.

Open 

When you press the Open button, the directory will open, and the current directory will move one level downward.

This can be used when a directory has been selected in the directory window.

Up 

When you press the Up button, the directory will move one level upward.

Sort  [Off, On]

This function sorts the files in the current directory.

Press the button to open the dialog box, and use the radio buttons to select the sorting method. Then press the OK button to execute.



Choose one of the following sorting orders.

No order: Unsorted

Name (Ascending order), Directories First: Sort in alphabetical order, first directories and then files

Name (Ascending order): Sort alphabetically

Name (Descending order), Directories First: Sort in reverse alphabetical order, first directories and then files

Name (Descending order): Sort in reverse alphabetical

Size (Ascending order): Sort in ascending order of size

Size (Descending order): Sort in descending order of size

Date (Ascending order): Sort in ascending order of date

Date (Descending order): Sort in descending order of date

Play (WAVE Preview) 

In the Load, Save, and Utility pages and dialog boxes, you can audition 48kHz WAVE files directly from the disk.

When you select a 48 kHz WAVE file, the PLAY button will become active; simply press it to audition the file.

Load 

This loads the selected file or directory into internal memory.

When you press the Load button, a dialog box will appear. The specific contents of the dialog box will depend on the file you are loading. This is the same function as the “Load selected” page menu command.

For more information, see “Load selected” on page 761.

0–1b: Current Directory

Current Directory

The directory currently selected for processing is referred to as the “current directory.”

The LCD screen will show the full path name of the directory. A slash “/” character is used as the delimiter between directory levels. To change the current directory, use the Open button and Up button (0–1a).

0–1c: Directory Window

This shows file information for the current directory. You can select a file or directory in this window.

Type

This icon indicates the type of file.

For details on how the icons correspond to the different file types, refer to the diagram “Files available in Disk Mode” on page 750.

Lock **[Off, On]**

Files and directories with this symbol are locked, and cannot be overwritten, copied, or deleted. Use the “Lock/Unlock” page menu command to lock or unlock a file or directory.

File

When the menu command **Translation** is off (not checked), this will show the low-level DOS file names.

When **Translation** is on (checked), you’ll see the full names of the Multisample and Sample files (.KMP and .KSF), instead of the abbreviated DOS names.

Size

This is the size of the file, in bytes.

Date

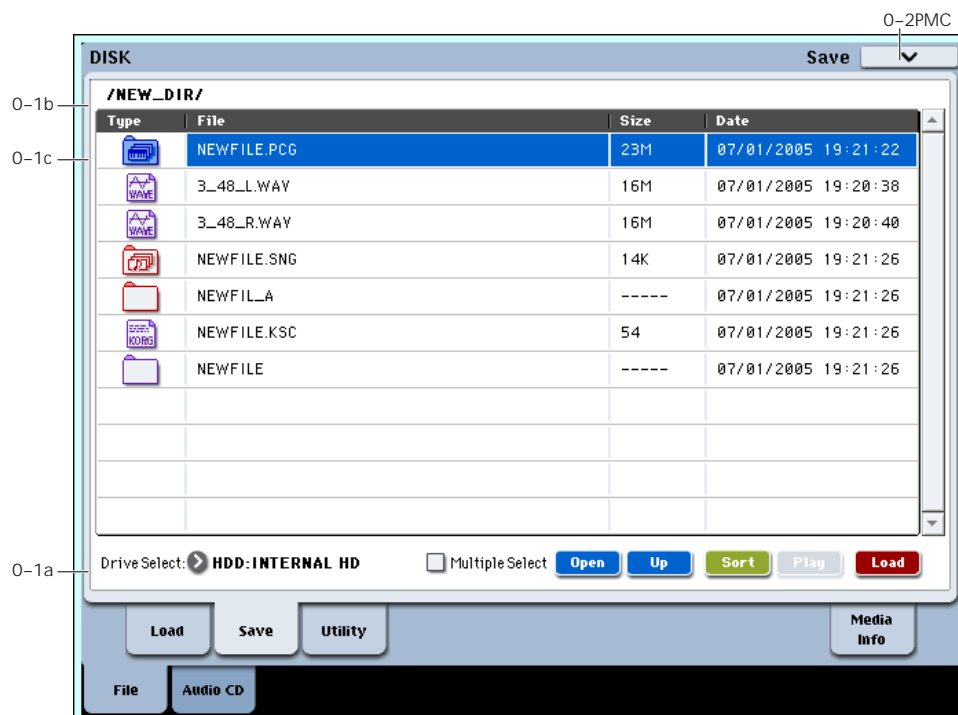
This is the date and time at which the file was saved. From the left, this is the year, month, day, hour, minute, and second.

To set the current date and time for the OASYS system, use the Utility page menu command **Set Date/Time**. For more information, see “Set Date/Time” on page 782.

▼ 0-1: Page Menu Commands

The number before each command shows its ENTER + number-key shortcut. For more information on these shortcuts, see “ENTER + 0-9: shortcuts for menu commands” on page 142.

- **0: Hide unknown files.** For more information, see “Hide unknown files” on page 761.
- **1: Translation.** For more information, see “Translation” on page 761.
- **2: Lock/Unlock selected.** For more information, see “Lock/Unlock selected” on page 761.
- **3: Load selected.** For more information, see “Load selected” on page 761.
- **4: Load PCG (RAM) and Samples.** For more information, see “Load PCG (RAM) and Samples” on page 774.

0-2: Save

Here you can save data from internal memory to internal or external disks, CD-R/RW, flash media, etc.

Use the Open button and Up button to move to the desired directory (i.e., change the current directory), and then select the desired page menu command. When you execute a Save operation, the data will be saved in the same level of the disk hierarchy as the files that are displayed.

Mounting USB devices

Before you can load from or save to a USB device, such as hard drives or flash media, you need to mount the device. To do so:

1. **Go to the Media Info page.**
2. **Select the Scan device command from the page menu.**

The USB device will now appear in the Drive Select menu.

File date and time

The OASYS contains an internal calendar and clock. When you save a file, the date and time will be assigned automatically.

To set the current date and time for the OASYS system, use the Utility page menu command **Set Date/Time**. For more information, see “Set Date/Time” on page 782.

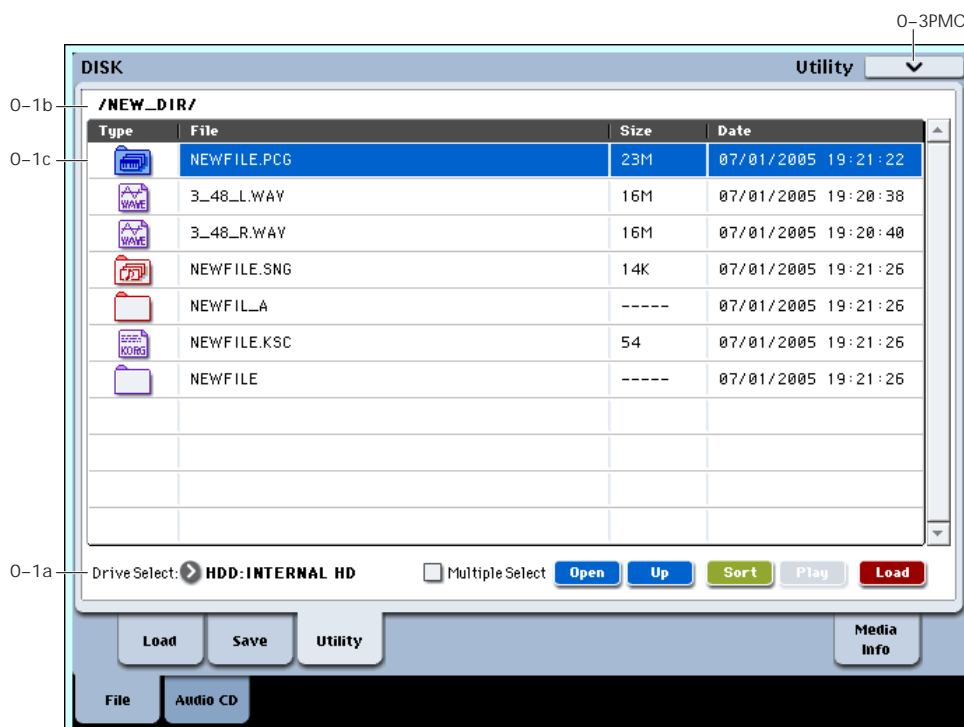
▼ 0–2: Page Menu Commands

The number before each command shows its ENTER + number-key shortcut. For more information on these shortcuts, see “ENTER + 0-9: shortcuts for menu commands” on page 142.

- 0: **Hide unknown files**. For more information, see “Hide unknown files” on page 761.
- 1: **Translation**. For more information, see “Translation” on page 761.
- 2: **Lock/Unlock selected**. For more information, see “Lock/Unlock selected” on page 761.

- 3: **Save All**. For more information, see “Save All (PCG, SNG and KSC)” on page 776.
- 4: **Save PCG & SEQ**. For more information, see “Save PCG & SEQ” on page 777.
- 5: **Save PCG**. For more information, see “Save PCG” on page 777.
- 6: **Save SEQ**. For more information, see “Save SEQ” on page 777.
- 7: **Save Sampling Data**. For more information, see “Save Sampling Data” on page 778.
- 8: **Save to Standard MIDI File**. For more information, see “Save to Standard MIDI File” on page 779.
- 9: **Save Exclusive**. For more information, see “Save Exclusive” on page 779.
- 10: **Save Effect Preset**. For more information, see “Save Effect Preset” on page 779.
- 11: **Export Sample as AIF/WAV**. For more information, see “Export Samples as AIF/WAV” on page 780.
- 12: **Save Audio CD Track List**. For more information, see “Save Audio CD Track List” on page 780.

0–3: Utility



Here you can rename, copy, or delete the selected disk or file, create a new directory, format, and set the date and time.

After selecting a disk or file, select the desired page menu command.

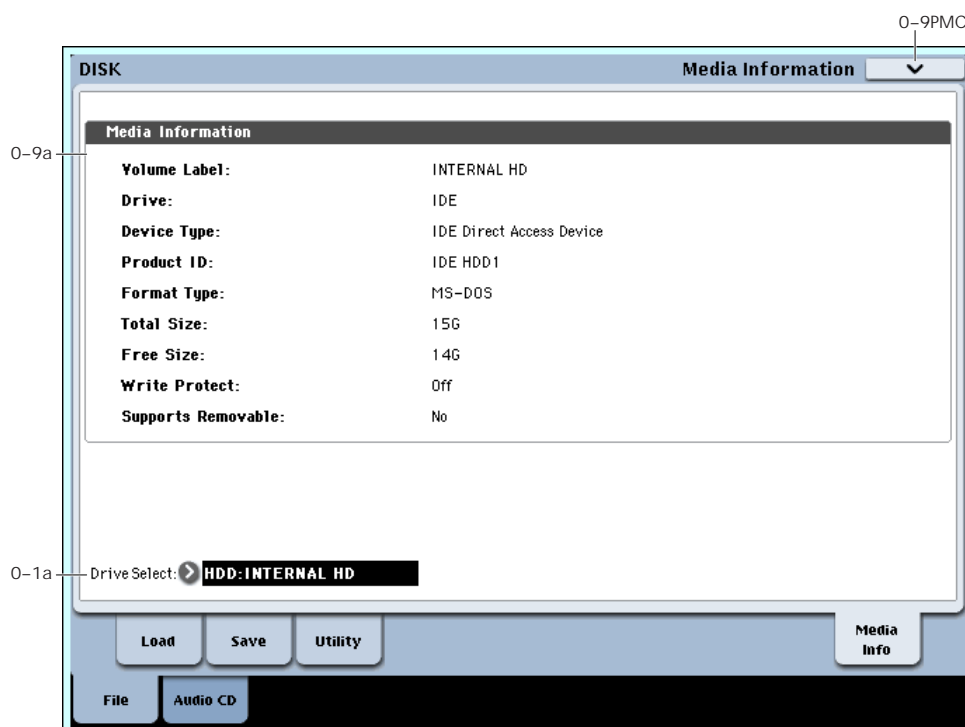
▼ 0–3: Page Menu Commands

The number before each command shows its ENTER + number-key shortcut. For more information on these shortcuts, see “ENTER + 0-9: shortcuts for menu commands” on page 142.

- 0: **Hide unknown files**. For more information, see “Hide unknown files” on page 761.

- 1: **Translation.** For more information, see “Translation” on page 761.
- 2: **Lock/Unlock selected.** For more information, see “Lock/Unlock selected” on page 761.
- 3: **Rename.** For more information, see “Rename” on page 781.
- 4: **Copy.** For more information, see “Copy” on page 781.
- 5: **Delete.** For more information, see “Delete” on page 781.
- 6: **Delete Unused WAV Files.** For more information, see “Delete Unused WAV Files” on page 782.
- 7: **Create Directory.** For more information, see “Create Directory” on page 782.
- 8: **Set Date/Time.** For more information, see “Set Date/Time” on page 782.
- 9: **Format.** For more information, see “Format” on page 782.
- 10: **Convert to ISO9660 Format.** For more information, see “Convert to ISO9660 Format” on page 783.
- 11: **Rate Convert.** For more information, see “Rate Convert” on page 783.
- 12: **Check Medium.** For more information, see “Check Medium” on page 783.

0-9: Media Information



This screen shows information about the media. Use “Drive Select” (0-1a) to select the media.

0-9a: Media Information

Volume Label: The volume label of the media.

Drive: This is the specified drive.

Device Type: The type of media.

Product ID: The vendor ID, product, and product version, etc.

Format Type: The type of format. If not formatted, this will indicate “Unformatted.”

Total Size: The capacity of the media (in bytes).

Free Size: The free capacity of the media (in bytes).

Write Protect: The write protect status of the media. This will indicate “On” if protected, or “Off” if not protected.

Supports Removable: This will indicate “Yes” if the media of the selected device can be removed (e.g., Compact Flash, CD-R/RW disc, MO disc, removable hard disk). If the media is fixed, this will be “No.”

Drive Select

Selects the drive. (0-1a)

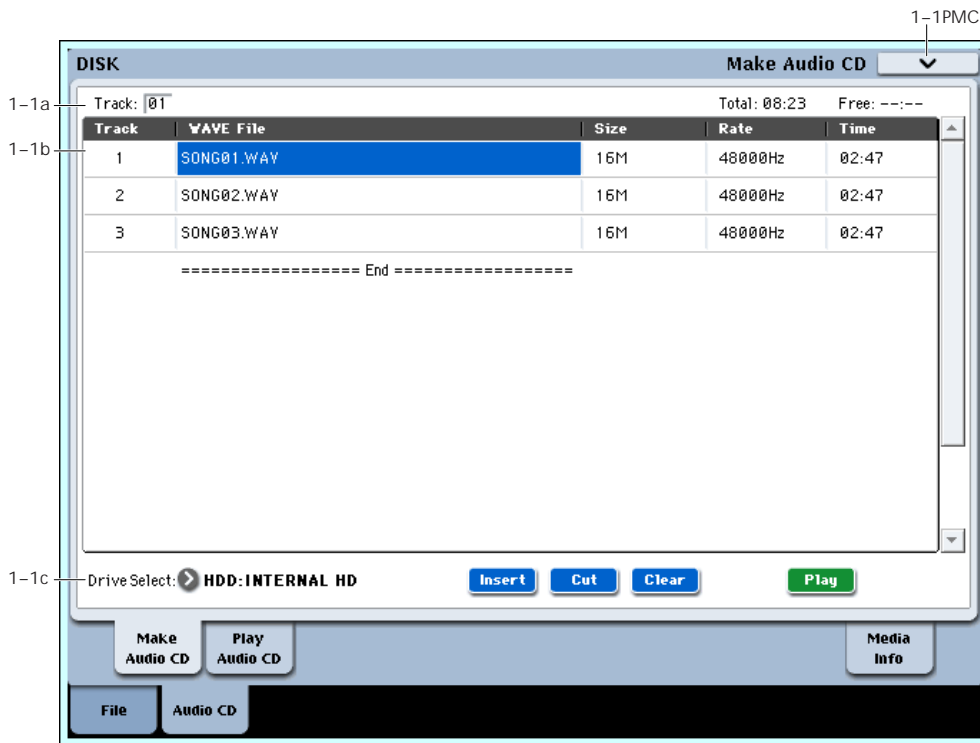
▼ 0-9: Page Menu Commands

The number before each command shows its ENTER + number-key shortcut. For more information on these shortcuts, see “ENTER + 0-9: shortcuts for menu commands” on page 142.

- 0: **Scan device.** For more information, see “Scan device” on page 784.

Disk P1: Audio CD

1-1: Make Audio CD



Here you can use the internal CD-R/RW drive or a USB-connected CD-R/RW drive to create an audio CD.

To create an audio CD, you will use WAVE files that you resampled from the OASYS's sequencer playback etc. Use the Insert button and Cut button to arrange the files in the audio CD track list, and use the "Write to CD" page menu command to write them as an audio CD.

An audio CD can be created from either 44.1 kHz or 48 kHz WAVE files. 48kHz files will be automatically converted to 44.1kHz during the CD writing process.

Note: When the name of a WAVE file is highlighted, you can play that file by pressing the Play button or the SAMPLING START/STOP switch. This is a convenient way to audition the sound.

What is Finalize?

In order for an audio CD to be playable on a conventional CD player, or to be played on the OASYS (Disk: Audio CD page, Sampling P5: Audio CD page), the Finalize operation must be executed after all the desired audio CD tracks have been written to the CD-R/RW disc.

On the OASYS, the page menu command "Write to CD" allows you to simply write the audio CD tracks without finalizing the disc, and this means that other audio CD tracks can be added to that CD-R/RW disc at a later time.

No more audio CD tracks can be added to a disc once that disc has been finalized, so be sure that all desired audio CD tracks have been written before you finalize.

1-1a: Track, Total, Free

Track (Track Select) [01...99, --]

Specifies the track number that will be displayed at the top of the audio CD track list.

If unfinalized media is inserted, this field will indicate the number that follows the last track number on that media. For example if data up to "Track (Track Select)" 05 has already been written, this will indicate 06 and following (up to 99).

If "WAVE file" "====End====" is at the top, this will indicate --.

Up to 99 tracks can be registered using the Insert button.

Total [00:00...]

Displays the total time of all WAVE files in the audio CD track list.

⚠ If the "Total" time is greater than "Free," writing to CD-R/RW media will not be possible.

Free [00:00..., --:--]

Displays the time that remains on the media inserted in the CD-R/RW drive selected by "Drive Select."

If a CD-R/RW drive is not connected, or if it contains no media, or if the inserted media has already been finalized, this will display --:--.

1-1b: Audio CD Track List

Track [(01...99)]

Displays the track numbers of the WAVE files arranged in the audio CD track list. (1-1a "Track (Track Select)")

WAVE File [List of files]

Displays the names of the WAVE files.

To add a WAVE file, place the cursor at the WAVE file of the audio CD track that follows the audio CD track you want to add, and press the Insert button. To delete an audio CD track, place the cursor at the audio CD track that you want to delete, and press the Cut button.

Note: When you select a WAVE file (highlighted) and press the Play button, or SAMPLING START/STOP switch, the WAVE file will play back.


Size, Rate, Time

This area displays information on the WAVE files in the audio CD track list.

Size: Data size (bytes)

Rate: Sampling frequency (Hz)

Time: Time (minutes: seconds)

-  This information will not be displayed if you used "Load .KCD" etc. to load an audio CD track list, and the WAVE file is not found in the specified directory. In this case, use the Cut button to delete that audio CD track, or check whether the media is connected correctly.

1-1c: Drive Select, Command buttons

Drive Select [CDD: Name]

Selects the CD-R/RW drive that contains the media that you will use to create an audio CD. (0-1a)

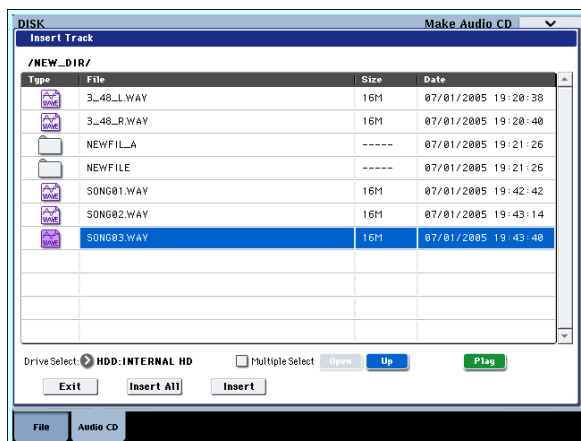
-  Only CD-ROM/R/RW drives can be selected.

Command buttons

Insert

Adds an audio CD track to the audio CD track list.

Highlight the "WAVE File" edit cell following the audio CD track you want to add, and press the Insert button to open the dialog box.



Use "Drive Select" to select the drive containing the file you want to add, use the Open button and Up button to navigate to the appropriate directory, and select the WAVE file.

Insert: Adds the selected (highlighted) WAVE file.

Note: If the "Multiple Select" (0-1a) box is checked, you can select multiple WAVE files and insert them in a single operation.

Insert All: Adds all WAVE files in the selected directory whose sampling frequency is 44.1 kHz or 48 kHz. The files will be added in the order in which they are displayed.

When you execute Insert or Insert All, the WAVE file(s) will be added, and any subsequent audio CD tracks will be moved toward the end of the list.

If you press the Exit button, the dialog box will close, and no further WAVE files will be added.

You can continue adding as many WAVE files as desired until you press the Exit button.

Cut

Deletes the audio CD track.

When you place the cursor at "WAVE File" of the audio CD track that you want to delete, and press the Cut button, that audio CD track will be deleted. Any subsequent audio CD tracks will be moved forward.

Clear

This clears the audio CD track list.

Note: Use "Save Audio CD Track List" to save important audio CD track lists to the internal hard disk or other media.

Play

When you select a 48 kHz WAVE file and press the Play button, that file will play back.

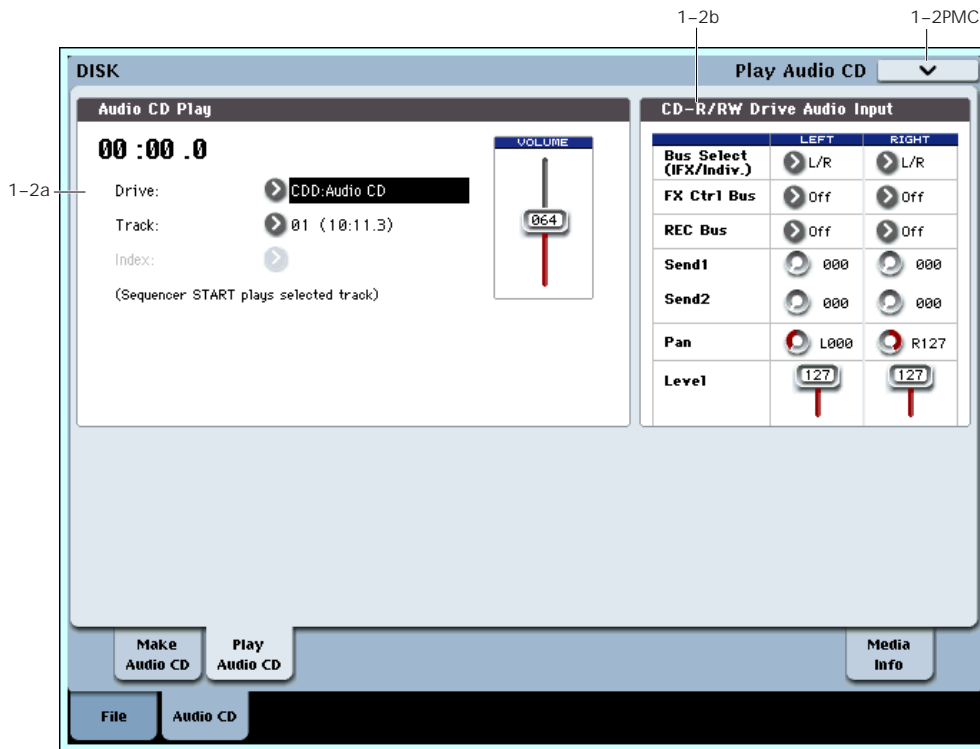
The file will also play if you press the SAMPLING START/STOP switch.

▼ 1-1: Page Menu Commands

The number before each command shows its ENTER + number-key shortcut. For more information on these shortcuts, see "ENTER + 0-9: shortcuts for menu commands" on page 142.

- 0: **Swap Track.** For more information, see "Swap Track" on page 784.
- 1: **Write to CD.** For more information, see "Write to CD" on page 784.
- 2: **Finalize Audio CD.** For more information, see "Finalize Audio CD" on page 784.
- 3: **Erase CD-RW.** For more information, see "Erase CD-RW" on page 785.

1-2: Play Audio CD



This page lets you play audio CDs from any CD-R/RW drive, internal or external. Among other things, this lets you verify CDs created using the Make Audio CD page.

Audio CDs must be finalized before they can be played.

You can use the SEQUENCER switches to play or stop the CD. Audio is played using the digital audio signal from the CD-R/RW drive.

Playing a CD

To play an audio CD:

1. Use Drive Select to select the CD-R/RW drive.
2. Set the desired level using the Volume slider. The default is 64.

Note that some USB CD drives may not support this control. In this case, use the individual left and right Level controls on the right side of the screen, instead.

3. Select the desired Track, using the popup menu.
4. Control the CD using the SEQUENCER switches, as shown below.

SEQUENCER	
START/STOP switch	Play/Stop
FF>> switch	Fast-forward
<<REW switch	Rewind
PAUSE switch	Pause
LOCATE switch	Return to the beginning of the track

If you play the keyboard or controllers while the internal CD-R/RW drive is playing, the impact may cause skips or read errors to occur in the playback.

1-2a: Audio CD Play

Location [00:00.0...]

Displays the current location of the audio CD track that is playing. When stopped, this specifies the location at which playback will begin.

After a **Track** or **Index** has been selected, this will be reset to 00:00.0.

Drive Select [CDD: Name]

Specifies the drive to play the audio CD. Only CD-ROM/R/RW drives can be selected.

Track [01...]

Selects the audio CD track to play.

Index [01...]

Audio tracks on CDs can have “indexes,” which mark points within the track. Some sample CDs may support indexes, for instance.

If the selected **Track** has indexes, this lets you select them.

Note that many CDs will not have indexes. Also, some CD-R/RW drives may not support indexes.

Volume [000...127]

This controls the CD-R/RW drive’s built-in volume.

Note that some USB CD-R/RW drives may not support direct control of volume. In this case, use the Level controls under “1-2b: CD-R/RW Drive Audio Input,” below.

1–2b: CD-R/RW Drive Audio Input

This specifies the output destination for the signal from an audio CD played back on the internal CD-R/RW drive or a USB-connected CD-R/RW drive. Make settings for the L and R channels.

Note: The CD-R/RW Drive Audio Input settings are linked with the Sampling mode “5–1b: CD-R/RW Drive Audio Input” settings.

LEFT

RIGHT

Bus Select (IFX/Indiv.)

[L/R, IFX1...12, 1...8, 1/2...7/8, Off]

L/R: The audio signal from the CD-R/RW drive will be sent to the L/R bus. Normally you will use the L/R setting. The signal can be monitored from the L/R outputs and from headphones.

IFX1...12: The audio signal from the CD-R/RW drive will be sent to the IFX1–12 bus. Choose this setting if you want to apply an insert effect.

1...8: The audio signal from the CD-R/RW drive will be sent in monaural to INDIVIDUAL 1, 2, 3, 4, 5, 6, 7, or 8.

1/2...7/8: The audio signal from the CD-R/RW drive will be sent via the **Pan** settings to INDIVIDUAL 1 and 2, 3 and 4, 5 and 6, or 7 and 8 in stereo.

Off: The audio signal from the CD-R/RW drive will not be input.

FX Ctrl Bus (FX Control Bus) [Off, 1, 2]

This sends the audio signal from the CD-R/RW drive to the FX Control buses (two stereo channels; FX Ctrl1, 2).

REC Bus [Off, 1, 2, 3, 4, 1/2, 3/4]

This sends the audio signal from the CD-R/RW drive to the REC buses (four mono channels 1, 2, 3, 4).

Off: The audio signal will not be sent to the REC bus. Normally you will use the Off setting.

1, 2, 3, 4: The audio signal from the CD-R/RW drive will be sent to the corresponding REC bus. The **Pan** setting will be ignored, and the signal will be sent in monaural.

1/2, 3/4: The audio signal from the CD-R/RW drive will be sent to the corresponding REC buses. The signal will be sent via the **Pan** setting to buses 1 and 2 or 3 and 4 in stereo.

Send1 (to MFX1) [000...127]

Send2 (to MFX2) [000...127]

These specify the level at which the audio signal from the CD-R/RW drive is sent to the master effects.

Send1 (to MFX1): Send the signal to master effect 1.

Send2 (to MFX2): Send the signal to master effect 2.

These settings are ignored if **Bus Select** is other than L/R or off.

If **Bus Select (IFX/Indiv.)** is set to IFX1–12, the send levels to the master effects are set by the post-IFX1–12 **Send1** and “Send2.”

Pan [L000...C064...R127]

This specifies the panning of the audio signal from the CD-R/RW drive. Normally you will set Left and Right to L000 and R127 respectively.

Level [000...127]

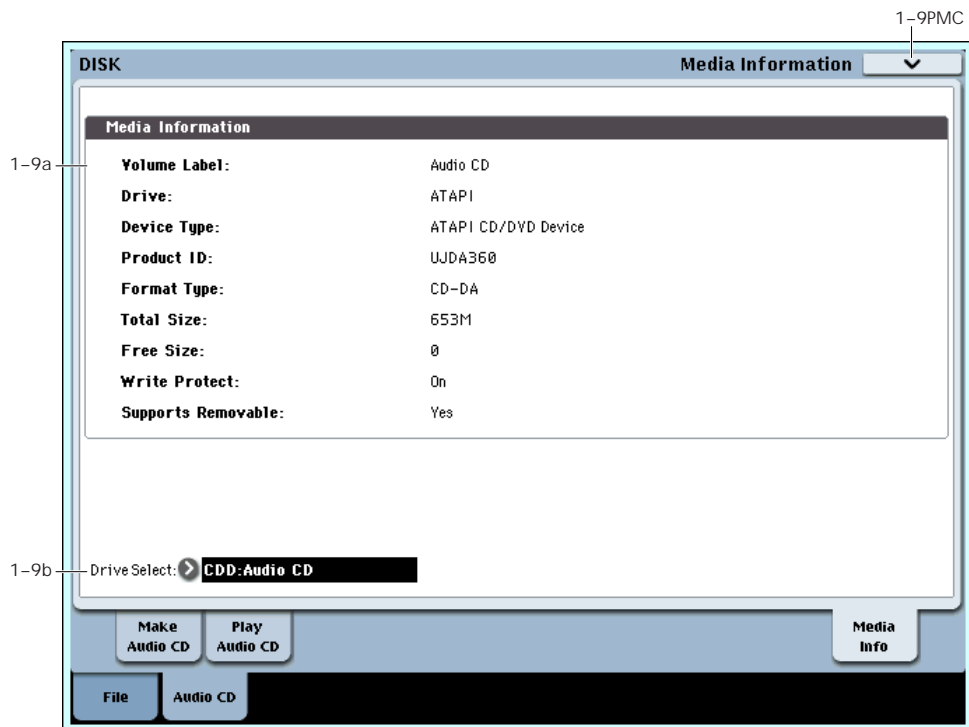
This specifies the level of the audio signal sent from the CD-R/RW drive. Normally you will set this to 127.

To summarize, the normal settings are as follows.

LEFT: **Bus Select (IFX/Indiv.)** L/R, **REC Bus** Off, **FX Ctrl Bus** Off, **Send1** 000, **Send2** 000, **Level** 127, **Pan** L000

RIGHT: **Bus Select (IFX/Indiv.)** L/R, **REC Bus** Off, **FX Ctrl Bus** Off, **Send1** 000, **Send2** 000, **Level** 127, **Pan** R127

1-9: Media Information



This screen shows information about the media in the CD-R/RW drive. Use "Drive Select" (1-9b) to select the drive/media.

For more information, please see "0-9: Media Information" on page 755.

▼ 1-9: Page Menu Commands

The number before each command shows its ENTER + number-key shortcut. For more information on these shortcuts, see "ENTER + 0-9: shortcuts for menu commands" on page 142.

- 0: **Scan device.** For more information, see "Scan device" on page 784.

Disk: Page Menu Commands

Hide unknown files

If you select “Hide unknown files,” a check mark will appear at the left of “Hide unknown files.” In this state, undefined files will not be shown in the directory window. However, this is valid only if there are DOS files in the current directory.

Translation

When **Translation** is on (checked), you'll see the full names of the Multisamples and Samples on the disk, instead of the abbreviated DOS names.

Note that on disk, Multisamples are stored as .KMP (Korg Multisample Parameter) files, and Samples are stored as .KSF (Korg Sample Format) files.

Lock/Unlock selected

This locks/unlocks the file or directory that's selected in the directory window (0–1c). If you lock the file or directory, the lock icon (“Lock”) will appear, and overwriting, copying, or deleting will not be possible.

1. In the directory window (0–1c), select the file or directory that you want to lock or unlock.
2. Select “Lock/Unlock”; the selected file or directory will alternately be locked or unlocked.

Load selected

This loads the file or directory selected in the directory window (0–1c) into internal memory.

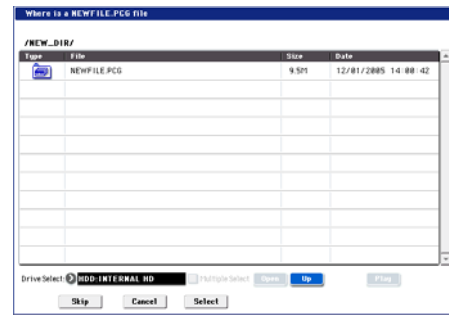
1. In the directory window (0–1c), select the file or directory that you want to load.
2. Select “Load selected.”

A dialog box will appear. The dialog box that appears will depend on the file you are loading. For more information, please see page 761. Specify the various items as necessary.

3. To load the data, press the OK button. If you decide to cancel, press the Cancel button.

If a file to be loaded cannot be found, or when loading a file that was saved across media

If a necessary file cannot be found in the current directory or in a lower directory when loading multisamples, sample data, .PCG, or .SNG files, a dialog box like the following (Where is a ...) will appear.



This will appear in the following cases.

- If when loading a .KSC file, a .KMP file used by it cannot be found.
- If when loading a .KMP file, a .KSF file cannot be found.
- If when loading an S1000/S3000 format Program file, a Sample file cannot be found.
- If loading a .KSF file that was larger than the media capacity and was therefore saved on multiple media, when the first media has been loaded and the second media needs to be specified.
- When loading a .PCG file that was split across two or more volumes of media, when the first volume has been loaded and the second media is now required.
- When loading a .PCG file and also simultaneously loading a .SNG file, if the identically-named .SNG file is not found in the current directory after loading the .PCG file.

If this dialog box appears, take the following action.

1. Select the directory that contains the file indicated by “Where is a...”

If the specified file is located on another media, exchange media. Then press the directory window in the LCD screen to make the OASYS recognize the media, and select the appropriate directory.

It is not possible to open .PCG, .SNG, or .KFX files in the “Where is a ...” dialog box. The Open button cannot be used for .PCG, .SNG or .KFX files.

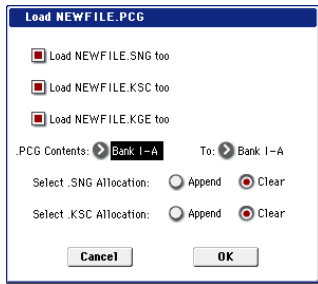
2. Press the Select button to resume loading.

Loading will be aborted if you press the Cancel button. If you want to abort the loading process, press the OK button. If you press the Skip button, the indicated file will be skipped, and the next file will be loaded.

Except for special situations such as when the media containing the indicated file has been damaged or cannot be found, you should use the Select button to continue the loading process.

Load .PCG

Data in the .PCG file will be loaded.



1. Use the “Load ***** .SNG too”, “Load ***** .KSC too” “Load ***** .KGE too” and check boxes to select the .SNG file and .KSC file.

If this file does not exist in the current directory, load it as described under “If a file to be loaded cannot be found,...” on page 761.

2. In “.PCG Contents,” specify the data to be loaded.

All: Load all data from the .PCG file.




Bank INT-A~INT-G, USER-A~USER-G: Load data of the specified bank. In this case, use “To” to specify the load destination bank. When you execute the load, the combinations, programs, drum kits, and wave sequence data of only the specified bank will be loaded to the load destination bank. Global settings will not be loaded.

The program banks used by the combinations and the drum kit and wave sequence numbers used by the programs will be adjusted automatically so that they correspond correctly.

Similarly if a .SNG file is loaded simultaneously, the bank of the programs used by tracks of the Song (or if there are track/pattern events, the bank of the program within the event) will be corrected automatically so that they are appropriate.

Note: Program banks INT-A – INT-E are bank type HD-1, and the INT-F bank is bank type EXi. The bank types for these banks are fixed; you cannot set the “To” field to a bank whose type differs from the data selected for loading.

Program banks USER-A – USER-G can be freely specified as either HD-1 or EXi (using the Global menu command **Set Program User-Bank Type**). You can load .PCG files of a bank type that differs from the OASYS’s current bank type setting. This will automatically set the bank type appropriately.

-  If data of the specified bank is completely absent from the .PCG file, an error of “No readable data” will be displayed, and the load operation will be halted.
-  If the program data of the specified bank is not found in the .PCG file, the program banks of the combination or multi timbres/tracks will not be set.
-  If the drum kits and wave sequences of the specified bank are not in the .PCG file, the program’s drum kit numbers and wave sequence numbers will not be automatically set.

3. If “Load ***** .SNG too” is checked, you can use “Select .SNG Allocation” to specify how song data within the .SNG file will be loaded.

Append: The multi data will be loaded starting at the number that follows the last song data in

memory. The song data within the .SNG file that is being loaded will be packed into the available locations. (See diagram below)

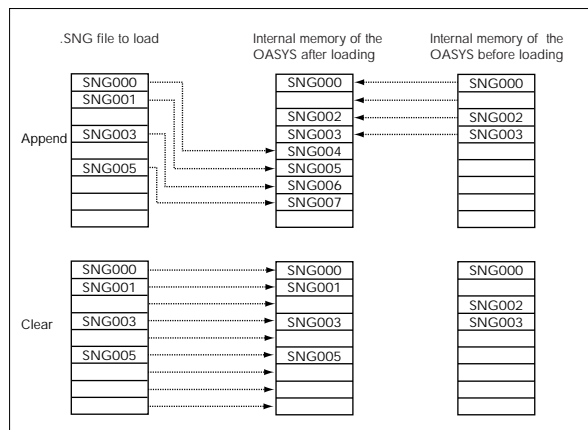
Select this method when you wish to load song data from disk without erasing the song data that is already in memory.

The region data used by the song’s audio tracks will be loaded following the last existing region number, with valid data packed into each consecutive location. (See diagram below) At this time, the region numbers of the song will be reassigned so that the songs in the .SNG file that use region data will correspond correctly to the region data.

Clear: Song data already in internal memory will be completely erased, and the song data will be loaded in the configuration that existed when it was saved. (See diagram below)

Select this when you want to reproduce the saved state immediately after power-on, etc.

.SNG Allocation



4. “Select .KSC Allocation” is valid if “Load ***** .KSC too” has been checked.

This specifies how the multisamples and samples in the .KSC file will be loaded.

Append: Samples will be loaded starting at the first unoccupied number following the last multisample or sample that currently exists in memory (i.e., by having been sampled or loaded). At this time, only the valid multisamples or samples will be loaded, and they will be organized in numerical order. (See diagram below)

At the same time, programs or wave sequences within the .PCG file that use multisamples from the .KSC file will automatically have the multisample settings for their oscillators rewritten so that each program or wave sequence uses the correct multisample. Drum kits in the .PCG file that use samples from the .KSC file will automatically have the sample settings for the drum kit rewritten so that the drum kit uses the correct samples.

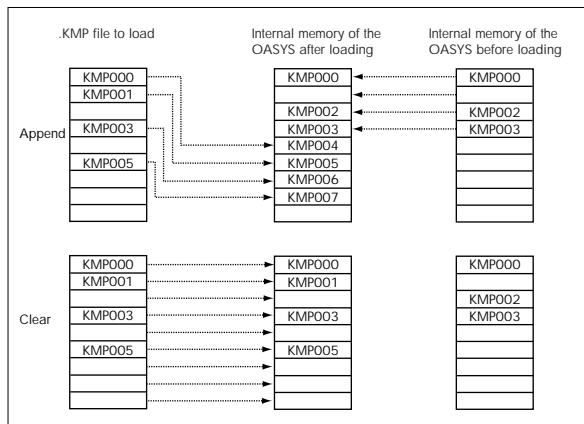
Clear: All multisamples and samples currently in memory will be erased, and the multisamples and samples will be loaded in the same configuration in which they were saved. (See diagram below)

If memory already contains multisamples or samples that you wish to keep, and you wish to load

additional multisamples or samples from media, select Append.

If the power has just been turned on, or you want to reproduce the state that was saved, select Clear.

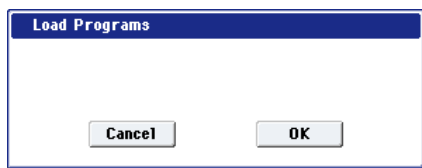
.KSC Allocation



5. To load the data, press the OK button. To cancel without loading, press the Cancel button.

Load Programs

All program data from a .PCG file will be loaded.

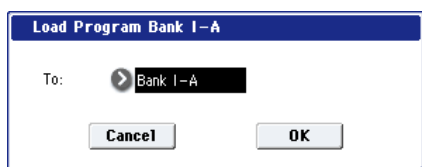


1. To load the data, press the OK button. To cancel without loading, press the Cancel button.

Load Program Bank

[Bank INT-A...INT-F, Bank USER-A...USER-G]

All program data of the selected bank will be loaded into the bank you specify.



1. In "To," select the loading destination bank.
2. To load the data, press the OK button. To cancel without loading, press the Cancel button.

Note: Program banks INT-A–INT-E are bank type HD-1, and the INT-F bank is bank type EXi. The bank types of these banks are fixed; you cannot set the "To" field to a bank whose type differs from the data selected for loading.

Program banks USER-A–USER-G can be freely specified as either HD-1 or EXi ("Set Program User-Bank Type." You can load .PCG files of a bank type that differs from the OASYS's current bank type setting. This will also overwrite the bank type.

Note: If "Multiple Select" (0–1a) is checked and you've selected more than one bank, the data will be loaded starting with the bank you specified in the "To" field. In this case, if you attempt to load a bank of a differing bank type into INT-A–INT-E (fixed at HD-1) or INT-F (fixed at EXi), INT-A–INT-F banks will be skipped, and the data will be loaded starting from USER-A.

Load a Program

Data for the selected program will be loaded into the program number you specify.



1. If you wish to load a program other than the one already selected, use "Program" (upper line) to select the program that you wish to load.

Note: Whenever you've selected an individual Program, Combination, Drum Kit, or Wave Sequence from within a PCG file, you can play it from the keyboard immediately—no need to load it into memory! For more information, see "Auditioning sounds from disk" on page 751.

2. In "To Program," (lower line) select the bank and program into which the data will be loaded. When you press the popup button, the "Bank/Program Select" window (Program 0–1a) will appear.

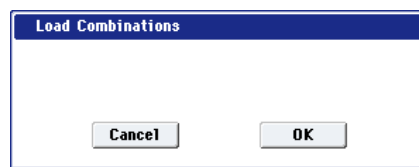
Note: You cannot set the "To" field to a bank whose type differs from the selected program.

Note: If "Multiple Select" (0–1a) is checked and you've selected more than one program, the data will be loaded starting with the program you specified in the "To" field.

3. To load the data, press the OK button. To cancel without loading, press the Cancel button.

Load Combinations

All combinations in the .PCG file will be loaded.

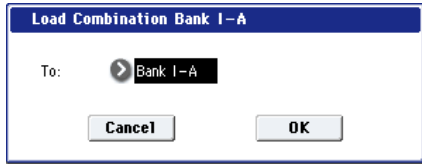


1. To load the data, press the OK button. To cancel without loading, press the Cancel button.

Load Combination Bank

[Bank INT-A...INT-G, Bank USER-A...USER-G]

All combinations in the selected bank will be loaded into the bank you specify.



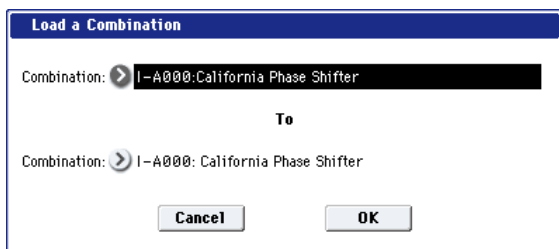
1. In "To," specify the loading destination bank.
2. To load the data, press the OK button. To cancel without loading, press the Cancel button.

Note: If "Multiple Select" (0-1a) is checked and you've selected more than one bank, the data will be loaded starting with the bank you specified in the "To" field.

Load a Combination



This loads the selected Combination into a specified Bank and number in internal memory.



1. If you wish to load a combination other than the one already selected, use "Combination" (upper line) to select the combination that you wish to load.
2. In "To Combination" (lower line), select the bank and combination into which the data will be loaded.

Note: The selected combination can be played from the keyboard even before you load it. This is convenient when you want to audition the combination to be loaded. (See "Auditioning sounds from disk" on page 751)

When you press the popup button, the "Bank/Combination Select" window will appear.

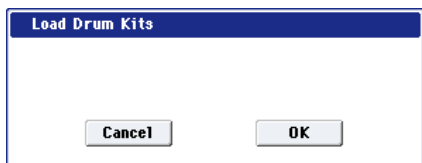
3. To load the data, press the OK button. To cancel without loading, press the Cancel button.

Note: If "Multiple Select" (0-1a) is checked and you've selected more than one combination, the data will be loaded starting with the combination you specified in the "To" field.

Load Drum Kits



All drum kits in the .PCG file will be loaded.



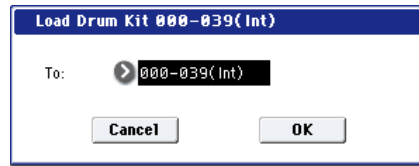
1. To load the data, press the OK button. To cancel without loading, press the Cancel button.

Load Drum Kit Bank



[INT, USER-A...USER-G]

This loads all drum kit data of the selected bank into the load-destination bank you specify.



1. Use the "To" field to select the load-destination bank.
2. To load the data, press the OK button. To cancel without loading, press the Cancel button.

Note: If "Multiple Select" (0-1a) is checked and you've selected more than one bank, the data will be loaded starting with the bank you specified in the "To" field.

- ⚠ If you've selected USER-A – USER-G as the load-destination for the selected drum kit bank (INT), INT-000 – INT-015 will be loaded. If you've selected INT as the load-destination for USER-A – USER-G, the data will be loaded into INT-000 – INT-015.

Load a Drum Kit



The selected drum kit will be loaded into the drum kit number you specify.



1. If you wish to load a drum kit other than the one already selected, use "Drum Kit" (upper line) to select the drum kit you wish to load.

Note: Whenever you've selected an individual Program, Combination, Drum Kit, or Wave Sequence from within a PCG file, you can play it from the keyboard immediately—no need to load it into memory! For more information, see "Auditioning sounds from disk" on page 751.

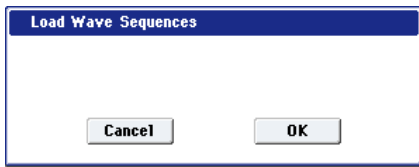
2. In "To Drum Kit" (lower line), select the loading destination drum kit.
3. To load the data, press the OK button. To cancel without loading, press the Cancel button.

Note: If "Multiple Select" (0-1a) is checked and you've selected more than one bank, the data will be loaded starting with the drum kit you specified in the "To" field.

Load Wave Sequences



All wave sequence data of the .PCG file will be loaded.



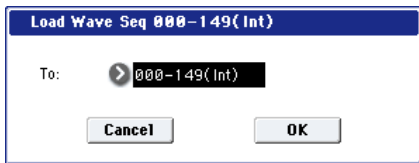
1. To load the data, press the OK button. To cancel without loading, press the Cancel button.

Load Wave Sequence Bank



[INT, USER-A...USER-G]

All wave sequence data of the selected bank will be loaded into the bank you select as the load-destination.



1. Use the "To" field to select the load-destination bank.
2. To load the data, press the OK button. To cancel without loading, press the Cancel button.

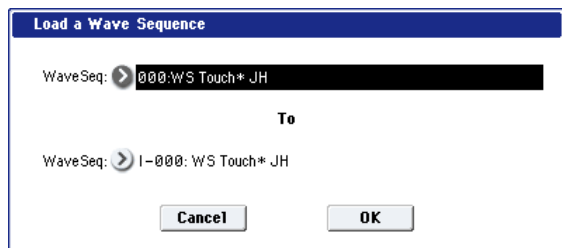
Note: If "Multiple Select" (0-1a) is checked and you've selected more than one bank, the data will be loaded starting with the bank you specified in the "To" field.

- ⚠ If you've selected USER-A – USER-G as the load-destination for the selected wave sequence bank (INT), INT-000 – INT-031 will be loaded. If you've selected INT as the load-destination for USER-A – USER-G, the data will be loaded into INT-000 – INT-031.

Load a Wave Sequence



The selected wave sequence data will be loaded into the wave sequence number you select as the load-destination.



1. If you want to load a wave sequence other than the selected wave sequence, use "Wave Sequence" (the upper line) to re-select the wave sequence to be loaded.

Note: Whenever you've selected an individual Program, Combination, Drum Kit, or Wave Sequence from within a PCG file, you can play it from the keyboard immediately—no need to load it into memory! For more information, see "Auditioning sounds from disk" on page 751.

2. Use "To Wave Sequence" (the lower line) to select the load-destination wave sequence.

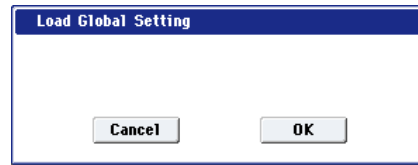
3. To load the data, press the OK button. To cancel without loading, press the Cancel button.

Note: If "Multiple Select" (0-1a) is checked and you've selected more than one wave sequence, the data will be loaded starting with the wave sequence you specified in the "To" field.

Load Global Setting



Global setting data in the .PCG file will be loaded.



This includes most of the Global mode parameters, except for the following:

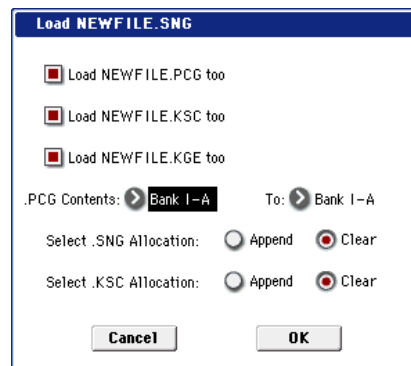
- Drum Kits
- Wave Sequences
- Memory Protect settings
- System Clock setting

1. To load the data, press the OK button. To cancel without loading, press the Cancel button.

Load .SNG



All data in the .SNG file will be loaded.



1. Use "Select .SNG Allocation" to specify how the song data from the .SNG file will be loaded.

Append: The song will be loaded after the last song data that already exists in internal memory. At this time, the song data in the .SNG file being loaded will be packed forward. (See the diagram "SNG Allocation" on page 762)

Select this when you want to add song data from disk without erasing the song data that currently exists in internal memory.

The region data used by the song's audio tracks will also be loaded following the last region number existing in internal memory, with valid data packed into each consecutive location. At this time, the region numbers of the song will be reassigned so that the songs in the .SNG file that use region data will correspond correctly to the region data.

Clear: Song data already in internal memory will be completely erased, and the song data will be loaded

in the configuration that existed when it was saved. (See the diagram “.SNG Allocation” on page 762)

Select this when you want to reproduce the saved state immediately after power-on, etc.

2. If an identically-named .PCG, .KSC, or .KGE file exists in the current directory, you'll be able to select the “Load *****.PCG too,” “Load *****.KSC too,” and “Load *****.KGE too” check boxes.

If this file does not exist in the current directory, load it as described under “If a file to be loaded cannot be found...” on page 761.

- If you check “Load *****.PCG too,” use “.PCG Contents” to specify the bank within the .PCG file.

For more information, see “In “.PCG Contents,” specify the data to be loaded.” on page 762.

- If you check “Load *****.KSC too,” use “Select .KSC Allocation” to specify how the multisamples and samples within the .KSC file will be loaded.

For more information, see ““Select .KSC Allocation” is valid if “Load *****.KSC too” has been checked.” on page 762.

3. Press the OK button to load the data, or press the Cancel button to cancel without loading.

Load a Song

Data for the selected song will be loaded into the song number you specified as the load destination.



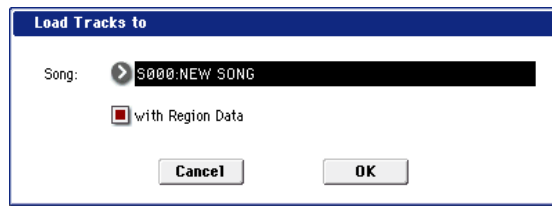
1. If you wish to load a song other than the selected song, use Song (upper line) to re-select the song to be loaded.
2. In “To Song” (lower line), select the loading destination song.
3. If you've enabled the “with Region Data” check-box, the Song's region data will be loaded following the last region number existing in internal memory, with data packed into each consecutive location (Append load).

At this time, the region numbers of the song will be reassigned so that they correspond correctly to the region data.

4. To load the data, press the OK button. To cancel without loading, press the Cancel button.

Load Tracks

The event data of all tracks in the selected song will be loaded into the song you specify as the loading destination. However, it is not possible to specify an uncreated song as the loading destination.



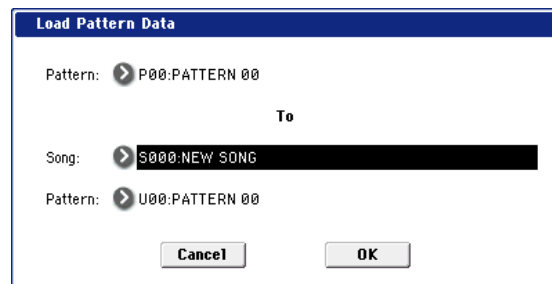
1. In Song, specify the loading destination song.
2. If you've enabled the “with Region Data” check-box, the region data used by the song tracks being loaded will also be loaded following the last region number existing in internal memory, with data packed into each consecutive location (Append load).

At this time, the region numbers of the tracks in the song will be reassigned so that they correspond correctly to the region data.

3. To load the data, press the OK button. To cancel without loading, press the Cancel button.

Load Pattern Data

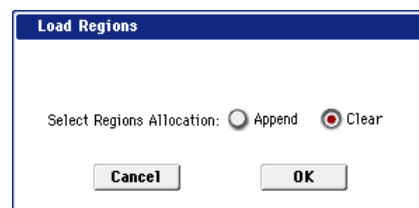
The selected user pattern will be loaded into a user pattern of the selected loading destination song. However, it is not possible to specify an uncreated song as the loading destination.



1. If you wish to load a user pattern other than the one already selected, use Pattern (upper line) to re-select the user pattern that you wish to load.
2. In “To Song” and Pattern (lower line), select the loading destination song and user pattern.
3. To load the data, press the OK button. To cancel without loading, press the Cancel button.

Load Regions

All region data will be loaded from the .SNG file.




1. Use “Select Regions Allocation” to specify how the song data in the .SNG file will be loaded.

Append: The data will be packed into each consecutive location following the last region number existing in internal memory. Choose this method when you want to load additional region

data from the disk without erasing the region data already in internal memory.

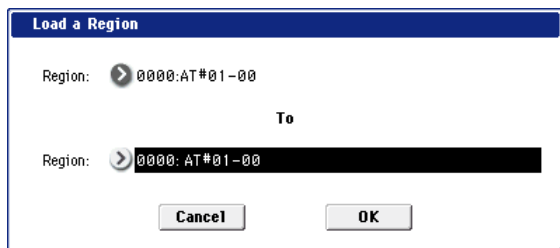
Clear: All region data in internal memory will be erased, and the region data will be loaded in the configuration that existed when it was saved. Choose this method when you want to replicate the configuration that you saved, such as immediately after turning the power on.

 If you load using Append, the region numbers used by the song may no longer correspond correctly. If so, you will need to re-select the region numbers used by the song. When loading song data, you will normally use Load .SNG or Load a Song and check the “with Region Data” setting. Even if you load using Append, the region numbers of the song will automatically be re-specified so that the song will correspond to the correct region data.

2. To load the data, press the OK button. To cancel without loading, press the Cancel button.

Load a Region

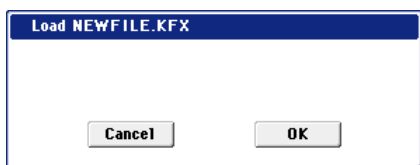
This loads the selected region data into the region number you select as the load-destination.



1. If you're loading region data other than the selected data, use “Region” (the upper line) to reselect the region data you want to load.
2. Use “To Region” (the lower line) to select the load-destination region.
3. To load the data, press the OK button. To cancel without loading, press the Cancel button.

Load .KFX

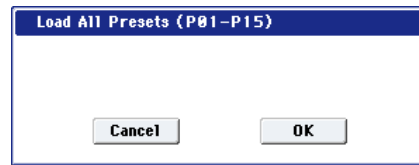
All data from the .KFX file will be loaded. All preset data (P01–15) and user data (U00–15) for all effects will be loaded.



1. To load the data, press the OK button. To cancel without loading, press the Cancel button.

Load All Presets (P01–P15)

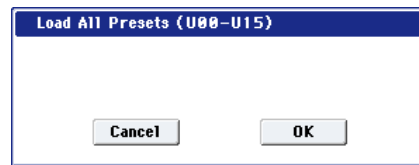
All preset data from the .KFX file will be loaded. All preset (preset) data (P01–15) for all effects will be loaded.



1. To load the data, press the OK button. To cancel without loading, press the Cancel button.

Load All Presets (U00–U15)

All user data from the .KFX file will be loaded. All preset (user) data (U01–15) for all effects will be loaded.

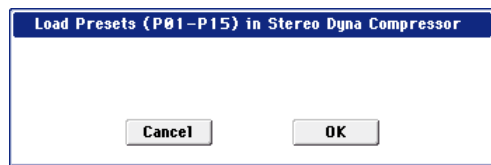


1. To load the data, press the OK button. To cancel without loading, press the Cancel button.

Load Presets (P01–15)

Preset (preset) data (P01–15) for the selected effect will be loaded.

Load Presets (P01–P15) in “Stereo Dyna Compressor”

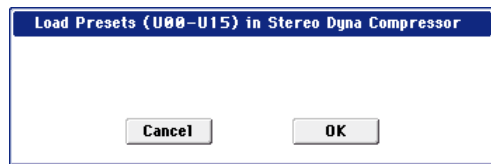


1. To load the data, press the OK button. To cancel without loading, press the Cancel button.

Load Presets (U00–15)

Preset (user) data (U00–15) for the selected effect will be loaded.

Load Presets (U00–U15) in “Stereo Dyna Compressor”

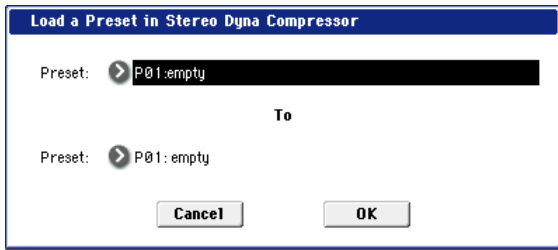


1. To load the data, press the OK button. To cancel without loading, press the Cancel button.

Load a Preset (P)

The selected effect preset data (P01–15) will be loaded into the load-destination effect preset number (P01–15, U00–U15) you specify.

Load a Preset in "Stereo Dyna Compressor"



1. If you're loading an effect preset other than the selected one, use "Preset" (the upper line) to re-select the effect preset that will be loaded.
2. Use "To Preset" (the lower line) to select the load-destination effect preset.
3. To load the data, press the OK button. To cancel without loading, press the Cancel button.

Note: If "Multiple Select" (0-1a) is checked and you've selected more than one effect preset, the data will be loaded starting with the effect preset you specified in the "To" field.

27) Load a Preset (U)



The selected effect preset data (U00-15) will be loaded into the load-destination effect preset number (P01-15, U00-U15) you specify.

See "Load a Preset (P)".

Load Standard MIDI File



The selected Standard MIDI File will be loaded into the song number you select as the loading destination.

"Load Standard MIDI File *****.MID to"



1. In Song, select the loading destination song.
2. If you turn "Exclusive" Off (unchecked), any system exclusive messages or universal exclusive messages included in the SMF data will not be loaded.

If this is On (checked), system exclusive messages and universal exclusive messages included in the SMF data will be loaded as System Exclusive events.

The GS/XG sound maps and messages are not supported. Depending on the content of the data, it may not play back correctly, but the data itself will be maintained if "Exclusive" is checked.

3. To load the data, press the OK button. To cancel without loading, press the Cancel button.

If you select an undefined file and choose "Load selected," the file will be assumed to be a Standard MIDI File, and the "Load Standard MIDI File" dialog box will appear. When you execute loading, the file will be loaded into the song that was

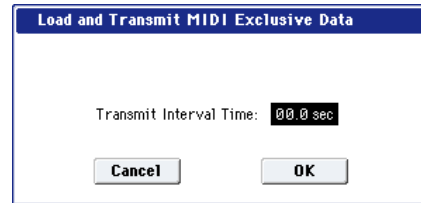
specified as the loading destination. However if the file format is inappropriate, the operation will be invalid and an error message will be displayed.

The program bank and program numbers loaded into the song will follow the "Bank Map" (Global 0-1d) setting. If "Bank Map" is KORGM, bank A will be selected for bank select 00.00 (MSB.LSB). If "Bank Map" is GM(2), bank G will be selected.

Load and Transmit MIDI SysEx Data



All data from the .EXL file will be loaded and transmitted from the MIDI OUT connector.



1. If the .EXL file contains two or more exclusive data items, use "Transmit Interval Time" to specify the time interval that will be inserted between each item of exclusive data.

If you are transmitting the data to another OASYS, the required time interval will depend on the type of data. After transmitting all program data, you must allow an interval of approximately 2 seconds. For details refer to the Global mode section on Dump. For other MIDI devices, refer to their owner's manual.

2. To load the data, press the OK button. To cancel without loading, press the Cancel button.

The maximum data size that can be transmitted is 1,048,576 bytes.

Load .KCD



The selected .KCD file will be loaded.



1. Press the OK button to load, or press the Cancel button to cancel without loading.

The loaded contents will be displayed in the Make Audio CD page (1-1). As the data is being loaded, the WAVE files in the list will be checked, and if a file does not exist, a message of "File/Path not found" will be displayed.

Load DX-format .SYX file

The OASYS can load sounds created for the vintage Yamaha DX7. These sounds will be converted into MOD-7 Programs. For more information, please see "Loading DX sounds" on page 329.

Loading sample data

The explanations under Load .KSC, Load .KMP, and Load .KSF, below, explain how Korg format PCM data files are loaded into the OASYS sample RAM.

About sample RAM

The amount of RAM available for RAM samples will vary, depending on both the amount of physical RAM, and which (if any) EXs are currently installed. For more information, see "Sampling and RAM" on page 621.

Maximum numbers of Samples and Multisamples that can be loaded

- Multisamples: up to 1,000
- Samples: up to 4,000
- Samples used by multisamples: up to 4,000

About Korg format PCM data files

KSC files

Files with an filename extension of KSC (Korg Script) contain the names of .KMP and .KSF files.

When a .KSC file is loaded, the .KMP and .KSF files whose names it contains will also be loaded. This is a convenient way to load multiple multisamples and samples at once.

When saving, a .KSC file and a directory with the same name as the .KSC file will be created. The .KMP files and .KSF files listed in the .KSC file will be saved in this directory.

KMP files

Files with a filename extension of KMP (Korg Multisample Parameter) contain the parameters which make up a single multisample. These parameters also include the filename of the .KSF files that are used by that multisample, so when a .KMP file is loaded, the necessary .KSF files will also be loaded at the same time.

When saving, a .KMP file and a directory with the same name will be created, and the .KSF files used by the multisample will be saved in this directory.

KSF files

Files with a filename extension of KSF (Korg Sample File) contain the parameters and waveform data which make up a single sample.

A .KSF file can be used as one of the samples used by a multisample. A .KSF file can also be selected and used as a drum sample for a drum kit.

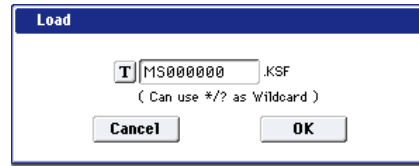
Loading multiple files at once

You can use wild cards to specify multiple .KMP, .KSF, .AIF, .WAV, AKAI Program, and AKAI Sample files, and load them simultaneously.

Note: If "Multiple Select" (0-1a) is checked, you can select more than one file in the directory and load them in a single operation.

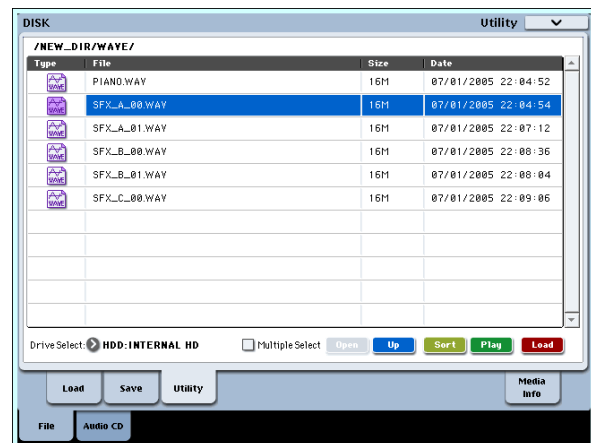
In the Load dialog box, press the text edit button to access the text input dialog box.

By specifying "*" or "?" as wild cards in the selected filename, multiple sample files that have the same filename extension (same file format) and exist in the selected directory can be loaded simultaneously.

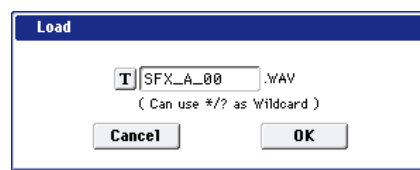


Example) A folder contains the following files, and you select "SFX_A_00.WAV" and specify wild cards to load multiple files simultaneously

- PIANO.WAV
- SFX_A_00.WAV
- SFX_A_01.WAV
- SFX_B_00.WAV
- SFX_B_01.WAV
- SFX_C_00.WAV



Select "SFX_A_00.WAV," and choose "Load selected" to open the dialog box.



Press the text edit button (T) to access the text input dialog box, and specify the desired wildcards. (For the renaming procedure, see OG p.115)



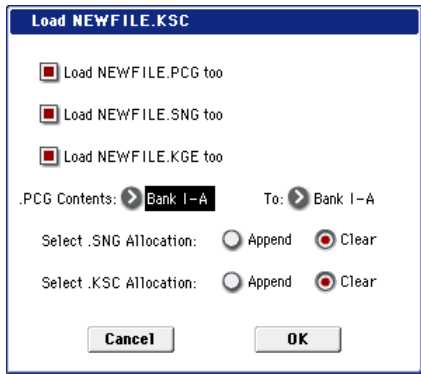
"*" specifies the subsequent characters as a wild card.


"?" specifies only one character as a wild card.

1. If you specify SFX_A* and execute loading, the following files will be loaded.
SFX_A_00.WAV
SFX_A_01.WAV
2. If you specify SFX_?_00 and execute loading, the following files will be loaded.
SFX_A_00.WAV
SFX_B_00.WAV
SFX_C_00.WAV
3. If you specify SFX_*_00, the result will be the same as if you specify "SFX_*", and the following files will be loaded.
SFX_A_00.WAV
SFX_A_01.WAV
SFX_B_00.WAV
SFX_B_01.WAV
SFX_C_00.WAV
4. If you specify * and execute loading, all of the WAVE files will be loaded as follows.
PIANO.WAV
SFX_A_00.WAV
SFX_A_01.WAV
SFX_B_00.WAV
SFX_B_01.WAV
SFX_C_00.WAV

Load .KSC 

The .KMP files and .KSF files listed in the .KSC file will be loaded as multisamples and samples respectively.



 The .KMP files and .KSF files listed in the .KSC file are saved in a directory of the same name that is created automatically at the same time as the .KSC file.

1. "Select .KSC Allocation" allows you to specify how the multisamples and samples in the .KSC file will be loaded.

Append: The data will be loaded into the numbers after the last multisample or sample number currently existing in sample RAM (i.e., that were previously sampled or loaded). In this case, only the valid multisamples and samples will be packed and loaded. (See diagram in ".KSC Allocation" on page 763)

If "Load *****.PCG too" is checked when you load the data, programs and wave sequences within the

.PCG file that use multisamples from the .KSC file will automatically have the multisample settings for their oscillators rewritten so that each program and wave sequence uses the correct multisample. Drum kits in the .PCG file that use samples from the .KSC file will automatically have the sample settings for the drum kit rewritten so that the drum kit uses the correct samples.

Clear: All multisamples and samples currently existing in sample RAM will be cleared, and the multisamples and samples will be loaded in the same configuration as when they were saved. (See diagram in ".KSC Allocation" on page 763)

Choose "Append" if sample RAM already contains multisamples and samples that you do not want to erase, and you would like to load additional multisamples and samples from media.

Choose "Clear" if you want to reproduce the state in which the data had been saved, for example immediately after power-on.


2. If the current directory contains a .PCG file, and .SNG file of the same filename, you can select the "Load *****.PCG too" check box, the "Load *****.SNG too" check box, and the "Load *****.KGE too" check box.

(See "Load: .PCG: 1")

- If you check "Load *****.PCG too," the .PCG file of the same name as the .KSC file will also be loaded. (See "Load .PCG: 2")
- If you check "Load *****.SNG too," the .SNG file of the same name as the .KSC file will also be loaded. (See "Load .PCG: 3")

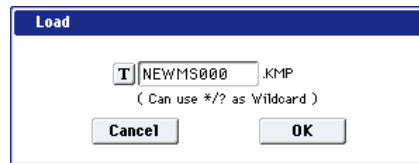
3. To load the data, press the OK button. To cancel without loading, press the Cancel button.


If the .KSF files used by the .KMP file are not in the current directory or below it, a dialog box will appear, allowing you to specify the directory. Use the procedure "If a file to be loaded cannot be found,..." (page 761) to load the required .KSF files.

 Since overflow checking of sample RAM is performed when loading each individual .KSF file, it is possible that an overflow may occur in the middle of the loading process.

Load .KMP 

The selected .KMP file will be loaded as a multisample. The .KSF files used by the .KMP will also be loaded as samples.



 The .KSF files used by the .KMP file will be saved in an identically-named directory that is created automatically when the .KMP file is created.

1. To load the data, press the OK button. To cancel without loading, press the Cancel button.

Samples will be loaded starting at the first unoccupied number following the last multisample or sample that currently exists in the sample memory. Only valid multisamples or samples will be packed and loaded (Append load).

If the .KSF files used by the .KMP file are not in the current directory or below it, a dialog box will appear, allowing you to specify the directory. Use the procedure "If a file to be loaded cannot be found,..." (page 761) to load the required .KSF files.

- ⚠ Since sample RAM overflow checking is performed when loading each .KSF file, an overflow may occur during the loading process.

Load .KSF



The selected .KSF file will be loaded as a sample.



1. To load the data, press the OK button. To cancel without loading, press the Cancel button.

The sample will be loaded after the last multisample or sample that currently exists in the sample RAM (Append load).

Loading AIFF files and WAVE files

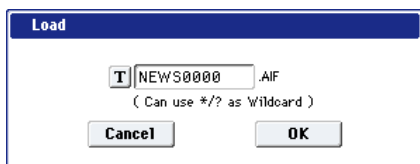
The OASYS can load AIFF format or WAVE format files, which are formats used to save audio data on personal computers etc. When this data that has been loaded, it can be used as a sample or a drum sample.

- ⚠ Files with an extension of other than .AIF/.WAV cannot be recognized as AIFF/WAVE files. In this case, use the Utility "Rename" menu command to change the last four characters of the filename to ".AIF"/".WAV"
- ⚠ If the data that is loaded as a sample contains a loop point, you can set **Start Offset** (Program 1-2a) on the OASYS so that the sound will begin from the loop point.
- ⚠ If data whose sample size is 8 bits or less is loaded, it will be converted into 16 bit data inside the OASYS. This will mean that the amount of internal memory consumed will be approximately twice as large as the file size. The increase in size resulting from this conversion may mean that it is impossible to save that data on a media.

Load .AIF



The selected AIFF file will be loaded as a sample.



1. To load the data, press the OK button. To cancel without loading, press the Cancel button.

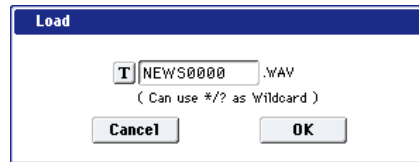
The sample will be loaded after the last sample that currently exists in the sample RAM (Append load).

Note: You can load multiple files within the directory. (See "Multiple Select" on page 752, "Loading multiple files at once" on page 769)

Load .WAV



The selected WAVE file will be loaded as a sample.



1. To load the data, press the OK button. To cancel without loading, press the Cancel button.

The sample will be loaded after the last sample that currently exists in the sample RAM (Append load).

Note: You can load multiple files within the directory. (See "Multiple Select" on page 752, "Loading multiple files at once" on page 769)

Loading AKAI S1000/S3000 format Sample files, Program files, or Volumes

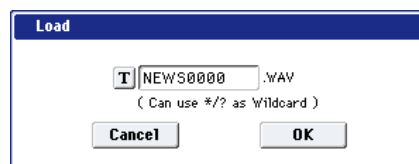
The OASYS can load AKAI S1000/S3000 format Sample files, Program files, and Volumes. Sample file data you load can be used as RAM samples.

- When you load Program file data, settings such as key group, key group zone, oscillator, pitch, filter, amp/pan, and EG are supported, and can be converted into a OASYS program, or programs + combination.
- When you load a Volume, all Program files and Sample files included in the Volume can be loaded together.
- AKAI S1000/S3000 format stereo Sample files and Program files whose names end in "-L" and "-R" can be loaded into the OASYS as stereo samples and multisamples.
When the above files are loaded, "-L" and "-R" will automatically be moved to the end of the sample name or multisample name (23 and 24 character) so that they can automatically be recognized as stereo samples or multisamples.

Load AKAI Sample File



The selected Sample will be loaded as a sample.



1. To load the data, press the OK button. To cancel without loading, press the Cancel button.

The sample will be loaded after the last sample that currently exists in the sample RAM by having been sampled or loaded (Append load). If the loaded data is then saved to storage media, it will be saved as a Korg format .KSF file. (possible to export as a .AIF, .WAV format, "Export Samples as AIF/WAV")

Note: You can load multiple files within the directory. (See “Multiple Select” on page 752, “Loading multiple files at once” on page 769)

- 🔍 If the data that is loaded as a sample contains a loop point, you can set **Start Offset** (Program2-1c) on the OASYS so that the sound will begin from the loop point.

Note: If the end (19 and 20 characters) of the sample name is “-L” and “-R,” the “-L” and “-R” will automatically be moved to the end of the OASYS’s sample name (23 and 24 characters).

When you load two files whose sample names are identical except for ending in “-L” and “-R,” and assign them to a stereo multisample in Sampling mode, they will be recognized as a stereo sample.

Akai S1000/S3000 Loop Conversion

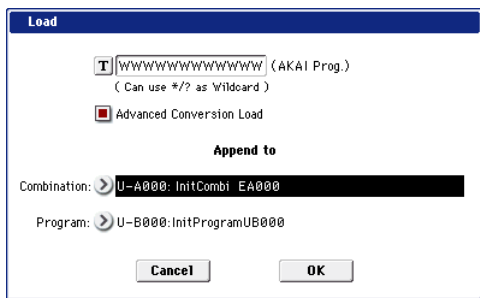
In rare cases, loops from Akai samples may need to be changed when loaded into the OASYS:

- Some Akai samples may contain multiple loops. If this is the case, OASYS will use the first HOLD loop, if present. If there is no HOLD loop, OASYS will use the longest loop.
- Some Akai samples may have loop lengths with a resolution of less than a single sample. In this case, OASYS will round the loop to the nearest sample.

Load AKAI Program File

The selected Program file will be loaded as a OASYS program, or converted and loaded as programs + combination. You also have the option of loading only as multisamples and samples.

1. Select an AKAI Program file in the directory window.
2. Select the page menu command “Load selected” to open the dialog box.



3. In “Advanced Conversion Load,” select how the AKAI Program file will be loaded.

On (checked): Program file parameters such as key group, key group zone, oscillator, pitch, filter, amp/pan, LFO, and EG will be converted into a OASYS program or programs and combination.

Off (unchecked): The selected Program file will be loaded as a multisample. Only the keymap-related parameters within the Program file will be loaded to create the multisample.

4. If you checked “Advanced Conversion Load,” use “Append to: Combination” to specify the destination bank and number of the combination that will be created by the convert-load operation.

When you execute the command, the combinations that are created will be loaded starting at the bank and number you specify here.

5. If you checked “Advanced Conversion Load,” use “Append to: Program” to specify the destination bank and number of the program that will be created by the convert-load operation.

When you execute the command, the programs that are created will be loaded starting at the bank and number you specify here.

Note: The multisamples and samples that are loaded will be loaded after the last multisample and sample currently existing in sample RAM. The Program files and Sample files loaded at this time will be packed into available spaces (Append load), loading only the valid data.

Note: If the Sample files used by the Program file are not in the current directory or below it, a dialog box will appear, allowing you to specify the directory. Use the procedure “If a file to be loaded cannot be found,...” (page 761) to load the required Sample files.

- 🔍 Since sample RAM overflow checking is performed when loading each sample file, an overflow may occur during the loading process.

Note: If a loaded multisample is assigned samples whose sample names end in “-L” and “-R,” an “-L” and “-R” will automatically be added to the end (23 and 24 characters) of the multisample name.

Note: When you load two multisamples whose multisample names are identical except for ending in “-L” and “-R,” they will be recognized in Sampling mode as a stereo multisample.

- 🔍 Depending on the structure of the AKAI Program, the data may be converted into two or more programs and one combination when it is loaded. In this case, the number of programs created is limited to a maximum of sixteen (the maximum number of programs usable in a combination), and the message “Exceeded 16 Programs” may appear. Please be aware of this when loading complex AKAI Program data.

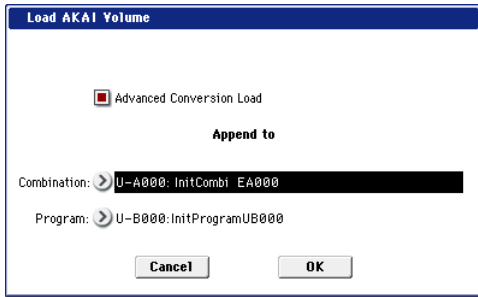
- 🔍 If the loading-destination bank and number exceed USER-G127, loading will automatically stop.

- 🔍 The data in the locations following the specified bank/number will be rewritten when you load. If you want to keep this data, use “Save All” or “Save PCC” before you load the AKAI Program data.

Load AKAI Volume

You can load Program files and Sample files in a single operation from a Volume on an AKAI S1000/S3000 format sample CD. On AKAI S1000/S3000 format sample CDs, the Program files and Sample files are organized into Partitions and Volumes (See page 749, diagram)

1. In the 0-1: Load page, use “Drive Select” to select the AKAI S1000/S3000 format media.
2. In the directory window, select the desired AKAI S1000/3000 format volume.
3. Select the page menu command “Load selected” to open the dialog box.



4. If you check “Advanced Conversion Load,” all Sample files included in the selected volume will be loaded as samples.

Program file settings such as key group, key group zone, oscillator, pitch, filter, amp/pan, and EG will be converted into a OASYS program, or into programs and a combination. (Multisamples will also be convert-loaded.)


If you don't check this, all Sample files included in the selected volume will be loaded as samples, and the Program file will be loaded as a multisample. Only the keymap-related parameters from the Program file will be loaded to create a multisample.


5. If you checked “Advanced Conversion Load,” use “Append to: Combination” to specify the destination bank and number of the combination that will be created by the convert-load operation.

When you execute the command, the combinations that are created will be loaded starting at the bank and number you specify here.

6. If you checked “Advanced Conversion Load,” use “Append to: Program” to specify the destination bank and number of the program that will be created by the convert-load operation.

When you execute the command, the programs that are created will be loaded starting at the bank and number you specify here.

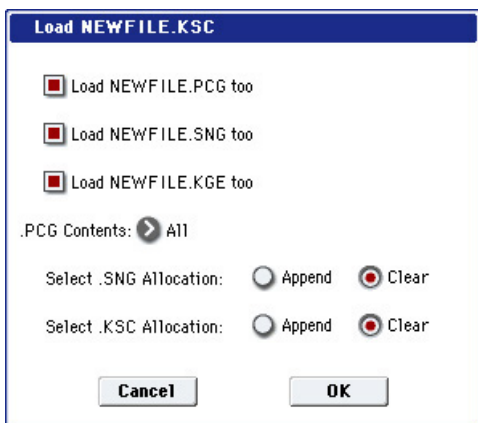
 If the loading-destination bank and number exceed USER-G127, loading will automatically stop.

 The data in the locations following the specified bank/number will be rewritten when you load. If you want to keep this data, use “Save All” or “Save PCG” before you load the AKAI Volume data.

Load .KGE



This command loads all data from the .KGE file.



1. If you want to load the .PCG, .SNG, and .KSC file of the same name as the .KGE file along with the .KGE file, select the “Load ***.PCG too,” “Load *****.SNG too,” and “Load *****.KSC too” check boxes.**

- If “Load *****.PCG too” is selected, use “.PCG Contents” to specify the bank within the .PCG file. (->see “1) Load .PCG: step 2”)
- If “Load *****.SNG too” is selected, use “Select .SNG Allocation” to specify how the song data within the .SNG file will be loaded. (->see “1) Load .PCG: step 3”)
- If “Load *****.KSC too” is selected, use “Select .KSC Allocation” to specify how the multisamples and samples within the .KSC file will be loaded. (->see “1) Load .PCG: step 4”)

2. Press the OK button to load, or press the Cancel button if you decide not to load.

Load GEs



This command loads all GE data from the .KGE file.

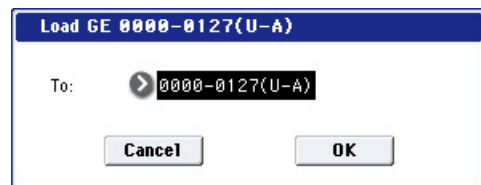


1. Press the OK button to load, or press the Cancel button if you decide not to load.

Load GE Bank



This command loads all GE data from a .KGE file.



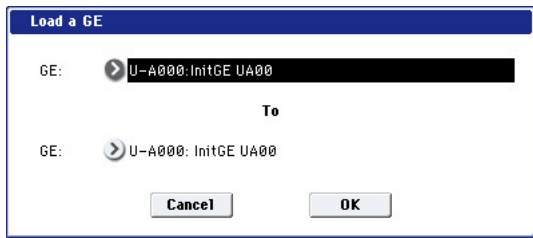
1. Use the “To” field to specify the load-destination bank.
2. Press the OK button to load, or press the Cancel button if you decide not to load.

Note: If you check “Multiple Select” (0–1a) and select more than one bank, they will be loaded starting at the bank specified by the “To” field.

Load a GE



This command loads the selected GE data into the GE number you specify as the load-destination.



1. If you want to load a GE other than the selected one, use the "GE" field (upper line) to re-select the program to be loaded. Press the popup button, and "GE Select" will appear.

2. Use the "To GE" field (lower line) to select the load-destination bank and program. Press the popup button, and "GE Select" will appear.

Note: If you check "Multiple Select" (0-1a) and select more than one GE, they will be loaded starting at the GE specified by the "To" field.

3. Press the OK button to load, or press the Cancel button if you decide not to load.

Load Templates

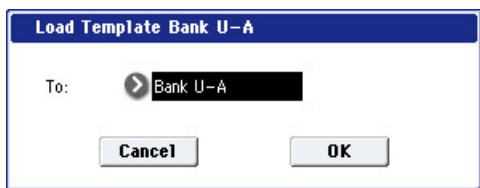
This command loads all template data from the .KGE file. This is user template data such as the rhythm patterns and CC patterns used by user GEs.



1. Press the OK button to load, or press the Cancel button if you decide not to load.

Load Template Bank

This command loads the template data from the selected bank into the bank you specify as the load-destination.



1. Use the "To" field to specify the load-destination bank.

2. Press the OK button to load, or press the Cancel button if you decide not to load.

Note: If you check "Multiple Select" (0-1a) and select more than one bank, they will be loaded starting at the bank specified by the "To" field.

Load PCG (RAM) and Samples

"Load PCG (RAM) and Samples" loads from a .PCG file only the programs, wave sequences, drum kits, combinations, and songs that use RAM samples. This is useful when you are editing programs and combinations that use RAM samples.

The programs, wave sequences, and drum kits that use RAM samples and the combinations or songs that use these programs will be loaded from the .PCG file. All programs included in the loaded combinations and songs can also be loaded.

The applicable programs and combinations will automatically be loaded in order from the bank and number you specify. When loading, sample numbers and program numbers will automatically be adjusted so that they correspond correctly.

Content that will be loaded from the .PCG file

1. **Drum Kit:** Drum kits in which RAM is selected for the "Drumsample DS1, 2, 3, 4 Bank" (Global 5-1b) of at least one key.
2. **Wave sequences** for which the Resources "Bank (Multisample)" (4-2c) setting of the wave sequence is set to RAM for at least one step.
3. **Program:** Programs whose Oscillator Mode (Program 1-1b) is set to Drums and whose "Drum Kit" (Program 2-1f) meets the conditions described above in 1.
4. Programs whose Oscillator Mode is set to either Single or Double and whose "OSC1/2 Multisample MS1, 2, 3, 4 Bank" (Program 2-1c) specifies (in at least one location) a wave sequence described above in item 2.
5. Programs whose Oscillator Mode is set to Single or Double and whose "OSC 1/2 Multisample MS1, 2, 3, 4 Bank" (Program 2-1c) is set to RAM in at least one location.
6. **Combination:** Combinations whose "Program Select" (Combination 0-1b) is set to a program that meets the conditions described above in 3, 4, or 5.

Content loaded from the .SNG file

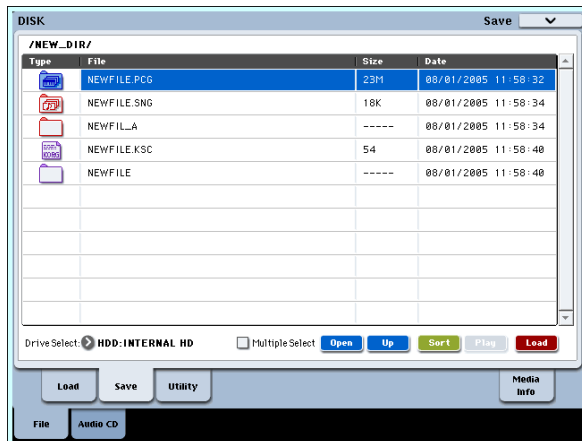
1. **Song:** Songs whose "Program Select" (Sequencer 0-1b) uses programs that meet the conditions described above in paragraphs 3, 4, or 5. of "Content that will be loaded from the .PCG file" will be loaded into vacant numbers starting from the number after the last song data in internal memory.

The data will be loaded into vacant locations starting after the last song number. (See ".SNG Allocation" on page 762)

Numbers that will be reassigned after loading so that data references correspond correctly:

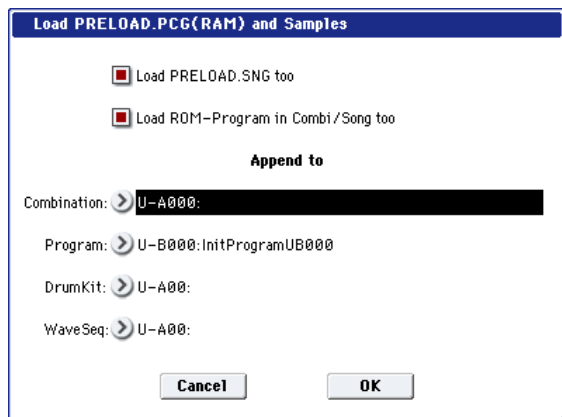
- RAM sample numbers used by Multisamples and Drum Kits
- RAM multisample numbers used by Programs and Wave Sequences
- Wave Sequence numbers used by Programs
- Drum Kit numbers used by Programs
- Program banks/numbers used by Combinations
- Program banks/numbers used by Songs (if there are pattern events in a track, the program bank/number within the event)

1. Select a .PCG file in the directory window.



2. Select this command to display the dialog box.

This command will be available only if you've selected a .PCG file.



3. If you also want to load the .SNG file of the same name as the .PCG file, check the "Load *****.SNG too" check box.


Note: The .KSC file of the same filename as the .PCG file will be loaded together with the .PCG file. If the file does not exist in the current directory, load the file as described in "If a file to be loaded cannot be found, or when loading a file that was saved across media" on page 761.

4. If you check "Load ROM-Program in Combi/Song too," ROM-based programs in the .PCG file combinations or .SNG file songs will be loaded together with the RAM-based programs.

Choose this setting if the combinations or songs being loaded use user programs as well as the preloaded programs.

If you leave this unchecked, only RAM-using programs in the .PCG file combinations and .SNG file songs will be loaded. Normally you will not check this if you are using preloaded programs in addition to RAM-using programs.

Note: All ROM-based programs used by the loaded combinations and songs will be loaded.

 Program data whose bank type is EXi will not be loaded.


5. Use "Append to: Combination" to specify the loading-destination bank and number for the combinations in the .PCG file.

When you execute, only the applicable combinations will be loaded into consecutive numbers starting at the bank and number you specify here.

6. Use "Append to: Program" to specify the loading-destination bank and number of the programs in the .PCG file.

When you execute, only the applicable programs will be loaded into consecutive numbers starting at the bank and number you specify here.

If the loading-destination bank and number exceed N127, loading will automatically stop.


 If the load-destination bank and number in steps 5 and 6 exceeds USER-G127, the load operation will end automatically.


7. Use "Append to: Drum Kit" to specify the loading-destination number for the drum kits in the .PCG file.

When you execute, only the applicable drum kits will be loaded into consecutive numbers starting at the number you specify here.

8. Use the Append to "Wave Sequence" field to specify the load-destination number for the wave sequences in the .PCG file.


When you execute the command, only the valid wave sequences will be loaded starting at the number you specify, and occupying each consecutive number.

 If the load-destination bank and number in steps 7 and 8 exceeds USER-G15-USER-G31 respectively, the load operation will end automatically.


 The data in the locations following the specified bank/number will be rewritten when you load. If you want to keep this data, use "Save All" or "Save PCG" before you load the new data.

9. Press the OK button to load the data. If you decide not to load, press the Cancel button.

Cautions regarding Save

 When saving combinations with "Save All," "Save PCG & SNG," or "Save PCG," you should also try to save the programs used by each timbre (and the drum kits, wave sequences used by the programs) at the same time.

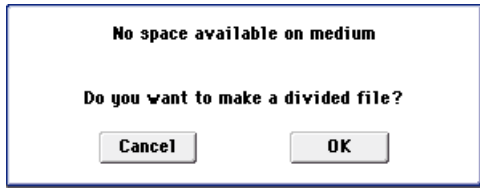
Similarly, when saving programs, you should also save the drum kit, wave sequence used by the program and the wave sequence at the same time.

 If multisamples or samples created in Sampling mode are used in a program or drum kit, we recommend that you save the data as "Save All." Also when using "Save PCG" or "Save Sampling Data" to save an individual program, drum kit, or multisample or sample created in Sampling mode, we recommend that you save the data in the same directory with the same filename.

When using "Load PCG" to load a .PCG file, the .KSC file of the same name will be loaded at the same time so that the multisamples/samples that were saved with the program or drum kit will correspond correctly.

If the data being saved does not fit on one volume of media

When saving a .PCG, .KSC, .KMP, or .KSF file, and the data does not fit on one volume of media, the display will ask "No space available on medium".

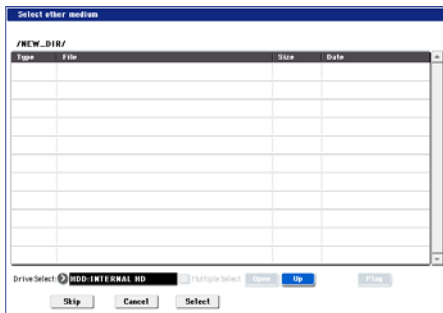


1. To save the data as a divided file across two or more volumes of media, make sure that you have the required number of discs, and then press the OK button in the "No space available on medium" dialog box. Saving will begin.

If you decide that you don't want to save a divided file, press the Cancel button, and save your data to media that has more available space.

2. When a volume of media fills up during the save, the following dialog box will appear.

Insert the next volume of media and press the LCD screen to make the OASYS detect the media, or use "Drive Select" (0-1a) to specify the save-destination media.



3. Press the Select button to continue saving. If the "No space available on medium" dialog box appears again, repeat steps 1-3.

Saving will be halted if you press the Cancel button. If you then want to abort the save operation, press the OK button in the dialog box.

If you press the Skip button, the indicated file will be skipped, and the next file will be saved.

Save All (PCG, SNG and KSC)

Here's how to save the following data from internal memory to media.

.PCG file: Programs, combinations, drum kits, wave sequences, global settings

.SNG file: Songs, region data

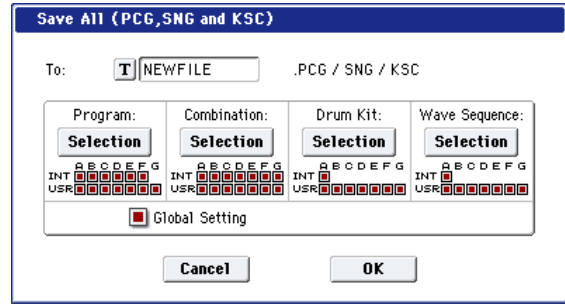
.KSC file: Multisamples and samples created in Sampling mode

.KGE file: User GEs

This command is valid only when the current directory is a DOS directory.

1. Select "Save All" to open the dialog box.

Save All (PCG, SNG and KSC)



2. Use the text edit button to move to the text input dialog box, and specify the filename.

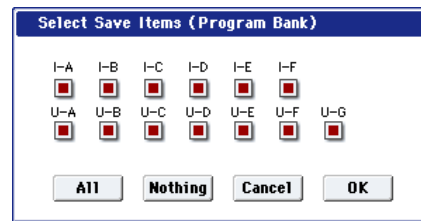
For example if you specify NEWFILE and execute the save command, files named NEWFILE.PCG, NEWFILE.SNG, NEWFILE.KSC, and NEWFILE.KGE will be saved to the media.

3. Select the bank(s) that you want to save.

Programs, combinations, drum kits, wave sequences, and user GE can be saved in units of banks. Information on the bank to be saved is displayed below each Selection button. Banks that are checked will be saved.

If you want to modify the selections, press the Selection button to open the dialog box, and check the check boxes for the data you want to save.

Example: when the Selection button for Program is pressed



If you press the All button, all banks will be checked.

If you press the Nothing button, all banks will be unchecked.

Press the OK button to change the selections as specified, or press the Cancel button to discard your changes.


To specify whether "Global Settings" will be saved, use the check box in step 1.


4. To save the data, press the OK button. To cancel without saving, press the Cancel button.

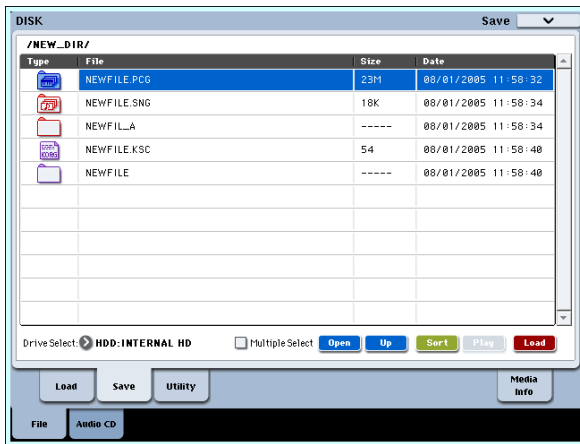
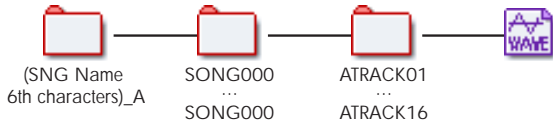
If "No space available on medium" dialog box will appear. Refer to "If the data being saved does not fit on one volume of media," and use the procedure given there to save the data.

When you save, files will be created in the current directory. If the data you save extends across two or more media, these files will be divided. In addition to the .PCG, .SNG, and .KSC files that will be created with the specified filename, one directory will also be created. The files listed in NEWFILE.KSC will be saved in this directory.

In addition to the .PCG, .SNG, .KSC, and .KGE files created with the specified filename, two directories will also be created.

 One directory will have the “specified filename” as its directory name, and will contain the files listed in .KSC. (File: purple)

 The other directory will have “(specified filename)_A” as its directory name, and will contain the WAVE files used by the regions of each audio track in each song. (File: red)



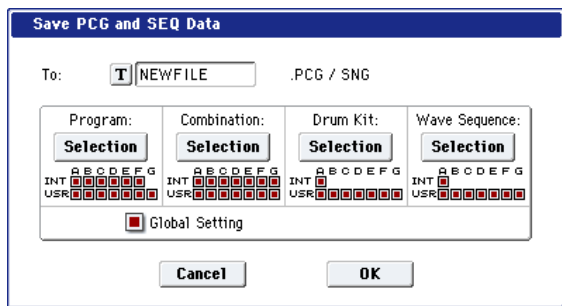
Save PCG & SEQ

This command saves all internal memory programs, combinations, drum kits, wave sequences, and global settings as a .PCG file, and saves songs and regions data to a .SNG file on the specified media.

This command is valid only when the current directory is a DOS directory.


1. Select “Save PCG & SEQ” to open the dialog box.

Save PCG & SEQ Data



2. Use the text edit button to move to the text input dialog box, and specify the filename.
For example if you specify NEWFILE and execute the save command, files named NEWFILE.PCG and NEWFILE.SNG will be saved to the media.
3. Select the bank(s) that you want to save.
(For the procedure, see “0-2: Save All 3”)
4. To save the data, press the OK button. To cancel without saving, press the Cancel button.

A directory will be created in addition to the .PCG and .SNG files created with the specified filename.

 The directory will have “(specified filename)_A” as its directory name, and will contain the WAVE files used by the regions of each audio track in each song. (File: red) (See “Save All”)

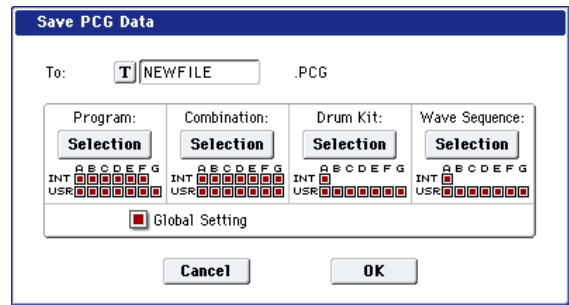
Save PCG

This command saves all internal memory programs, combinations, drum kits, wave sequences, and global settings as a .PCG file.

This command is valid only when the current directory is a DOS directory.

1. Select “Save PCG” to open the dialog box.

Save PCG Data



2. Use the text edit button to move to the text input dialog box, and specify the filename.
For example if you specify NEWFILE and execute the save command, a file named NEWFILE.PCG will be saved to the media.
3. Select the bank(s) that you want to save.
(For the procedure, see “0-2: Save All 3”)
4. To save the data, press the OK button. To cancel without saving, press the Cancel button.

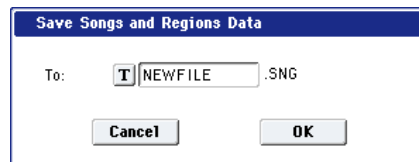
Save SEQ

This command saves all songs and regions data from internal memory as a .SNG file.

This command is valid only when the current directory is a DOS directory.

1. Select “Save SEQ” to open the dialog box.

Save Songs and Regions Data



2. Use the text edit button to move to the text input dialog box, and specify the filename.
For example if you specify NEWFILE and execute the save command, a file named NEWFILE.SNG will be saved to the media.
3. To save the data, press the OK button. To cancel without saving, press the Cancel button.

A directory will be created in addition to the .SNG file created with the specified filename.



The directory will have "(specified filename)_A" as its directory name, and will contain the WAVE files used by the regions of each audio track in each song. (File: red) (See "Save All")

Save Sampling Data

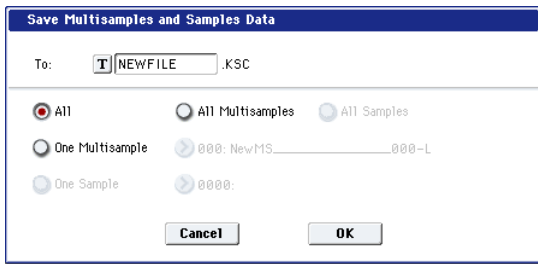
When this command is executed, the following list of multisample and sample data will be saved to media as Korg format .KMP files, .KSF files, and a .KSC file that collects these files.

This is valid only when the current directory is a DOS directory.

- Multisample and sample data recorded or edited
- Multisample and sample data loaded in Disk mode
- Multisample and sample data in internal sample RAM

1. Select "Save Sampling Data" to open the dialog box.

Save Multisamples and Samples Data



2. Press the text edit button to move to the text dialog box, and specify the filename (OG p.115).
3. Use "To" to specify the contents that will be saved. (All content will be saved in Korg format.) Use the following five radio buttons to make your selection.

All: All multisamples and samples from the sample RAM will be saved as .KMP files and .KSF files. Simultaneously, a .KSC file and a directory to contain these files will also be created and saved.

The filename will be the .KSC filename and the directory name.

All Multisamples: All multisamples and samples (i.e., samples used by the multisamples) will be saved as .KMP files and .KSF files. Simultaneously, a .KSC file and a directory to contain these files will also be created and saved.

The filename will be the .KSC filename and the directory name.

All Samples: All samples will be saved as .KSF files. Simultaneously, a .KSC and directory to contain these files will also be created and saved.

The filename will be the .KSC filename and the directory name.

One Multisample: The selected multisample will be saved as a .KMP file. Simultaneously, a directory will also be created, and the samples used by the multisample will be saved in that directory.

The filename will be the .KMP filename and the directory name.

Initially, the filename will automatically be set to the first five characters (uppercase) of the sixteen-character multisample name + the multisample number.

Examples)

000: NewMS_0000 → NEWS000.KMP

001: 108bpmDrLoop00 → 108BP001.KMP

One Sample: The selected sample will be saved as a .KSF file.

The filename will be the .KSF filename name.

Initially, the filename will automatically be set to the first four characters (uppercase) of the sixteen-character sample name + the sample number.

Examples)

0000: NewSample_0000 → NEWS0000.KSF

0001: C#3-EGuitar → C#3-0001.KSF

Note: If you wish to export the data in AIFF (.AIF) or WAVE (.WAV) format, select the Utility "Export Samples as AIF/WAV."

4. To save the data, press the OK button. To cancel without saving, press the Cancel button.

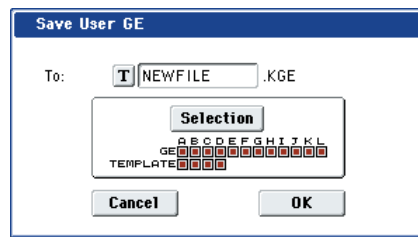
Note: If the page menu command "Translation" is turned on, the names of .KMP files and .KSF files you save will be displayed as the multisample name or sample name. This is convenient when you are searching for the desired files on media.

Save User GE

This command saves all user GEs and user template data from internal memory to media as a .KGE file.

This is available only if the current directory is a DOS directory.

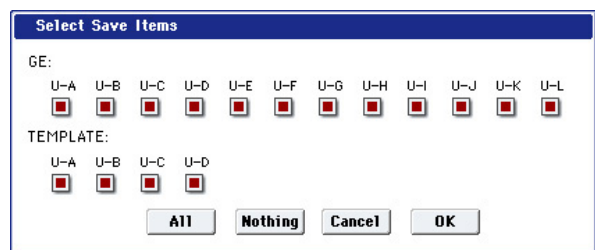
1. Choose "Save User GE" to access the dialog box.



2. Use the text edit button to access the text entry dialog box, and specify a file name.

For example if you specify NEWFILE and execute the save, the file NEWFILE.PCG will be saved to media.

3. Select the GE and template banks that you want to save. (For details, refer to "Save All, step 3.")



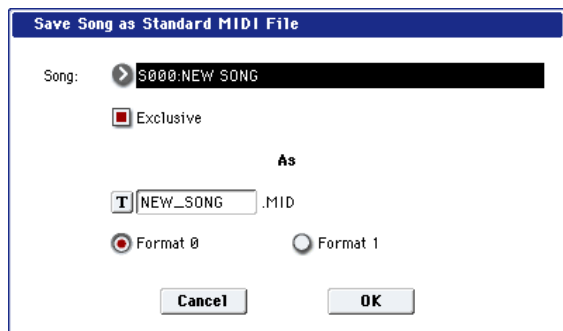
4. Press the OK button to save, or press the Cancel button if you decide not to save.

Save to Standard MIDI File

This command saves the selected song from internal memory to storage media as a .MID file (Standard MIDI File). (This applies only to MIDI track data. Audio track data will not be saved.) This command is valid only when the current directory is a DOS directory.

1. Select "Save to Standard MIDI File" to open the dialog box.

Save Song as Standard MIDI File



2. In Song, so the song that you wish to save.
3. If "Exclusive" is On (checked), System Exclusive events and Universal Exclusive events included in the song data will be saved as exclusive messages. If this is Off (unchecked), system exclusive events and universal exclusive events included in the song data will not be saved.
4. Use the text edit button to access the text input dialog box, and specify the filename. By default, the first eight characters (uppercase) of the song name will be assigned automatically.
5. Use the radio buttons to specify the format.

Format 0 will save sixteen channels of MIDI data together in a single track.

Format 1 will save each MIDI channel to a separate track.

6. To save the data, press the OK button. To cancel, press the Cancel button.

The song data (MIDI track data) you save here can be played back on a device that supports Standard MIDI Files. However if you intend to playback the data on the OASYS, we recommend that you use "Save SEQ" to save the data, since this will allow a higher degree of reproducibility.

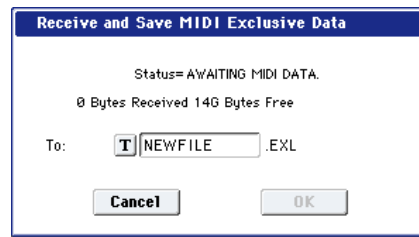
Save Exclusive

Accumulates the received exclusive data in internal memory, and then save the data to media as an .EXL file.

This command is valid only when the current directory is a DOS directory.

1. When you select "Save Exclusive," the OASYS will wait for exclusive data to be received. The following dialog box will appear.

Receive and Save MIDI System Exclusive Data



2. Transmit the exclusive data that you wish to save to the OASYS.

While the data is being received, the display will indicate "Status=RECEIVING MIDI DATA." When reception ends, the size of the received data and the size of the remaining free area will be rewritten. The display will change to "Status=AWAITING MIDI DATA," and you can continue transmitting exclusive data to the OASYS. During reception, the Cancel button and the OK button cannot be pressed.

3. Press the text edit button to access the text input dialog box, and specify the filename.
4. To save the data, press the OK button. To cancel without saving, press the Cancel button.

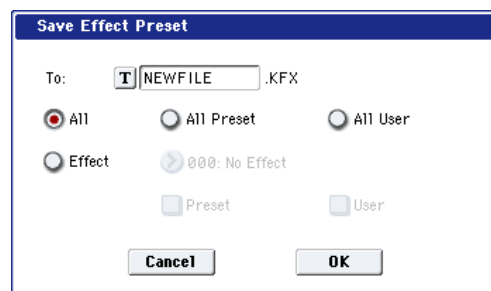
Save Effect Preset

Effect preset data will be saved to media as a .KFX file.

This is valid only if the current directory is a DOS directory.

1. Select "Save Effect Preset" to open the dialog box.

Save Effect Preset



2. Press the text edit button to open the text input dialog box, and specify a filename.

For example if you specify NEWFILE and then execute, NEWFILE.KFX will be saved to media.

3. Specify the contents that will be saved. Choose one of the following five radio buttons.

All: Preset data (P01–P15 and U00–U15) for all effects will be saved as a .KFX file.

All Preset: Preset data P01–P15 for all effects will be saved as a .KFX file.

All User: Preset data U01–U15 for all effects will be saved as a .KFX file.

One Effect: Only the preset data of the selected effect will be saved as a .KFX file. If you check

Preset, P01–P15 will be saved; if you check User, U01–U15 will be saved.

4. Press the OK button to save the data, or press the Cancel button to cancel without saving.

Export Samples as AIF/WAV

Sample data in sample RAM that was recorded or edited in Sampling mode, or loaded in Media mode, can be exported (written) to media as an AIFF or WAVE format sample file.

This is valid only when the current directory is a DOS directory.

Note: Normally, it is recommended that you use Save All or Save Sampling Data to save sample data in Korg format (.KSC, .KMP, .KSF). This will allow you to save the data in a way that preserves the state of the multisamples (and the samples that they use) as they exist in sample RAM.

Use “Export Samples as AIF/WAV” if you wish to use an AIFF or WAVE format compatible application on your computer to work with samples that were recorded or edited on the OASYS.

“Export Samples as AIF/WAV” does not export multisample files. The exported AIFF or WAVE format samples can be re-loaded, but if the sample number when saving is different than the sample number when loading, you may need to re-make certain settings, such as selecting the sample for each index of a multisample.

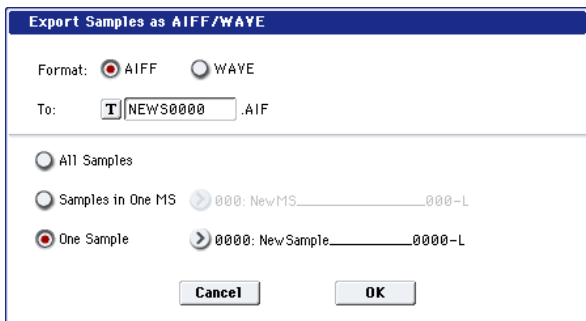
Furthermore, the following parameters set in Sampling mode are lost by “Export Samples as AIF/WAV.”

- Sample Name
- Loop Tune (Sampling 2–1d, “Loop Tune”)
- Reverse (Sampling 2–1d, “Reverse”)
- +12 dB (Sampling 2–1d)

Samples that are handled by the OASYS as stereo will be exported as two independent L and R files.

1. Select “Export Samples as AIF/WAV” to open the dialog box.

Export Samples as AIFF/WAVE



2. In “Format,” select either AIFF or WAVE as the file format for export.
3. Press the text edit button to move to the text dialog box, and specify the filename.
4. In “To,” specify the content that will be exported.
All Samples: All samples will be exported.

It will not be possible to specify the filename. The filename will automatically be assigned as the first four characters (uppercase) of the sixteen-character sample name + the sample number.

Examples)

0000: NewSample_0000→NEWS0000.AIF

0001: C#3-EGuitar→C#3-0001.WAV

Samples in One MS: All samples used by the selected multisample will be exported.

Only five characters of the filename can be specified. The five-character filename + the index number (001–128) in the multisample will be assigned automatically.

Initially, the filename will automatically be set to the first five characters (uppercase) of the sixteen-character multisample name.

Examples)

000: NewMS__000:

Sample selected for index 001 → MS000001.AIF

Sample selected for index 002 → MS000002.AIF

001: 108bpmDrLoop00:

Sample selected for index 001 → MS001001.AIF

Sample selected for index 002 → MS001002.AIF

- ⚠ When exporting All Samples or Samples in One MS, and all of the sample data does not fit on one volume of media, another dialog box will appear, directing you to specify the next media. (See “If the data being saved does not fit on one volume of media” on page 776) However at this time if a single sample is larger than the capacity of the media, the sample cannot be exported. Either specify media with a larger capacity, or press Skip button to omit exporting that sample and proceed to exporting the next sample.

One Sample: The single selected sample will be exported.

The filename will be the filename of the .AIF or .WAV file. Initially, the filename will automatically be set to the first four characters (uppercase) of the sixteen-character sample name + the sample number.

- ⚠ When exporting One Sample, it is not possible to export sample data that will not fit on one volume of media.

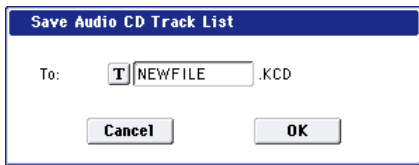
5. To export the data, press the OK button. To cancel without exporting, press the Cancel button.

Save Audio CD Track List

This command saves an audio CD track list that you created in the Make Audio CD page. The drive and directory locations that contain each WAVE file, and the names of the WAVE files will be saved.

This command is valid only when the current directory is a DOS directory.

1. Select “Save Audio CD Track List” to open the dialog box.



2. Use the text edit button to move to the text input dialog box, and specify the filename.

For example if you specify NEWFILE and save, NEWFILE.KCD will be saved to the media.

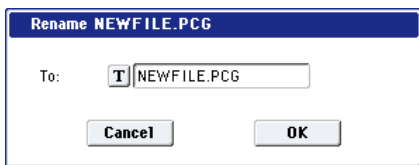
3. Press the OK button to save, or press the Cancel button to cancel without saving.

Rename

This command renames the selected file or directory.

This command is valid only when a DOS file or a DOS directory is selected.

1. Select the file or directory whose name you want to edit.
2. Select "Rename" to open the dialog box.

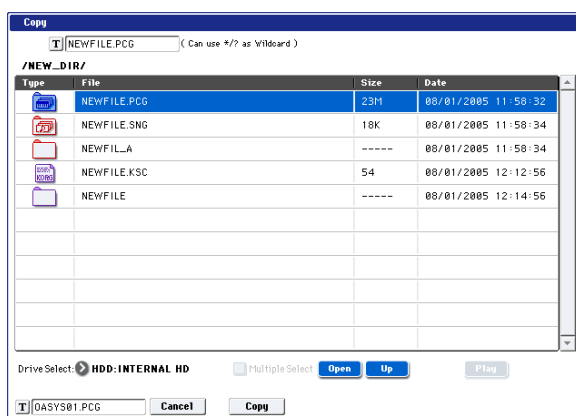


3. Press the text edit button to access the text input dialog box, and modify the name.
4. To rename the file or directory, press the OK button. To cancel, press the Cancel button.

Copy

This command is valid only when a DOS file or a DOS directory is selected.

1. Select the file or directory that you want to copy.
2. Select "Copy" to open the dialog box.



3. "Copy" will show the name of the selected file or directory.

If you wish to change the file or directory that will be copied, use the text edit button to move to the text input dialog box, and specify the filename that you wish to copy.

(Can use */? as Wildcard): When you use the text edit button to access the text input dialog box and specify the name of the file or directory to be copied, you can use "*" and "?" characters as wildcards. For example, if in the above example you specify PRELOAD1.* (instead of PRELOAD1.PCG), all filenames of PRELOAD1. with any filename extension will be copied at the same time: i.e., PRELOAD1.PCG, PRELOAD1.SNG, PRELOAD1.KSC, ...

Example)

PRELOAD1.* : PRELOAD1.PCG, PRELOAD1.SNG, PRELOAD1.KSC, ...

PRELOAD?.PCG : PRELOAD1.PCG, PRELOAD2.PCG, PRELOAD3.PCG, ...

- When wildcards are used, only files will be subject to copying. Directories will not be copied.

Note: If "Multiple Select" (0-1a) is checked, you can select more than one file and load them in a single operation.

4. Use the Open button and Up button to select the copy destination directory.

If you wish to specify a different USB device, use "Drive Select" (0-1a) to select it.

5. If you wish to copy the file or directory with a different name, use the text edit button (in the lower line) to access the text input dialog box, and specify the name with which the file or directory will be copied.

You can't change the filenames if you're using wildcards or the Multiple Select function to copy two or more files simultaneously.

6. To copy the data, press the OK button. To cancel without copying, press the Cancel button.

Note: If you decide not to copy, press the Abort button.

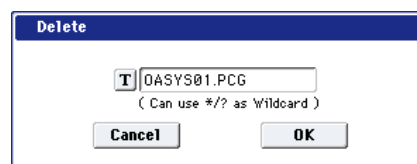
- If the drive that you selected in "Drive Select" is removable disk (floppy disk, CD-R/RW, MO disc, removable hard disk etc.), it is not possible to copy to different media on the same drive.

Delete

This command deletes the selected file or directory.

This command is valid only if a DOS file or directory is selected.

1. Select the file or directory that you want to delete.
2. Select "Delete" to open the dialog box.



3. "Delete" will indicate the name of the selected file or directory.

If you wish to change the file or directory that is to be deleted, use the text edit button to access the text input dialog box, and specify the name of the file or directory that you wish to delete.

(Can use */? as Wildcard): When you use the text edit button to access the text input dialog box and specify the name of the file to be deleted, you can use the "*" or "?" characters as wildcards. This allows you to simultaneously delete multiple files with identical filenames and different extensions, or files whose names are partially identical.

⚠ When wildcards are used, only files will be subject to deletion. Directories will not be deleted.

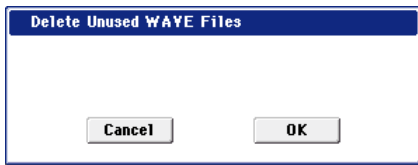
Note: If "Multiple Select" (0-1a) is checked, you can select more than one file and delete them in a single operation.

4. To delete the selected file or directory, press the OK button. To cancel without deleting, press the Cancel button.

Delete Unused WAV Files

All sounds (WAVE files) not used by the .SNG file will be deleted from the hard disk or other media, and the region data of the .SNG file will also be deleted. By executing this when you are running low on hard disk space, you can free up space by deleting unused files.

1. Select the .SNG file for which you want to delete unused sounds.
2. Access the "Delete Unused WAV Files" dialog box.



3. To execute the deletion of unused sounds, press the OK button. To cancel without executing, press the Cancel button.

⚠ You cannot revert to the prior state by pressing the COMPARE switch after executing this operation.

Create Directory

This command creates a new directory within the current directory.

1. Select "Create Directory" to open the dialog box.

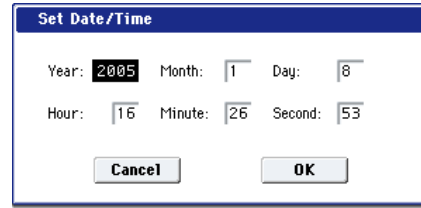


2. Use the text edit button to access the text input dialog box, and specify the name of the new directory.
3. To create the directory, press the OK button. To cancel without creating the directory, press the Cancel button.

Set Date/Time

This command sets the date and time of the OASYS's internal calendar.

1. Select "Set Date/Time" to open the dialog box.



2. Set each parameter.

"Year" 1980-2037
 "Month" 1-12
 "Day" 1-31
 "Hour" 0-23
 "Minute" 0-59
 "Second" 0-59

3. To set the date and time, press the OK button. To cancel, press the Cancel button.

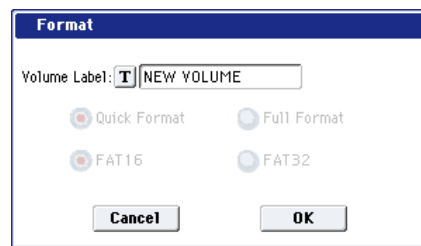
Format

This command formats the selected media. The volume label (a name for the entire media) you specify will be assigned to the media. The volume label you assign here will be displayed in "Drive Select" (0-1a). The volume label can be a maximum of eleven characters.

⚠ When you format, all data saved on that media will be erased. If you had used a computer etc. to set up that drive so that it can be used as multiple drives (partitions), this data will also be erased. Be sure to double-check before you format.

After formatting, it is not possible to press the COMPARE switch to return to the previous state.

1. Make sure that the media you want to format is inserted.
2. Use "Drive Select" to select the media that will be formatted.
3. Select "Format" to open the dialog box.



4. In "Volume Label," use the text edit button to access the text input dialog box, and specify the volume label.

The previously-specified volume label will be displayed. If no volume label had been specified for the media, or if a non-DOS media was inserted, this will indicate "NEW VOLUME."

5. Specify the initialization format.

Quick Format: Normally you should use Quick Format to initialize the media.

Select this if the media has already been physically formatted, or if you want to format media that has been UDF-formatted by the OASYS. Since only the

system area of the media need be formatted, this will require less time.

Full Format: Select this when formatting media that has not been physically formatted, or media (CD-RW) that has not been UDF-formatted.

Note: For the internal hard disk you can only select "Quick Format." Also, the file system selection of FAT16 or FAT32 in step 6 is not available.

Note: Normally, it is not necessary to perform a Full Format on media that has been physically formatted at 512 bytes/block. Execute the Quick Format for such media.

Note: You will normally select Full Format for CD-RW media etc. that has not been UDF-formatted. If an error message of "Media not formatted" appears, execute Full Format. Depending on the capacity of the media, executing Full Format may require a substantial length of time.

6. Specify the file system.

FAT16 can format a maximum of 4 Gigabytes. If you are using media larger than this, use FAT32 format instead. (FAT32's the theoretical maximum is 2 Terabytes, or 2,000 Gigabytes.)

7. To format the media, press the OK button. To cancel without formatting, press the Cancel button.

Note: If you want to use a CD-R/RW for writing packet data, you must format it. If you will be using it as an audio CD, formatting is not necessary.

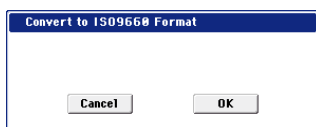
Convert to ISO9660 Format

This command converts UDF format CD-R media to ISO9660 format.


If a file that was saved by the OASYS to CD-R is to be loaded by another device, you must execute this command to convert it to ISO9660 format.

This conversion temporarily uses memory space on the hard disk.

1. Select "Convert to ISO9660 Format" to open the dialog box.



2. Press the OK button to execute the conversion, or press the Cancel button to cancel without executing.

 Even if data is converted into ISO9660 format, some files may not be readable by certain devices.

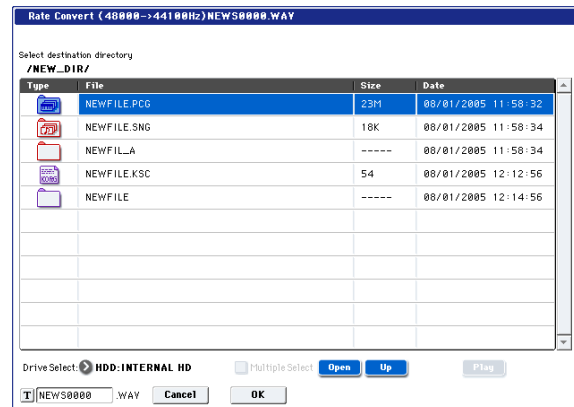
Rate Convert

This command converts the sampling rate (frequency) of the selected WAVE file from 48 kHz to 44.1 kHz or 44.1 kHz to 48 kHz.

This is valid only when a 48 kHz or 44.1 kHz WAVE file is selected.

When you use the Make Audio CD page to write a WAVE file to an audio CD, 48 kHz files will automatically be converted to 44.1 kHz.

1. Select the file or directory whose sampling rate (frequency) you want to convert.
2. Select "Rate Convert" to open the dialog box.



"Rate Convert" will indicate the name of the selected file.

3. Use the Open button and Up button to select the save-destination directory.

If you want to specify another USB device, use "Drive Select" to specify it.

4. If you want to change the filename for saving, press the text edit button in the lower line to access the text input dialog box, and specify the filename for saving.

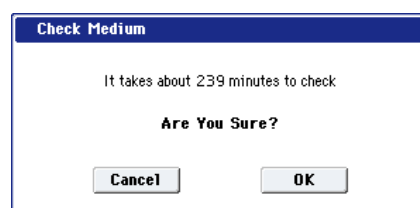
5. Press the OK button to execute the Rate Convert command, or press the Cancel button to cancel without executing.

Check Medium

This command checks the selected MS-DOS format media for errors, and corrects them. Execute this command if you frequently experience messages such as "Error in writing to medium" while writing to media, or "Buffer overrun error occurred" while sampling to media.

Note: Executing this command on media that uses flash memory (e.g., Compact Flash or SmartMedia, but not a Microdrive) will have no effect.

1. Make sure that the media you want to check has been inserted.
2. Use "Drive Select" to select the media that you want to check.
3. Select "Check Medium" to open the dialog box.



4. Press the OK button to execute the check, or press the Cancel button to cancel.

- When checking has been completed, the recovered content will be displayed.

Note: If you want to stop the checking process before it has been completed, press the Abort button. Checking will require approximately 80 minutes for 20 Gigabyte (FAT32) media, but the time required will vary depending on the media capacity and on the number of errors that are found.

Scan device

This command mounts a USB device.

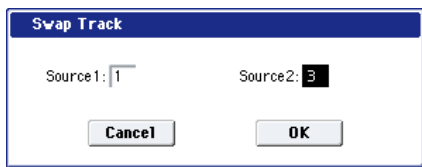
- Select "Scan device."

The currently-connected USB devices will be re-scanned. Once scanning is completed, any valid USB device can be selected in "Drive Select."

Swap Track

This command exchanges (swaps) the order of two audio CD tracks.

- Select "Swap Track" to open the dialog box.



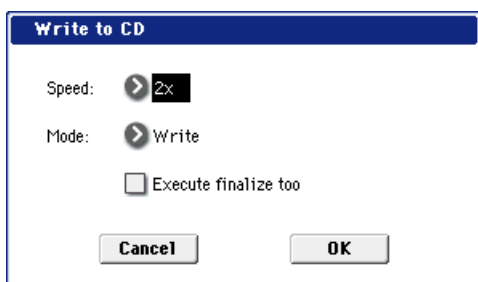
- Use "Source1" and "Source2" to select the two audio CD tracks that you want to exchange.
- Press the OK button to execute the Swap Track operation, or press the Cancel button to cancel without executing.

Write to CD

When this command is executed, the WAVE files specified in the audio CD track list will be written as audio CD tracks. If desired, you can also finalize the disc at this time.

- When writing data to CD-R/RW media, the media containing the Wave files must have free space equal in size to the Wave files you are writing. Before you execute this operation, make sure that the drive containing the Wave files contains enough free space.

- Create an audio CD track list, use "Drive Select" to select the CD-R/RW drive, and make sure that CD-R/RW media is inserted in the drive.
- Select "Write to CD" to open the dialog box.



- Use "Speed" to specify the writing speed. The writing speeds supported by your CD-R/RW drive will be displayed.

Be aware that if your system has a slower data transfer rate, using an excessively fast writing speed will produce writing errors. Depending on the drive you are using, problems with the speed may make it impossible to write, but you can perform a test beforehand to identify such problems. It is a good idea to perform a test write when you write for the first time, to verify the speed limitations of your drive.

If the audio CD track list contains WAVE files located on an external USB 1.1 type hard disk, writing errors may occur even if you specify the slowest writing speed. If this occurs, copy the WAVE files to the internal hard disk, and change the audio CD track list so that it uses the copied WAVE file located on the internal hard disk.

Use "Mode" to specify the writing method.

Test: Tests whether the data can be written correctly. Data will not actually be written to the CD-R/RW media, but all other processing will occur just as if data were actually being written. Use this when you want to check whether writing can be performed correctly. If an error occurs, the display will indicate "Error in writing to medium."

Test and Write: A test write will be performed, and if the test is successful, the disc will actually be written. We recommend that you use this method for fast writing speeds.

Write: The media will only be written.

- Specify whether the CD-R/RW media will be finalized after the audio CD tracks have been written to it.

If "Execute finalize too" is checked, the disc will be finalized.

If this is not checked, the disc will not be finalized.

Note: If you want only to finalize the disc, use "Finalize Audio CD."

- Press the OK button to execute writing or test writing to the CD-R/RW media, or press the Cancel button to cancel without executing.

WAVE files with a 48 kHz sampling frequency will be converted to 44.1 kHz when they are written.

In order for this processing to be performed, free space of approximately the same size as the WAVE file to be converted will be required on the drive that contains the WAVE file. Before executing, please make sure that the drive containing the WAVE file has enough free space.

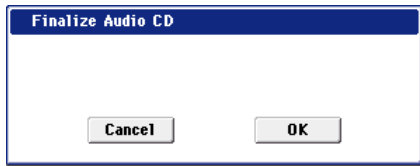
Note: If the track is shorter than 4 seconds, silence will be automatically added to increase the length to 4 seconds.

Note: Two seconds of silence will be added to the end of each track except the last track.

Finalize Audio CD

This command finalizes CD-R/RW media to which audio CD tracks have already been written.

1. Use "Drive Select" to select the drive, and make sure that the drive contains valid media.
2. Select "Finalize Audio CD" to open the dialog box.

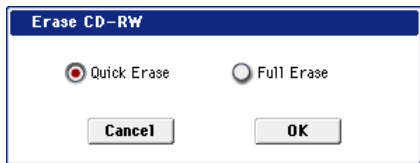


3. Press the OK button to execute the Finalize command, or press the Cancel button to cancel without executing.

Erase CD-RW

This command erases the audio CD tracks from CD-RW media.

1. Use "Drive Select" to select the drive, and make sure that it contains data.
2. Select "Erase CD-RW" to open the dialog box.



3. Select the mode by which the audio CD tracks will be erased.

Quick Erase: Normally you will select this.

Full Erase: The data will be erased completely. Substantial time will be required for the erasure.

When you execute Quick Erase, the files and data will appear to be gone, but the data itself will remain on the disc until it is overwritten. If you want to erase data that should not be seen by someone else, execute Full Erase to erase the data completely.

4. Press the OK button to execute the Erase operation, or press the Cancel button to cancel without executing.

Effect Guide

Overview

The OASYS provides 12 insert effects, two master effects, and two total effects, together with a mixer section that controls the routing of these effects.

For each of these effect processors, you can choose from 185 different types of effects, grouped into the following categories:

Effects categories

Dynamics: 000...010	Dynamics-type effects such as compressor and limiter
EQ/Filter: 011...026	Filter-type effects such as EQ, exciter, and wah
OD/Amp/Mic: 027...039	Overdrive effects and modeling effects such as guitar/bass amps and mics

Cho/Fln/Phs: 040...054	Pitch and phase modulation effects such as chorus and flanger
Mod/P.Shift: 055...076	Other modulation effects such as tremolo and rotary speaker, and pitch shifters
Delay: 077...099	Delays
Reverb/ER: 100...108	Reverb and early reflections
Mono-Mono: 109...140	Mono & Mono chain effects that internally connect two mono effects in series
Mono/Mono: 141...185	Mono & Mono parallel effects that allow two mono effects to be applied to L and R independently

About effects resources

Background information

Most hardware synthesizers offer a single, fixed method of synthesis, a predetermined number of voices, and a fixed amount of effects processing power. OASYS is different; it has no fixed synthesis method, and it shares its processing power between voices and effects.

This flexibility means that the system can deliver power where you need it the most. For instance, one Program may need a bunch of voices layered together, but not many effects; another might need complex effects processing, but not as many voices. In both cases, OASYS will automatically divide its processing power appropriately.

Unlike most computer-based systems, OASYS also monitors the overall processing power, reducing the overall number of voices if necessary, to make sure that there are never problems with the audio.

Normally, you shouldn't need to think about this at all; it will just happen automatically. Sometimes, however, it can be convenient to know how the system is allocating its resources. The Effect/EXi Resource Meter, shown on the P8: Insert Effect– Insert FX, Track View and P9: Master Effect– Routing pages of each mode, provides this information.

Effect/EXi Fixed Resource Meter



The resource meter shows how the OASYS processing power is being used, as an approximate percentage of the total available power. There are three main categories: FX, EXi Fixed, and Free for Voices.

Note: the displayed values are rounded to the closest 1%, but the internal values have a much finer resolution. This means that you may sometimes add an effect, but see no change in the resource meter.

FX

This shows the percentage of the total processing power being used for the IFX, MFX, and TFX. This will vary depending on the specific effects being used.

If an effect has been assigned to an IFX, MFX, or TFX, it will take up the same amount of processing resources even if it is turned Off or bypassed. If you want to free up the processing resources, change the selection to 000: No Effect.

EXi FIXED

This shows the percentage of the total processing power used for the fixed components of EXi instruments. "Fixed" means that part of the EXi starts using processing power as soon as the EXi is loaded, before playing any notes; this includes the built-in effects of the CX-3, for example.

Only some EXi include fixed components; for instance, the CX-3 and STR-1 do, but the AL-1 does not. For information on other EXi, see their individual documentation.

For more information on EXi fixed resources, please see "CX-3 & STR-1: Limitations on EXi fixed resources" on page 382.

FREE FOR VOICES

This shows the percentage of the total processing power remaining after the FX and EXi fixed components. This power is available for playing synthesizer voices.

When **FREE FOR VOICES** is at 100%, you can achieve the maximum polyphony—for instance, 172 voices of the HD-1, 96 voices of the AL-1, or 172 voices of the CX-3. When more effects or EXi fixed resources are being used, polyphony will be reduced accordingly.

Note: As with the meter as a whole, the number shown in **FREE FOR VOICES** is only an approximation. For example, if **FREE FOR VOICES** is showing 98, the maximum polyphony for the HD-1 may not be exactly 172×0.98 (approximately 168).

The maximum polyphony will also depend on various other parameters; for more information, see “A note about polyphony” on page 33.

Effects in each mode

Program mode

With HD-1 Programs, you can use insert effects to process the final sound in the same way that you use the Filter, Driver, Amplifier, and EQ (equalizer) to process the sound from the oscillators (OSC 1 & 2). Then the master effects are used to create overall ambience such as reverb, and use the total effects to make final adjustments. All of these settings can be made independently for each program. EXi Programs have a different filter and amp structure for each type, but you can also apply insert effects, master effects, and total effects to the oscillators (EXi1&2), just as for a PCM program.

Combination, Sequencer mode

In Combination and Sequencer modes, you can use the track EQ and insert effects to process the program sound (and audio track sound) of each timbre/track.

Then you can use the master effects to create overall ambience, and use the total effects to make final adjustments.

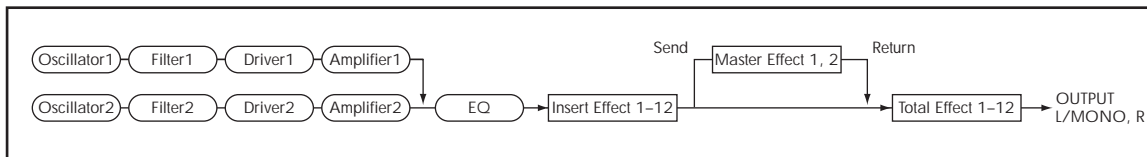
In Combination mode you can make these settings for each combination, and in Sequencer mode you can make them for each song.

In Sequencer mode, you can switch between effects or modify the effect parameters and record these changes, so that effects will switch automatically or effect parameters will be modified automatically as the song plays back.

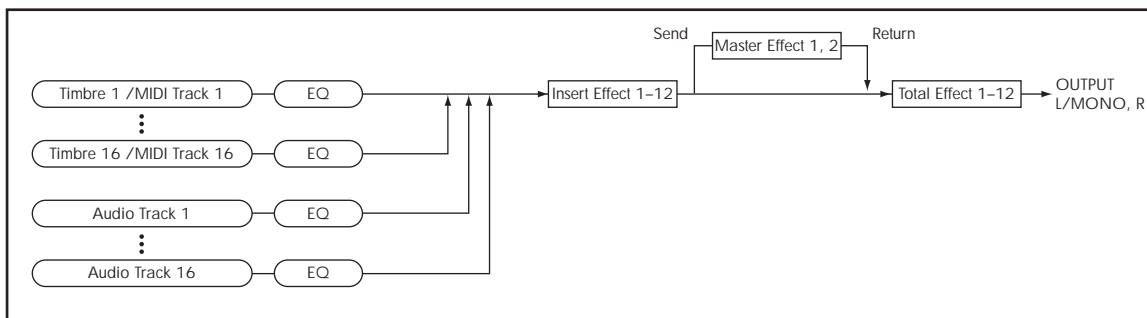
Sampling mode

In Sampling mode, external audio sources from AUDIO INPUT 1, 2, 3, 4, and S/P DIF IN jacks or the playback from the internal CD-R/RW drive or a USB-connected CD drive can be processed by insert effects, master effects, and total effects, and then sampled. Use

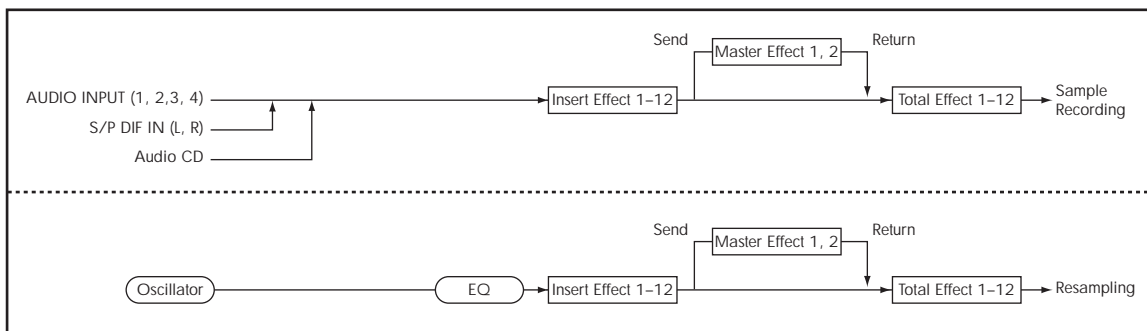
Program mode: Bank Type PCM



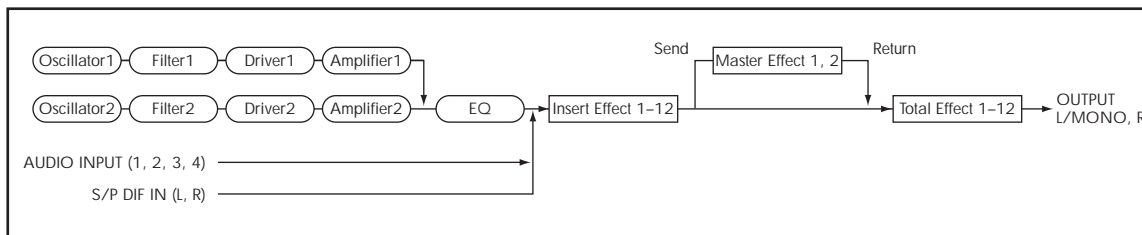
Combination mode, Sequencer mode



Sampling mode



Audio Input (set to Program mode)



the P0: Recording– Audio Input page to make audio input settings for Sampling mode. These settings apply only to Sampling mode.

Samples that you’ve assigned as a multisample can also be processed by the insert effects, master effects, and total effects, and then resampled.

Audio Input

You can also input audio sources from AUDIO INPUT 1, 2, 3, 4, and S/P DIF IN jacks in modes other than Sampling mode (i.e., in Program, Combination, and Sequencer modes).

You can apply the insert effects, master effects, and total effects to external audio sources from these jacks and sample them, or use the OASYS as a 6-in (AUDIO INPUT 1, 2, 3, 4, S/P DIF IN L, R) 10-out effect processor. You can also use an external mic input to control a vocoder effect (026: Vocoder) applied to internal sounds.

In Sequencer mode you can also use the effects when recording external audio sources to audio tracks.

⚠ When effects are applied to the external input sound from the AUDIO INPUT 1, 2, 3, 4, and S/P DIF IN jacks, certain effect types or parameter settings may cause oscillation to occur. If this occurs, adjust the input level, output level, or effect parameters. Please be aware of this particularly when using an effect that has a high gain.

Use the P0– Audio Input/Sampling page of each mode to make audio input settings. Alternatively, you can check **Use Global Setting** and make these settings in the Global mode P0: Basic Setup– Audio page. Normally you will leave Use Global Setting checked. Uncheck this if you want programs and combinations to use their own settings—for example, when writing a program to use as a vocoder effect.

Dynamic modulation (Dmod) and Tempo Synchronization

Dynamic modulation (Dmod)

Dynamic modulation lets you control certain effects parameters in real-time, using either the built-in controllers or MIDI. These effect parameters are marked with the logo **D^{mod}**.

For more information, see “Dynamic Modulation Sources (Dmod)” on page 1030.

Tempo Synchronization

You can synchronize some effects parameters, such as LFO speeds and delay times, to the system tempo. This lets you sync the effects to Program LFOs, step sequencers, Wave Sequences, Vector Envelope, KARMA, the internal sequencer, and external MIDI clocks.

These effects parameters are marked with the logo **ASync**.

Synchronizing LFOs

Most effects with LFOs, such as 016: Stereo Wah/Auto Wah, can be synchronized to tempo. This applies to the individual effects LFOs, and also the Common FX LFO.

To set up LFOs to synchronize to tempo:

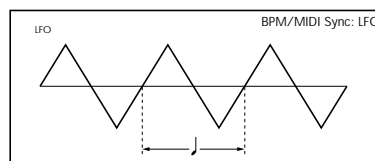
1. Set **MIDI/Tempo Sync** to On.
2. Set the **BPM** as desired.

To synchronize to the system clock, set **BPM** to MIDI.

To set the LFO to a specific tempo, separate from the system clock, set **BPM** to the desired tempo (between 40 and 240 BPM).

3. Use the **Base Note** and **Times (x)** parameters to set the rhythmic value of the LFO.

For instance, if you set **Base Note** to 1/8 and **Times (x)** to 2, each cycle of the LFO will last for a quarter-note (two eighth-notes).



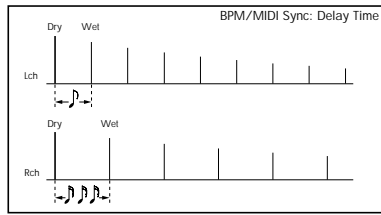
Synchronizing Delay Times

Delays with “BPM” in their title will sync to tempo.

For instance, you might set up effect 093: Stereo BPM Delay as follows:

1. Set **L Delay Base Note** to 1/8, and **Times (x)** to 1
2. Set **R Delay Base Note** to 1/16, and **Times (x)** to 3

This means that the left channel will be delayed by an eighth-note, and the right channel will be delayed by a dotted eighth-note (three sixteenth-notes).



3. Set the BPM as desired.

To synchronize to the system clock, set **BPM** to MIDI.

To set the delays to a specific tempo, separate from the system clock, set **BPM** to the desired tempo (between 40 and 240 BPM).

If the combination of the tempo, **Base Note**, and **Times (x)** settings in conjunction would exceed the maximum delay time, a warning such as “Time Over? >OVER!” will appear in the display. If this happens, just reduce the delay time. Note that the maximum delay time depends on which delay effect you’re using. For instance, the maximum delay time for 093: Stereo BPM Delay is 1,360msec, while the maximum delay time for 094: Stereo BPM Long Delay is 2,730msec.

Common FX LFOs

Normally, LFO-based effects—such as choruses, flangers, phasers, filters, and auto-pan—each have their own independent LFO. The OASYS effects support this standard mechanism, but add a new one: Common FX LFOs.

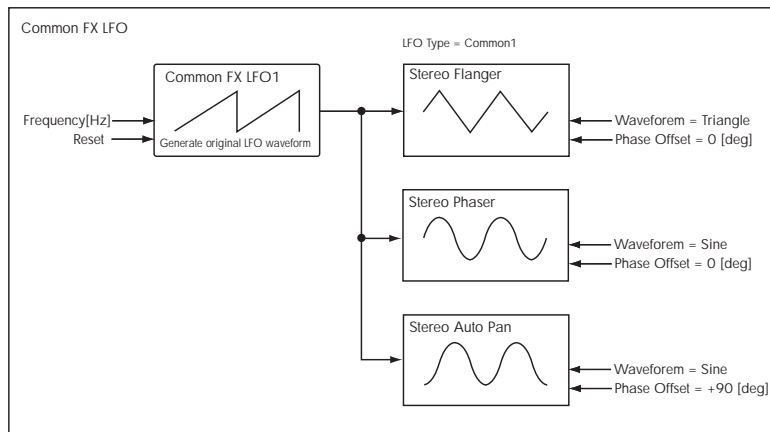
The two Common FX LFOs allow you to synchronize multiple LFO-based effects together. They’re available in most LFO-based effects, in addition to the individual LFOs, providing:

- Master sources of frequency and phase for all LFO-based effects

- LFO speed set by either frequency or tempo
- Reset from Dmod sources, for either realtime performance or synchronizing to a down-beat in a sequence

When using the Common FX LFOs, you can still control the LFO phase individually for each effect, and often change the waveform individually as well.

You can edit the Common FX LFO parameters on the P8– Common FX LFO pages of Program, Combination, Sequencer, and Sampling modes.



FX Control Buses

The FX Control Buses lets you create effects “sidechains.” Sidechains let you control an effect with one audio signal (the sidechain), while the effect processes a completely different audio signal. This is convenient for use with vocoders, compressors and limiters, gates, etc.

OASYS includes two stereo FX Control Buses, which can be used with the following effects:

Vocoder

- 026: Vocoder

Compressor, limiter, and gate effects

- 002: Stereo Compressor
- 003: Stereo Expander
- 005: Stereo Limiter
- 009: Stereo Gate

- 010: Stereo Noise Reduction

Gated Reverb (Program mode)

The classic gated reverb sound is created using a sidechain:

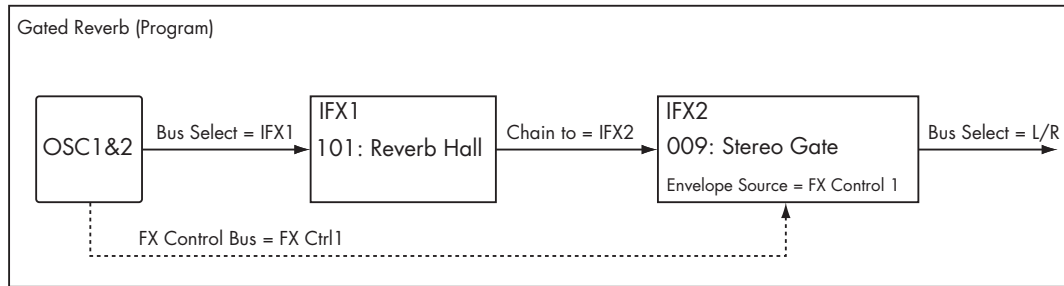
- Dry audio goes through a reverb effect
- The output of the reverb goes to a gate effect
- The opening and closing of the gate is controlled by the original dry audio, through a sidechain

To create this on the OASYS, in Program mode:

1. On the **IFX Routing** page, set **Bus Select** to **IFX1**.
2. Set **FX Control Bus** to **FX Control 1**.
3. On the **IFX Insert Effects** page, set **IFX1** to **101: Reverb Hall**.
4. Set **IFX2** to **009: Stereo Gate**.

5. **Enable Chain** for IFX1, and set **Chain To** to IFX2.
6. **In the Stereo Gate effect, set the Envelope Source to FX Control 1.**

Now, the gate will affect the output of the reverb, but the gate will be controlled by the pre-reverb dry signal.



Compressor (Combination mode)

Compressors, limiters, and gates use the level of the audio input to control the level of the audio output. For these effects, the envelope detection source can be either the audio input itself (the usual method) or FX Control Bus 1 or 2.

The diagram below shows a split Combination, with a pad on the bottom of the keyboard and a distorted guitar on the top. The output of the OD/High-Gain Wah effect controls the action of the pad's compressor, so that when the guitar is played, the level of the pad decreases automatically. To do this:

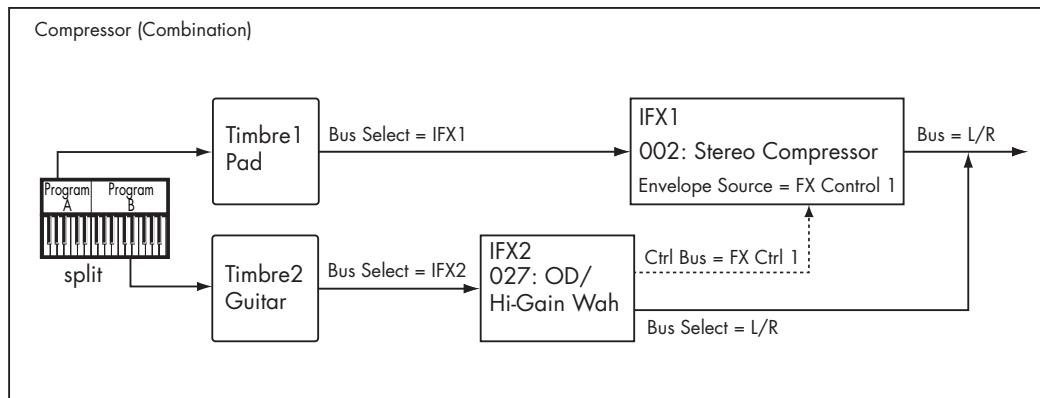
1. **Set up the Timbres and effects as shown in the diagram below.**

2. **Set IFX2's Ctrl Bus to FX Ctrl1.**

This sends the output of IFX2 to FX Control Bus 1.

3. **In IFX1: Stereo Compressor, set the Envelope Source to FX Ctrl1.**

Now, the compressor will still process the input from the pad, but the amount of compression will be controlled by the guitar (through IFX2).



Vocoder (Program mode)

Vocoder effects produce their distinctive sound by using an audio signal (the modulator) to modulate a different audio signal (the carrier). In the diagram, the output of OSC1 and 2 are the carrier, and the audio input from a mic is used as the modulator to produce a "speaking instrument" type of effect. To do this:

1. **In the Program, set Bus Select to IFX1.**

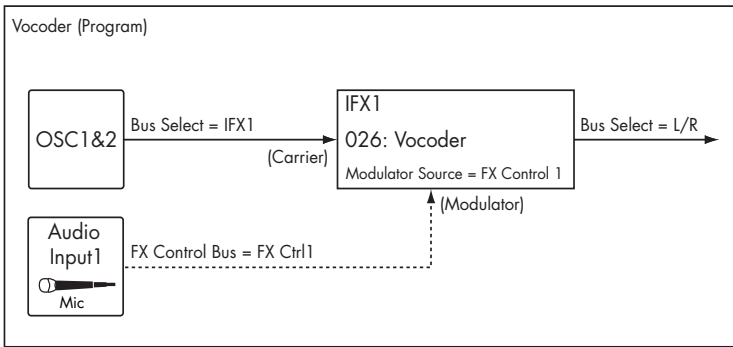
This sends the output of the Program to the Vocoder.

2. **For the Audio Input, set the FX Control Bus (0-8c) to FX Control 1.**

This sends the audio input to FX Control Bus 1.

3. **In IFX1: Vocoder, set the Modulator Source to FX Control 1.**

Now, through FX Control Bus 1, the audio input is the modulator for the vocoder.



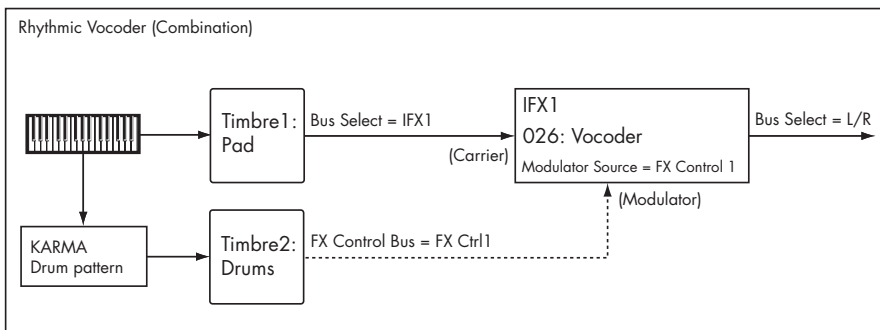
Rhythmic Vocoder (Combination mode)

Vocoder effects produce their distinctive sound by using an audio signal (the modulator) to modulate a different audio signal (the carrier). Although the most common application of a vocoder is to use audio from a mic as the modulator, you can also use a drum pattern or similar signal as the modulator, producing a rhythmic effect.

In the example shown in the diagram, a drum pattern generated by KARMA is sent to an FX Control bus and used as the modulator for the vocoder. To do this:

1. For **Timbre 1 (the carrier)**, set **Bus Select** to **IFX1**. This sends the signal to the Vocoder, as the carrier.
2. For **Timbre 2 (the drum program we're using as the modulator)**, set **FX Control Bus** to **FX Ctrl1**. This sends the signal from Timbre 2 to FX Control Bus 1.
3. In **IFX1: Vocoder**, set the **Modulator Source** to **FX Control 1**.

Now, through FX Control Bus 1, Timbre 2 is the modulator for the vocoder.



Parallel Effects routing

You can create parallel effects paths using the FX Control Buses. You'll need to use one IFX slot to do so, however.

1. Route the signal (program, IFX output, etc.) to an output or IFX bus as normal.
2. In addition to the normal bus, assign it to one of the FX Control Buses.
3. Place an effect which uses the FX Control Buses - the Stereo Compressor, for instance - on any IFX.

4. In the Stereo Compressor, set the **Envelope Source** to the **FX Control Bus** from step 2.
5. Also in the Stereo Compressor, enable the checkbox labeled **Side Chain Monitor**.

Enabling **Side Chain Monitor** means that, instead of hearing the output of the compressor, you'll hear the FX Control Bus input. You can save the effect in this state.

At this point, the compressor is simply serving as a way to access the FX Control Bus, and you can use it to start the parallel branch of the effects chain.

Effect I/O

To achieve the best tonal quality, signals sent to the effects should be at the maximum level below clipping. Also, use the **Wet/Dry** parameter for the Insert Effects, Total Effects and the "Output Level" or "Return 1, 2" parameter for the Master Effects to adjust the effect output level.

- 🔊 If the input level is too low, the SN ratio may decrease. On the other hand, if the input level is too high, clipping may occur. The Global **Internal Headroom** setting will also change the maximum input level of the effect.

The following table shows the parameters related to the level settings:

Program mode (HD-1)

Input	OSC1/2 MS1, 2, 3, 4 Level (P2)
	Filter1/2 Input Trim (P3)
	Filter1/2 Output Level (P3)
	Driver1/2 Drive (P4)
	Amp1/2 Amp Level (P4)
	EQ Input Trim (P4)
	Send1/2 (P8)
	Effect Trim parameter *1 (P8, P9)
Output	Effect Wet/Dry parameter (P8, P9)
	Return1, 2 (P9)
	Master Volume (P9)

Input	AUDIO INPUT LEVEL on the rear panel
	Level (P0)
	Send1/2 (P0)

*1Some effects may not have these parameters.

*2These settings are made separately for programs, combinations, and songs (Sequencer). If "Use Global Setting" is checked, these settings are made in Global mode P0.

Program mode (EXi: Common)

Input	EQ Input Trim (P6)
	Send1/2 (P8)
	Effect Trim parameter *1 (P8, P9)
Output	Effect Wet/Dry parameter (P8, P9)
	Return1, 2 (P9)
	Master Volume (P9)

Program mode (AL-1)

Input	OSC Mixer Level (OSC1, OSC2, Sub OSC, Ring Mod., Noise) (P4)
	Filter1/2 Input Trim (P3)
	Filter1/2 Output Level (P3)
	Driver1/2 Drive (P4)
	Amp1/2 Amp Level (P4)

Program mode (CX-3)

Input	Expression Minimum, Level (P4)
	Drawbar (P5)
	Output Level (P7)

Combination mode/Sequencer mode

Input	Volume (P0)
	Timbre EQ Input Trim (P1)
	Send1/2 (P8)
	Effect Trim parameter *1 (P8, P9)
Output	Effect Wet/Dry parameter (P8, P9)
	Return1, 2 (P9)

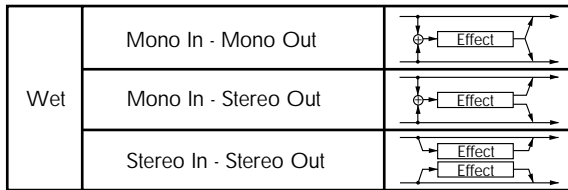
Sampling mode

Input	AUDIO INPUT LEVEL on the rear panel
	Audio Input Level (P0, P5)
	Effect Trim parameter *1 (P8, P9)
	Send1/2 (P0, P5, P8)
Output	Effect Wet/Dry parameter (P8, P9)
	Return1, 2 (P9)

Insert Effects (IFX1...IFX12)

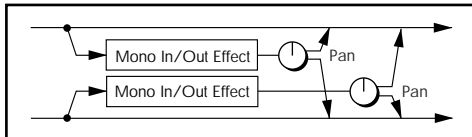
In/Out

Insert Effects (IFX 1–12) have a stereo input and a stereo output. If you set the **Wet/Dry** parameter (P8–IFX1–12 page) to Dry (no effect), the input signal will be passed through, in stereo, without being processed by the effect. If you select Wet (effect applied), the processed signal will be output in one of the following ways:



Mono–Mono Parallel Effects

141: P4EQ // P4EQ - 185: Mt.BPM Dly // Mt.BPM Dly



These effects are typically stereo-in/stereo-out, but they have a special structure. The L channel and R channel of the stereo input each have their own independent mono effect. Each mono output can then be panned to the desired position in the stereo field.

- Track1: Piano, **Pan**=L001, **Bus Select**=IFX1
- Track2: E.Piano, **Pan**=R127, **Bus Select**=IFX1

So that you don't mix the sound of the two tracks that are being input, set the P0: Play/REC **Pan** parameter to L001 and R127 respectively.

Example: IFX1: 148: P4EQ // Phaser

Track 1: Piano is sent to the L channel P4EQ, and Track 2: E.Piano is sent to the R channel Phaser. Use the P8 - IFX page **Pan** parameter to set the output position of each sound. In this example, both are set to C064. See the diagram below.

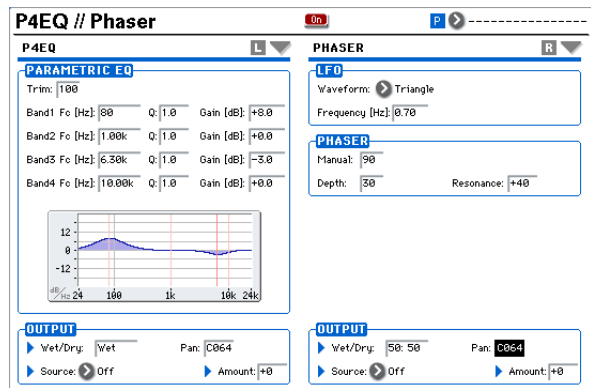
If you select 000: **No Effect**, stereo input signals are output in stereo without being processed.

Pressing the ON/OFF button of IFX1–IFX12 in the P8: Insert FX pages in each mode will toggle between ON and OFF. When OFF is selected, the effect will be bypassed, and the stereo input signal will be output in stereo without being processed.

MIDI The OASYS can also turn IFX1–IFX12 off separately from the setting of the ON/OFF button by receiving MIDI control change message CC#92. Value 0 will turn them off, and value 1–127 will turn them on.

You can also use “Effect Global SW” to turn IFX1–12 on and off. This MIDI control is performed on the global **MIDI channel**.

IFX1: 148: P4EQ // Phaser



Routing

You can use up to twelve channels (IFX 1...12) for the Insert Effects in any mode.

Program mode

Use **Bus Select** (Program 8–1c) to set the destination bus of the oscillator output.

L/R: Send the output to the L/R bus. Instead, it is sent to AUDIO OUTPUT (MAIN) L/MONO and R after the TFX1 and 2.

IFX1...12: The signal is sent to Insert Effects IFX 1–12.

1...8, 1/2...7/8: The signal is sent to AUDIO OUTPUT (INDIVIDUAL) 1...8 bus. For more information, please see “Individual Outputs” on page 815.

Off: The output will not be sent to the L/R bus, IFX1–12 buses, or Individual 1–8 buses. Choose the Off setting if you want to connect the oscillator output to a master effect in series. Use **Send1 (to MFX1)** and **Send2 (to MFX2)** to adjust the send level.

Use **Send1 (to MFX1)** and **Send2 (to MFX2)** (Program 8–1f) to specify the send level for the Master Effects. This setting is effective if **Bus Select** (Program 8–1c) is set to L/R or Off.

If **Bus Select** is set to IFX1–12, use **Send1** and **Send2** (Program 8–5a) to specify the send level of the post-IFX signal.

MIDI Send1 responds to CC#93, and Send2 responds to CC#91. At this time, the actual send level uses the value of the Send 1 and 2 settings for Oscillators 1 and 2, multiplied by the Send 1 and 2 values received via MIDI.

In the example shown in the diagram (Fig. 2–1a), Oscillators 1 and 2 outputs being sent to IFX1.

If you are connecting the Insert Effects in series, check the **Chain** box (Program 8–5a). Use **Chain to** (Program 8–5a) to specify the destination to which the signal will be chained.

If you check the IFX1 checkbox, the output of IFX1 will be sent to the input of the IFX you specify in “Chain to.” Effects can be chained only in ascending order of their number; for example IFX1 can be chained to IFX2 through IFX12, and IFX2 can be chained to IFX3 through IFX12. You can create a chain of up to twelve insert effects in series, IFX1 through IFX12.

When the Insert Effects are connected in series, the values of the **Pan (CC#8)**, **Bus Sel.**, **REC Bus**, **Send1**, and **Send2** parameters for the post-IFX signal will be used.

In the example shown in the diagram (Fig. 2–1b), the **Chain** check box is checked, and each **Chain to** parameter is set to the subsequent effect, creating a series connection of IFX1 → IFX2 → IFX3 → IFX4 → IFX5 → IFX6 → IFX7 → IFX8 → IFX9 → IFX10 → IFX11 → IFX12. The post-IFX12 settings for **Pan (CC#8)**, **Bus Select**, **REC Bus**, **Send1**, and **Send2** will be used.

Settings for drum programs

If you have selected “Drums” for **Oscillator Mode** (Program 1–1b) of a Program, the “Use DKit Setting” box (Program 8–1b) becomes available. For more information, please see diagram Fig. 2–1c.

If you check this box, **Bus Select FX Control Bus**, **Send1**, and **Send2** (Global 5–3b) for each key of the selected DrumKit becomes effective. For example, you can send a snare sound to IFX1 to apply the Gate effect, a kick sound to IFX2 to apply EQ, and other sounds to AUDIO OUTPUT (MAIN) L/MONO and R without applying any Insert Effects.

Tip: In most of the preloaded drum kits, the following types of drum instrument have the same **Bus Select** settings.

- Snares → IFX1
- Kicks → IFX2
- Toms → IFX3
- Cymbals → IFX4
- Percussion etc. → IFX5

If you de-select the box, all drum instrument outputs are sent to the bus specified by **Bus Select** (Program 8–1c). You may apply any Insert Effects to all drum instruments, regardless of the DrumKit settings.

Fig. 2–1a

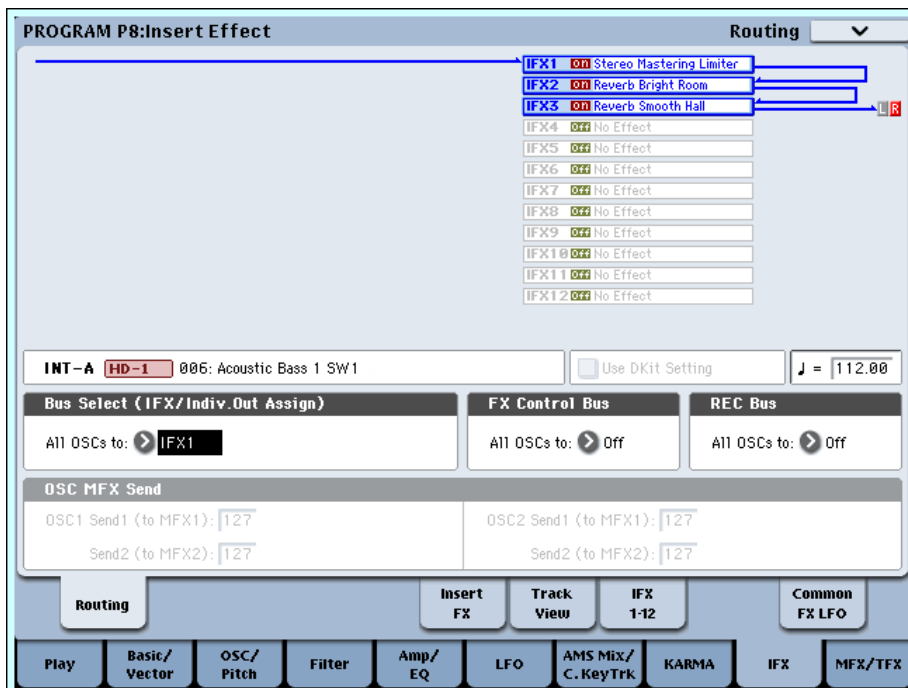


Fig. 2-1b

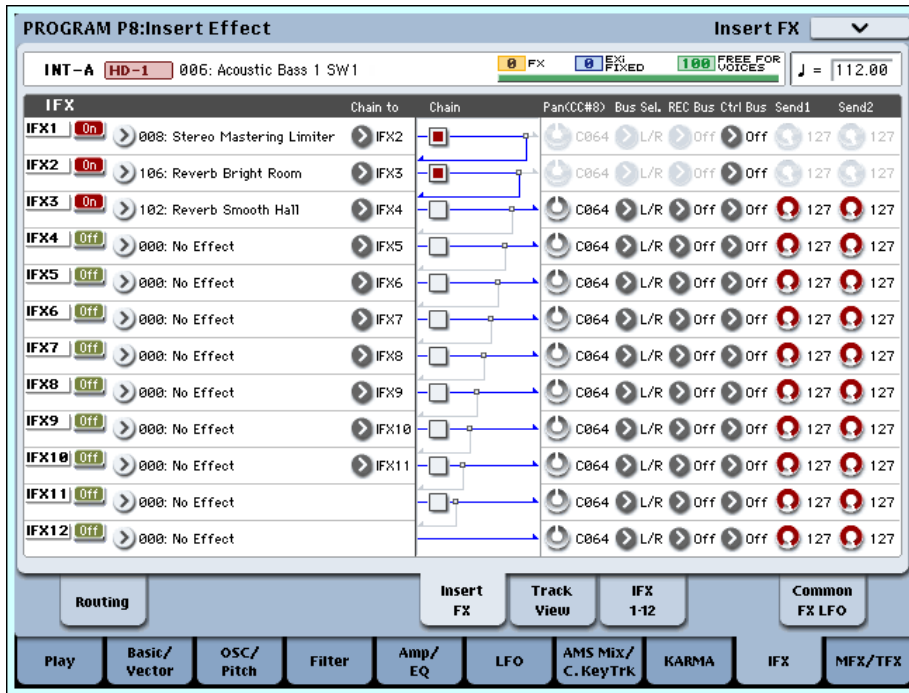
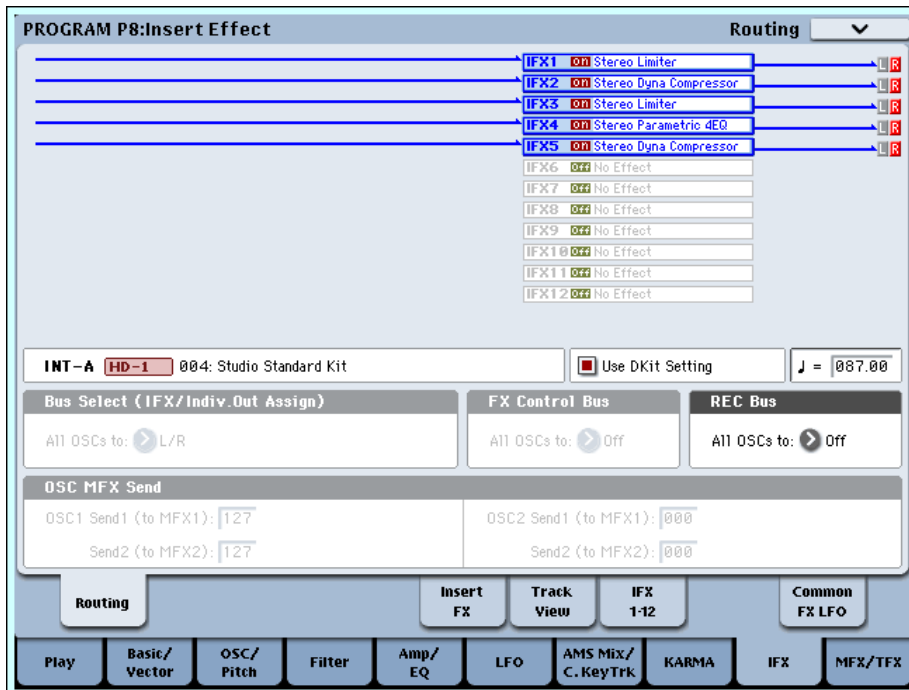


Fig. 2-1c

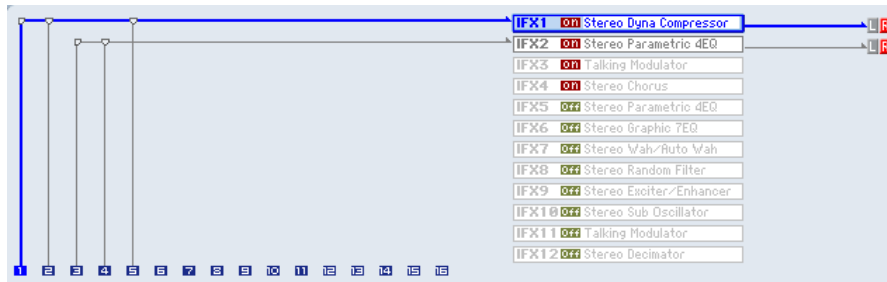


Combination and Sequencer modes

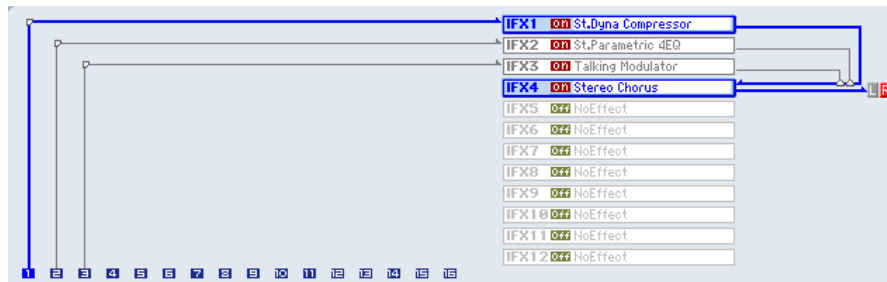
Use **Bus Select** (P8: "Routing" 1 and 2 page in each mode) for timbres (Combination) and tracks (Sequencer) to select an Insert Effect to apply to the corresponding timbres and tracks. You can route multiple timbres and tracks to a single Insert Effect.

Tip: You can use each timbre/track's **Bus Select**, post-IFX **Chain to** and **Chain** parameters (P8 - Insert FX page of each mode) to create a variety of routings.

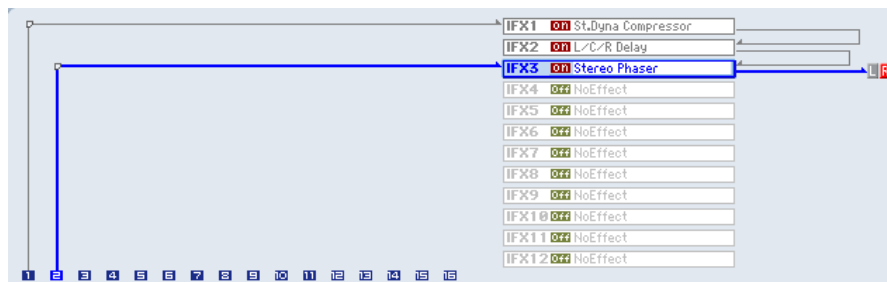
Example: Inserting one IFX into two or more timbres



Example: Inserting a separate IFX into each timbre, and inserting another IFX later



Example: Sharing part of a timbre's IFX chain with another timbre



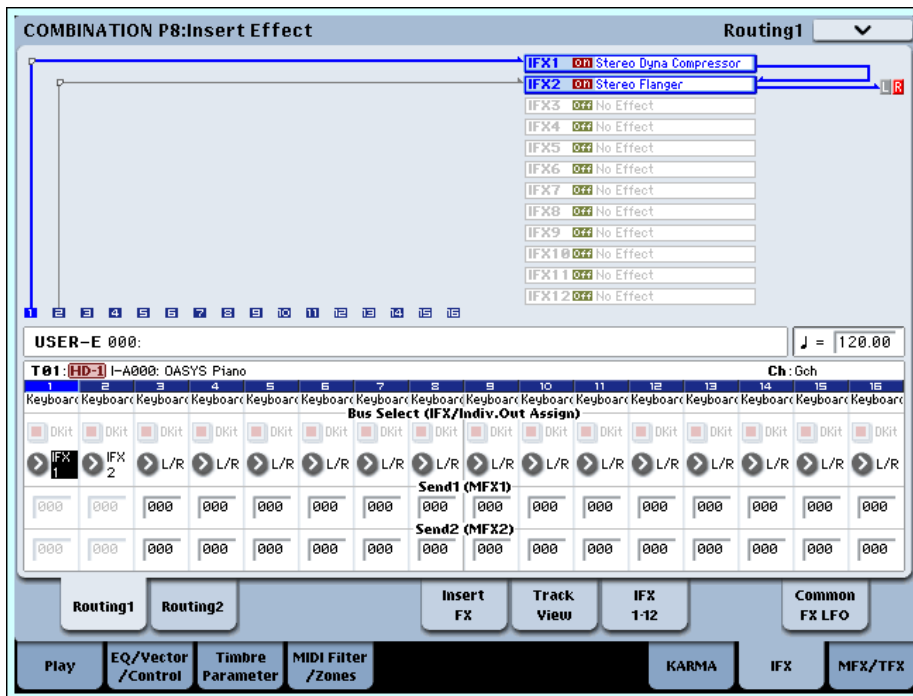
As with Program mode, select L/R, IFX1-12, 1-8, 1/2-7/8, or Off for each timbre and track.

Send1 (to MFX1) and **Send2 (to MFX2)** become available if **Bus Select** has been set to L/R or Off. If you've set **Bus Select** to IFX1-12, use **Send1** and **Send2** (P8-Insert FX page) following the insert effect to adjust the send levels.

MIDI Send1 responds to CC#93, and Send2 responds to CC#91. At this time, the actual send level uses the value of the Send 1 and 2 settings for Oscillators 1 and 2 of the Programs (selected for the timbres and tracks), multiplied by the Send 1 and 2 values received via MIDI.

The following diagram (Fig. 2-2a) shows an example of Combination mode. The Timbre 1 output is sent to IFX1 and the Timbre 2 output is sent to IFX2 according to the **Bus Select** setting. Other timbres are sent to L/R. The output signal passes through the TFX1 and 2, then goes to AUDIO OUTPUT (MAIN) L/MONO and R.

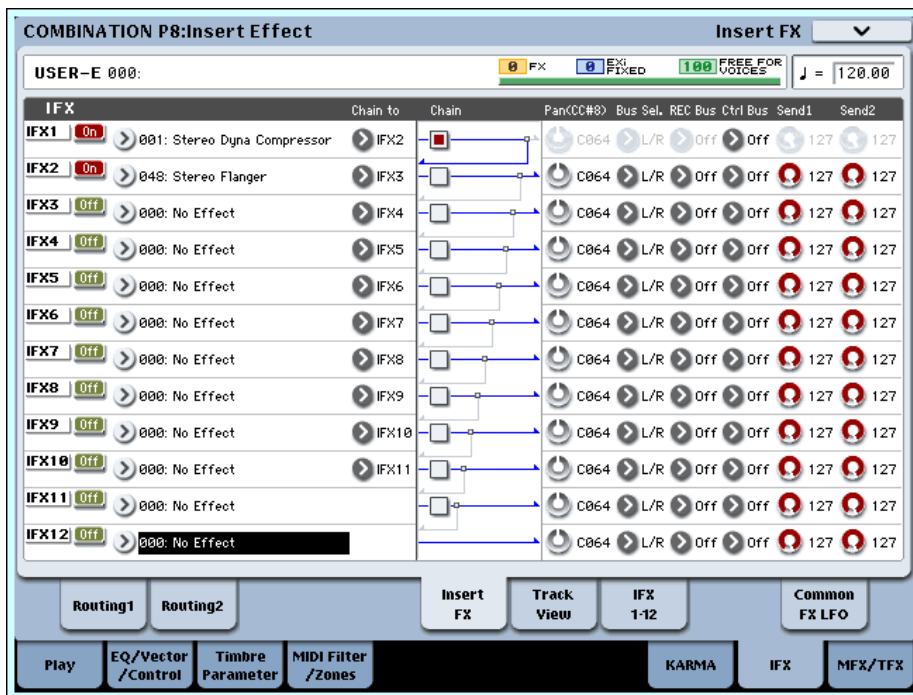
Fig. 2-2a



In the diagram (Fig. 2-2b), IFX1's **Chain** check box is checked and **Chain to** set to IFX2, sending the output of IFX1 to IFX2. Timbre 1 is being processed by IFX1: 001: Stereo Dyna Compressor and IFX2: 048: Stereo

Flanger effects. Timbre 2 is being processed by the IFX2: 048: Stereo Flanger effect. The Routing Map area of the diagram (Fig. 2-1a) shows these settings. (With these settings, IFX3-12 are not being used.)

Fig. 2-2b



Drum Programs in Combination and Sequencer modes

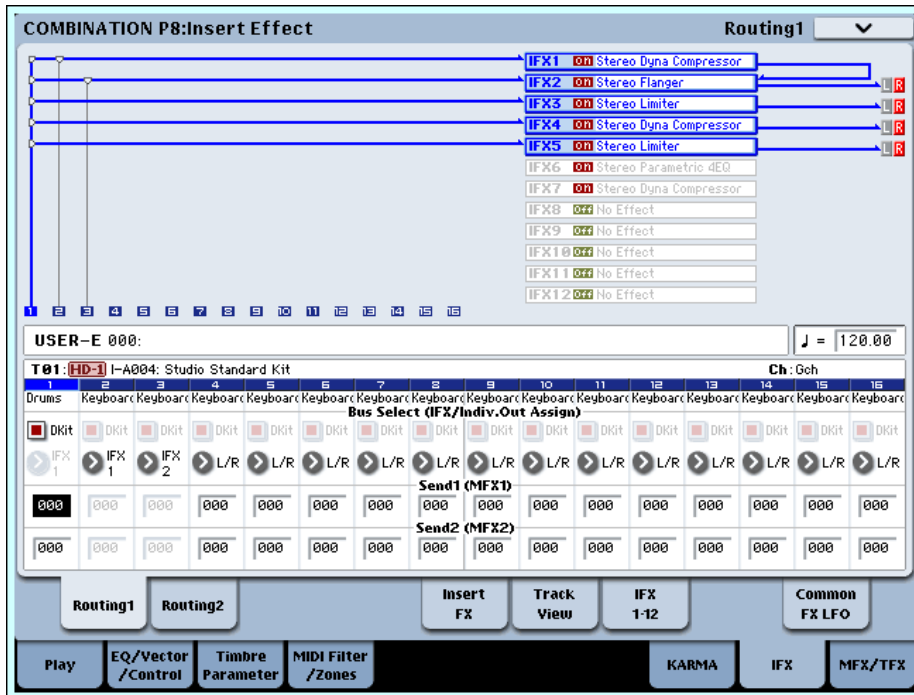
If a drum program (Oscillator Mode = Drums) is selected for a timbre (Combination) or track (Sequencer), the DKit check box is available (Fig. 2-2c).

Checking this check box will enable the **Bus Select** settings etc. of each key in the drum kit, letting you specify the bus to which each drum instrument will be

sent. For example you can send snare sounds to IFX1, kick sounds to IFX2, and other drum sounds to L/MONO and R.

If this check box is **unchecked**, all drum instruments will be output according to the **Bus Select** setting of each timbre/track (the P8 - Routing page of each mode). This lets you apply an insert effect to all of the drum instruments in that drum kit.

Fig. 2-2c



Drum Kit IFX Patch

If “Bus Select DKit” is checked, you can select the **Drum Kit IFX Patch** page menu command by selecting a timbre parameter or by pressing Timbre Number (the blue area in the display for each timbre).

This option allows you to change the routing of the Insert Effects temporarily by changing **Bus Select** for each key.

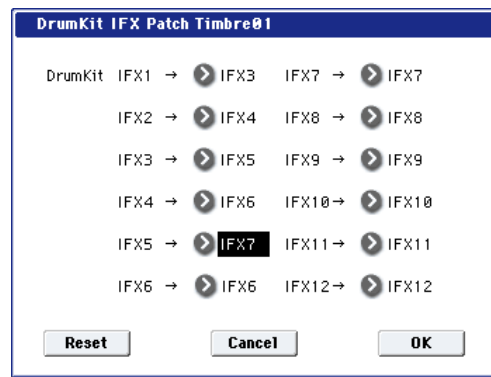
For example, assume that the DrumKit key assignment is set so that a snare sound is routed to IFX1 and a kick sound is routed to IFX2 etc., IFX1-5. In this case, if you wish to assign IFX 1 and 2 to the Programs used by other timbres and tracks, you can view the routing so that these DrumKit sounds are routed to IFX3 and IFX7 respectively.

Patching is possible only if the **Bus Select** (Global 5-3b) setting of each key in the drum kit is assigned to an insert effect. The state of these settings is also shown in the Routing Map. Make the desired settings for “DrumKit IFX Patch,” and press the OK button to execute.

If you want to revert to the original settings of the drum kit, execute **Drum Kit IFX Patch** with the settings IFX1 → IFX1, IFX2 → IFX2, IFX3 → IFX3, IFX4 → IFX4, IFX5 → IFX5, IFX6 → IFX6, IFX7 → IFX7, IFX8 → IFX8, IFX9 → IFX9, IFX10 → IFX10, IFX11 → IFX11, and IFX12 → IFX12. You can also revert to the original settings by pressing the RESET button.

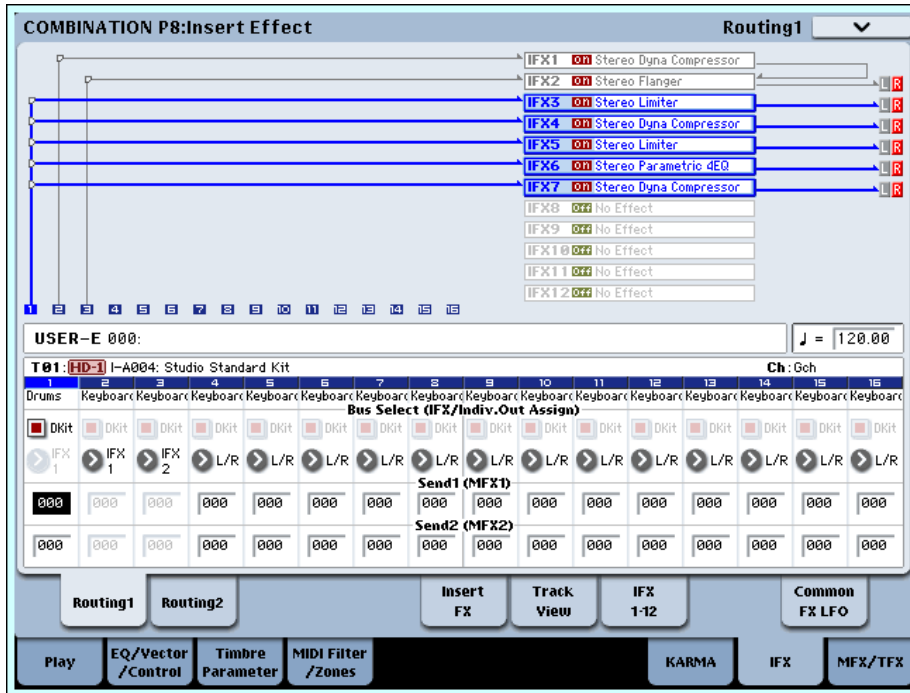
In the following diagram (Fig. 2-2c), Drum Program is assigned to Timbre 1, and normal Programs are assigned to Timbres 2 and 3. **Bus Select** is set to DKit for Timbre 1, IFX1 for Timbre 2, and IFX2 for Timbre 3. With Timbre 1, the **Bus Select** (Global 5-2b) for DrumKit setting becomes effective.

Fig. 2-2d: DrumKit IFX Patch dialog



Use the **Drum Kit IFX Patch** page menu command if you want the drum program to use effects other than timbres 2 and 3. Choose **Drum Kit IFX Patch** from the page menu, and temporarily send the drum kit IFX1 to IFX3, IFX2 to IFX4, IFX3 to IFX5, IFX4 to IFX6, and IFX5 to IFX7 (Fig. 2-2d). Executing with these settings will temporarily change the effects to which the drum kit is being sent (Fig. 2-2e).

Fig. 2-2e



Sampling mode


The external input sounds from the AUDIO INPUT 1, 2, 3, 4, and S/P DIF IN jacks can be processed by the insert effects, master effects, or total effects then sampled. You can also apply insert effects to the samples assigned to a multisample, and resample the result.

The **Bus Select** settings in the P0- Audio Input page specify the buses to which the external inputs will be sent. You can choose from L/R, IFX1-12, 1-8, 1/2-7/8, or Off. If you want to apply an insert effect while sampling, choose IFX1-12.

Using either the internal CD-R/W drive, or a USB CD drive, you can also sample from an audio CD while applying insert, master, or total effects. Use the CD-R/W Drive Audio Input (5-1b) setting in the P5: Audio CD-Ripping page to set up the effects busing.

In the example shown in the diagram (Fig. 2-3a), the signal from AUDIO INPUT 1 and 2 is being sent to IFX1. Use the P8: Insert Effect page to select an insert effect, and edit its parameters.

The following diagram (Fig. 2-3b) shows an example of bus settings in which the samples assigned to a multisample are resampled with IFX1 applied. Set **Bus Select** (Sampling 8-1b) to IFX1.

 When sampling ends, L/R will automatically be selected as the **Bus Select** setting. Please be aware of this if you continue sampling.

For more details on any of these sampling methods, please see "Sampling (Open Sampling System)" on page 123 of the Operation Guide.

Fig. 2-3a

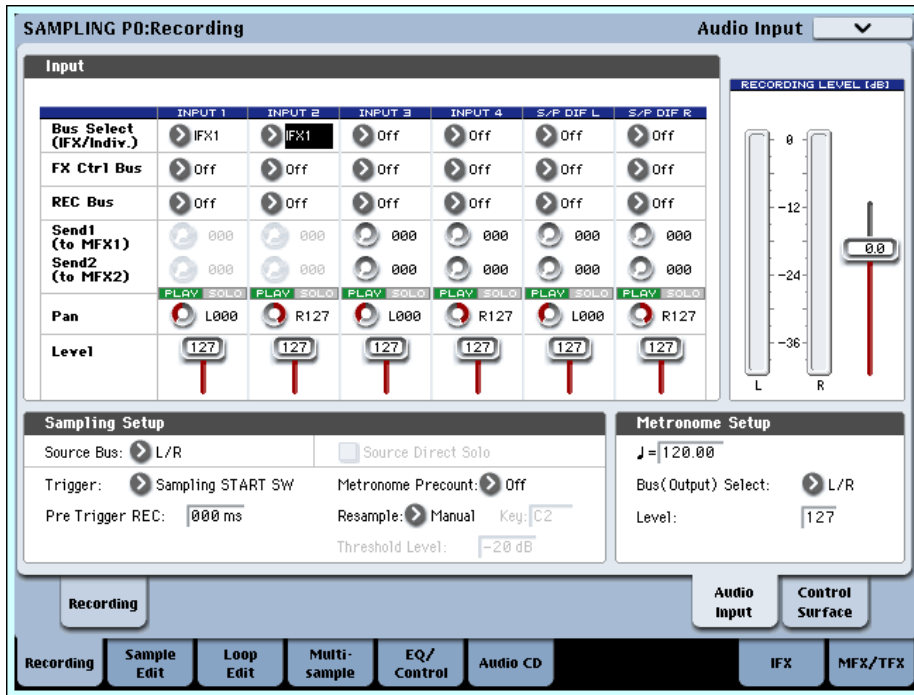
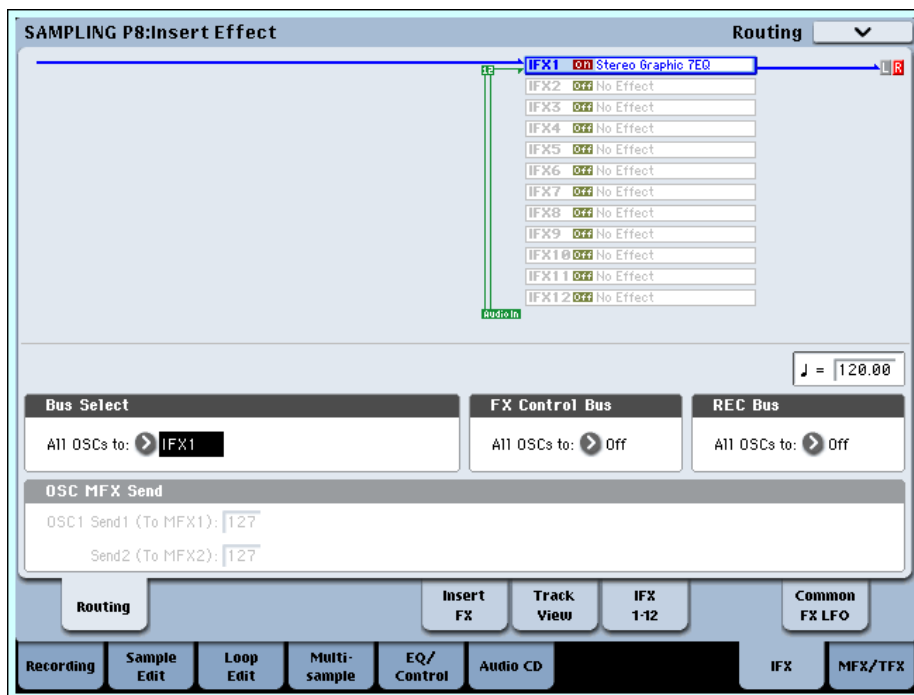


Fig. 2-3b



Audio Input, S/P DIF IN

In Program, Combination, Sequencer, and Disk modes, external audio sources from the AUDIO INPUT 1, 2, 3, 4, and S/P DIF IN jacks can be processed by insert effects, master effects, and total effects just as they can in Sampling mode.

You can sample while applying the OASYS's effects to the external audio sources from these jacks, or use the OASYS as a 6-in (AUDIO INPUT 1, 2, 3, 4, S/P DIF IN L, R) 10-out effect processor. You can also use an external mic input to control a vocoder effect (026: Vocoder) applied to internal sounds.

In Sequencer mode you can also use the effects when recording external audio sources to audio tracks.

In each mode, use "Audio Input" (P0– Audio Input/Sampling page) to make settings for external input from the AUDIO INPUT 1, 2, 3, 4, and S/P DIF IN jacks. Alternatively, you can check **Use Global Settings** and use the Global mode "Audio" settings.

Set **Bus Select** to specify the bus to which the external audio input will be sent. You can select L/R, IFX1–12, 1–8, 1/2–7/8, or Off. If you want to apply an insert effect, select IFX1–12.

Send1 (to MFX1) and **Send2 (to MFX2)** become effective only when **Bus Select** is set to L/R or Off. If IFX1–12 is selected, use P8: Insert Effect page **Send1** and **Send2** for the post-IFX signal.

The diagram (Fig. 2-4a) shows an example in which the input from INPUT 1 and 2 is panned to left and right, and sent to insert effect 1.


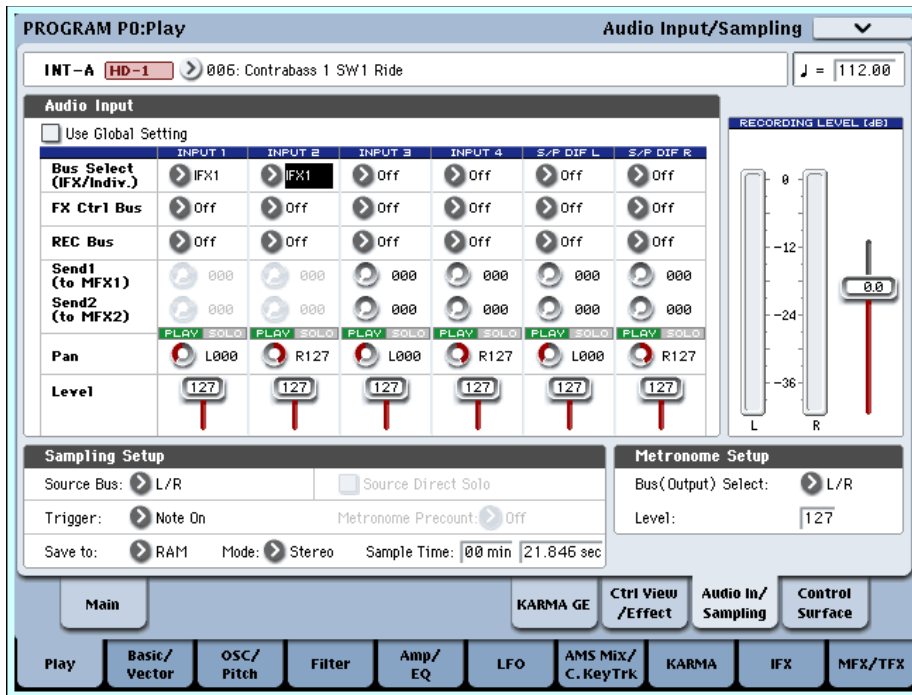
 In Disk mode, effects will use the settings of the mode in which you previously were.

Fig. 2-4a



Audio CD

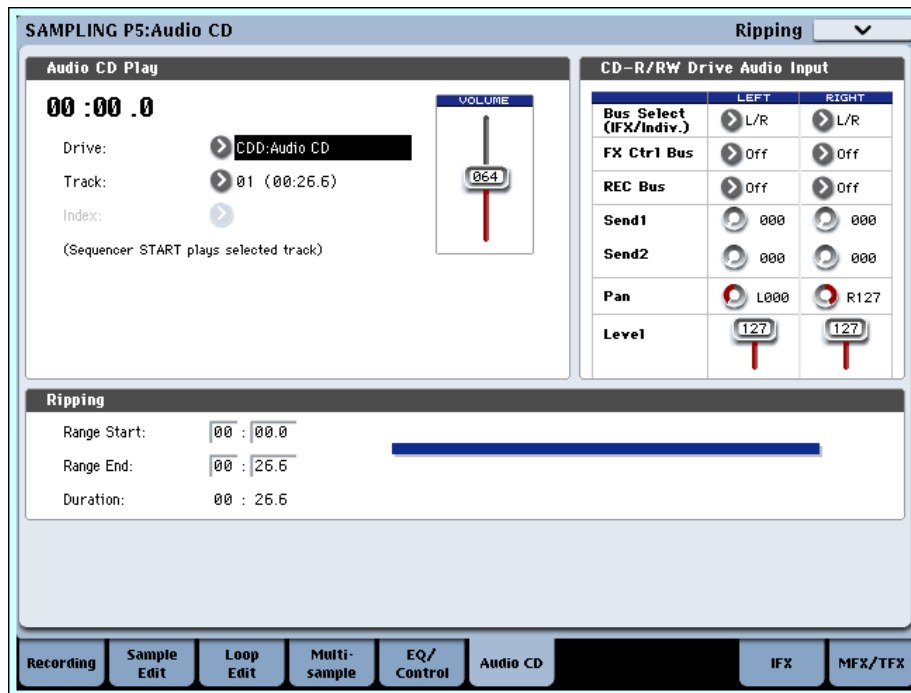
In Sampling mode, the sound from an audio CD in the internal CD-R/RW drive or a USB external CD drive can be processed by the insert effects, master effects, and total effects.

Use the **Bus Select** setting in the P5: Audio CD - Ripping page to specify the bus to which the CD audio will be sent. You can choose from L/R, IFX1-12, 1-8, 1/2-7/8, or Off. If you want to apply an insert effect, choose IFX1-12.

The **Send1 (to MFX1)** and **Send2 (to MFX2)** settings which specify the send levels to the master effects are valid if **Bus Select** is set to L/R or Off. If **Bus Select** is set to IFX1-12, use the post-IFX **Send1** and **Send2** settings to specify the send levels.

The diagram (Fig. 2-5a) shows an example in which the input from the internal CD-R/RW driver or a USB-connected external CD drive is panned to left and right, and sent to insert effect 1.

Fig. 2-5a

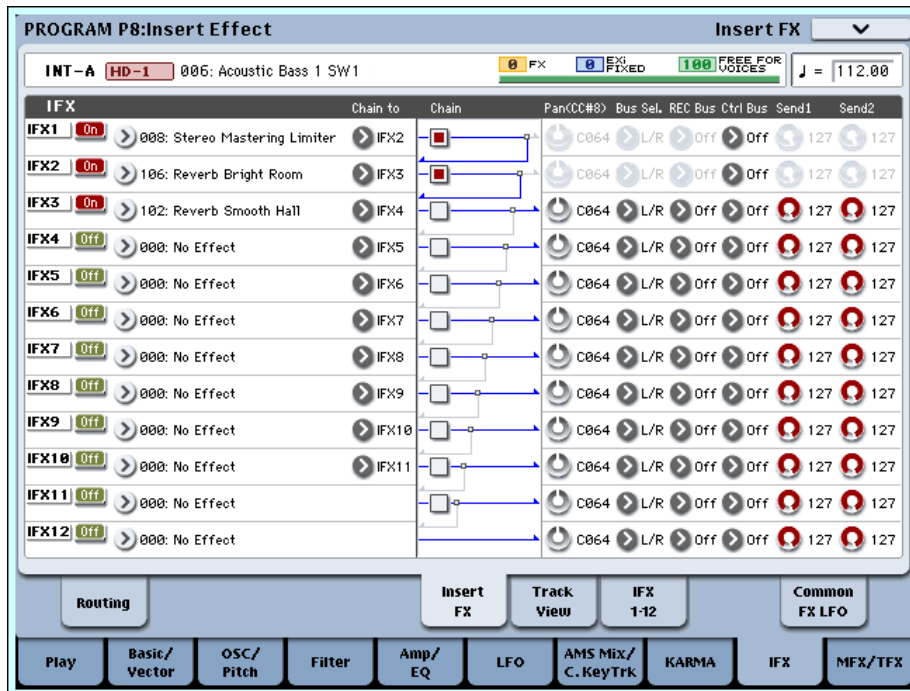


Disk mode

In Disk mode P1: Play Audio CD as well you can play back an audio CD and process the sound through the insert effects, master effects, and total effects. **Bus Select**, **Send1**, **Send2**, **FX Ctrl Bus**, **REC Bus**, **Pan**, and **Level** are linked with the settings of Sampling mode.

- ⚠ In Disk mode, effects will use the settings of the mode in which you previously were.

Mixer



In Program, Combination, and Sequencer modes, the P8 - Insert FX page lets you set “Pan (CC#8)” (post-IFX panning), “Bus Sel. (Bus Select),” “Ctrl Bus” (FX control bus), REC Bus, and Send1 and Send2 levels to the master effects.

If you have checked the **Chain** to connect the Insert Effects in series, these parameters “Pan (CC#8)” – Send2 for the post-IFX (last Insert Effect in the chain) signal become effective.

Pan (CC#8)

This parameter enables you to set the pan of the post-IFX signal.

If you are using the stereo-in/stereo-out Insert Effects, set this parameter to “C064” to enable the Pan settings for the oscillators (Program 4–1c, 4–5), timbres (Combination 0–1b), tracks, and audio inputs.

If you are using mono-in/stereo-out or mono-in/mono-out Insert Effects, the Pan settings for the oscillators, timbres, tracks and audio inputs are

ignored, and they are set to Center. Use the “Pan (CC#8)” parameter (P8: “Insert FX” page) to set the pan. “L000” is hard left, and “R127” is hard right.

For more about effect types such as stereo-in/stereo-out, see “In/Out” on page 794.

MIDI You can control these parameters via CC#8.

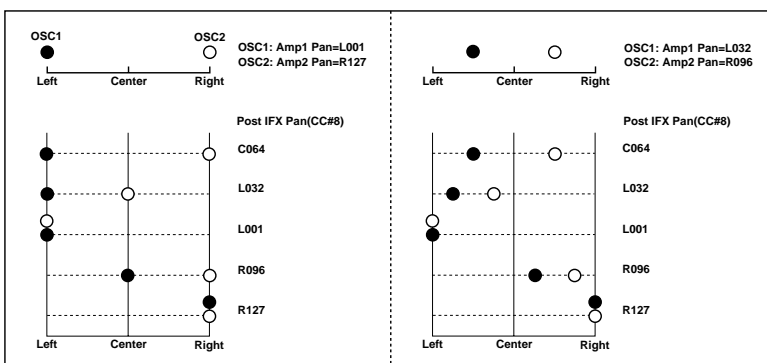
Bus Sel. (Bus Select)

This parameter enables you to specify the destination bus for the post-IFX signals.

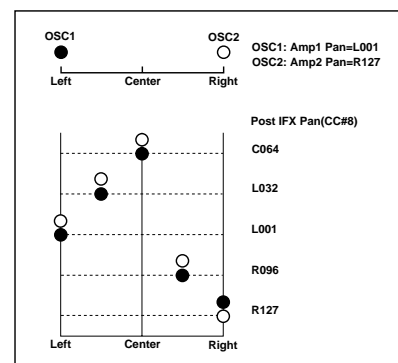
“L/R” is a common setting to send signals to the Total Effects (TFX1, TFX2) before they are routed to the OUTPUT (MAIN) L/MONO and R outputs.

Select 1...8 or 1/2...7/8 to route the signals to OUTPUT (INDIVIDUAL) 1–8 (“Individual Outputs”). If this is set to 1–8, the output will be monaural. If set to 1/2–7/8, the post-IFX pan settings will be valid, and the output will be stereo. If set to Off, the signal will not be sent to the L/R bus or buses 1–8. Choose this setting if you

Insert Effect = Stereo In - Stereo Out



Insert Effect = Mono In - Stereo Out
Mono In - Mono Out



want to use the **Send1** or **Send2** levels to route the signal through a master effect in series (i.e., not as a send effect).

Ctrl Bus (FX Control Bus)

This specifies the FX Control bus that follows the insert effect. The FX Control buses (FX Control 1, 2) are stereo two-channel buses.

The OASYS provides two (stereo two-channel) effect control buses, giving you a wide range of ways to control effects.

FX Control buses can be used with vocoder, compressor, and gate-type effects.

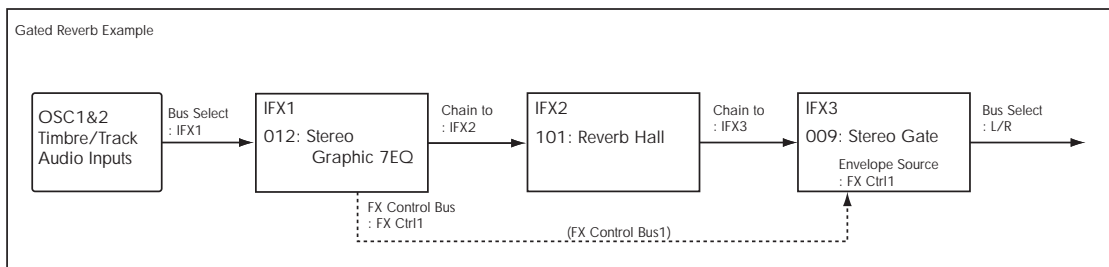
For details on the effects that be used with FX Control buses, see “FX Control Buses” on page 790.

As an example, here’s how you can use the FX Control bus following an insert effect.

Example: Gated Reverb

When using a gate effect with reverberant sound, using the reverberant sound to control the gate may not produce the desired results because the reverb extends the duration of the sound. Normally, you will use the un-reverberated sound to control the gate, as shown in the diagram below.

In this example, we send the sound from the OSC etc. to IFX1 and process it through an equalizer. IFX1 is sent via **Chain** to IFX2 and also sent via “Ctrl Bus” (FX Control Bus) to FX Control 1. The Envelope **Source** of IFX3: Stereo Gate is set to FX Control 1. This allows the gate to be triggered by a signal other than its input (the reverberant sound).



REC Bus

OASYS provides two stereo recording (REC) buses: REC 1/2 and REC 3/4.

Using the REC busses, you can isolate one or more sounds for recording or sampling—even if the sounds are also being mixed into the main outputs. For example, you can play a guitar through OASYS IFX while listening to a KARMA drum phrase, and record the processed guitar without recording the drums.

Individual Programs, Combi Timbres, Sequencer Tracks (both MIDI and Audio), audio inputs, and Insert Effects can all be routed to the REC busses, in addition to their main output/IFX bus settings.

If you don’t need to use the REC bus for a particular sound, turn it **Off**.

Setting the REC bus to 1, 2, 3, or 4 lets you record up to four mono signals simultaneously. Setting it to 1/2 or 3/4 lets you record stereo signals, including the effects of the “Pan (CC#08)” setting.

Send1, Send2

These parameters enable you to set the send level of the signals routed to Master Effects MFX1 and MFX2. The signal is sent in stereo to master effects MFX1 and MFX2. This is valid when **Bus Select** is L/R or Off.

If you are not using any Insert Effects, use **Send1** and **Send2** of the P8: “Routing” page in Program, Combination, Sequencer, and Song play modes to set the Master Effect send level (Use the P0: Audio Input (/Sampling) page in each mode to set the send level for the audio inputs.).

MIDI **Send1** responds to CC#93 and **Send2** responds to CC#91.

Controlling the Insert Effects via MIDI

Using the Dynamic Modulation (Dmod) function enables you to control all effect parameters in real-time during performance from the controllers of the OASYS or a connected MIDI sequencer. You can also control the **Pan (CC#8)**, **Send1**, and **Send2** parameters in the same way.

Program and Sampling modes

You can control the parameters on the global **MIDI channel**.

Combination mode

The P8 - IFX1–12 page lets you specify the control channel **Ch** (Control Channel) for IFX1–12. You can choose from CH01–16, Gch, or All Routed.

Ch01–16: Select this when you want to control each insert effect from a different channel. An “*” symbol will be displayed at the right of the MIDI channel Ch01–16 of the timbre that is routed to each insert effect. If the routed timbres have different MIDI channel settings, this parameter is used to specify the channel that will control the insert effect.

Gch: Select this option if you wish to control the parameters on the global **MIDI channel**. This is a common setting.

All Routed: Select this option to control the parameters on all the channels (channels 1–16 that have a "*" mark) that are routed to the corresponding Insert Effects.

- 🔍 If you've checked "Bus Select DKit" (8–1c) for a timbre for which a drum program is selected, the MIDI channel of that timbre will be valid if any IFX1–12 is set to All Routed, regardless of the drum kit's **Bus Select** settings and the settings of the **Drum Kit IFX Patch** page menu command.

Sequencer mode

Use "Ch" parameters of the "P8-IFX1–12" pages to set up the control channels for IFX1–12. Select an appropriate option from Ch01–16 and All Routed.

Ch01–16: Select this when you want to control each insert effect from a different channel. An "*" symbol will be displayed at the right of the MIDI channel Ch01–16 of the track that is routed to each insert effect. If two or more tracks with differing MIDI channels Ch01–16 are being sent to a single insert effect, this parameter is used to specify the one track that will control the insert effect.

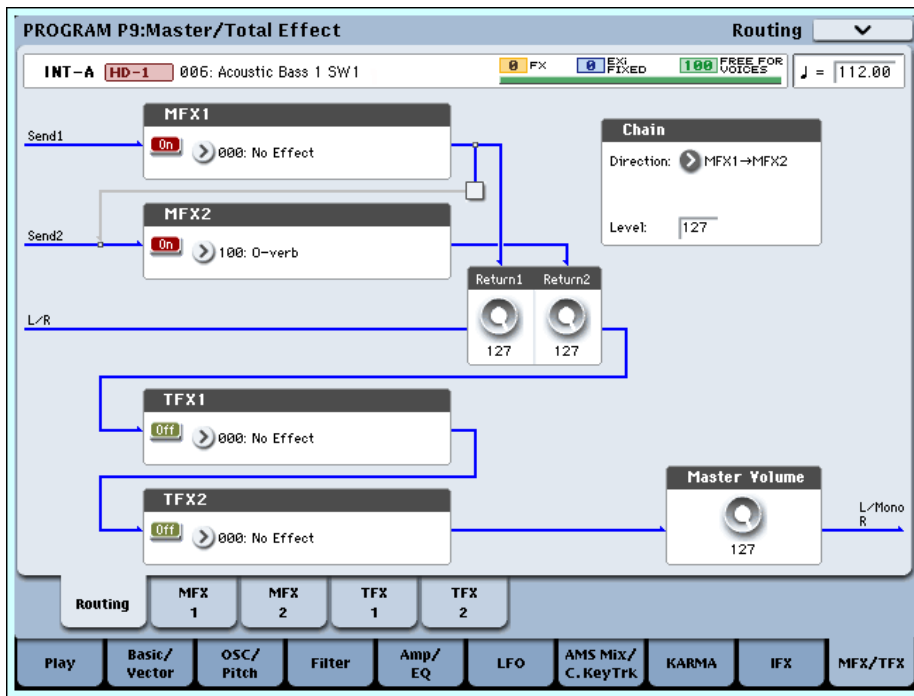
All Routed: Select this option to control the parameters on all the channels (channels 1–16 that have a "*" mark) that are routed to the corresponding Insert Effects. "All Routed" is a typical option. If you wish to control the parameters on a single channel, you may select it from Ch01–16.

- 🔍 If you've checked "Bus Select DKit" for a track for which a drum program is selected, the MIDI channel of that track will be valid if any IFX1–12 is set to All Routed, regardless of the drum kit's **Bus Select** settings and the settings of the **Drum Kit IFX Patch** page menu command.

Note: Since Sequencer mode lets you record and play exclusive messages and edit tracks that include System Exclusive events, you can use them to switch effects or modify effect parameter values during song playback.

Master Effects (MFX1, 2)

In/Out



The I/Os of Master Effects MFX1 and MFX2 are stereo-in/stereo-out. **Send1** and **Send2** determine the send level to the Master Effects. (For Send1 and 2, see “Routing” and “Mixer.”)

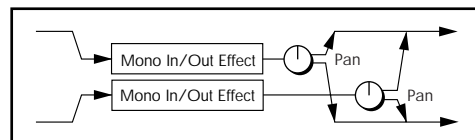
Master effects will not output the Dry (unprocessed) signal specified in **Wet/Dry** (P9 - MFX1, 2 page). Only the Wet (processed) signal will be output. The output signals from the Master Effects are routed to the L/R bus with the output level specified by **Return1** and “Return2.” These output signals are mixed with the output signals from the bus specified by **Bus Select** (P8: “Routing” page in each mode) L/R, or with the output signals from the bus specified by **Bus Select** (“Insert FX” page in each mode) L/R, then routed to the Master EQ.

Selecting “000: No Effect” will mute the output. The processed signal will be output in one of the following ways, according to the type of effects 001–185.

Wet	Mono In - Mono Out	
	Mono In - Stereo Out	
	Stereo In - Stereo Out	

Mono–Mono Parallel

141: P4EQ//P4EQ-185: Mt.BPM Dly//Mt.BPM Dly



These effects are typically stereo-in/stereo-out, but they have a special structure. The L channel and R channel of the stereo input each have their own independent mono effect. Each mono output can then be panned to the desired position in the stereo field. Normally, you will use these as insert effects, but you can also use them as master effects. For details, see “Mono–Mono Parallel Effects” on page 794.

Pressing the ON/OFF button for MFX1 and 2 of the P9: Routing page in each mode will toggle between ON and OFF. When OFF is selected, the output signals will be muted.

MIDI Separately from the setting of this ON/OFF button, MFX1 and MFX2 can be switched off by receiving a MIDI control change CC#94. Value 0 will turn them off, and value 1–127 will turn them on. You can also use “Effect Global SW” (Global 0–1b) to turn MFX1 and 2 on and off. This MIDI control is performed on the global **MIDI channel**.

Routing

Master effects MFX1 and MFX2 can both be used in any mode. If you are not using any Insert Effects in any mode, the Master Effects send levels are determined by

the **Send1 (to MFX1)** and **Send2 (to MFX2)** parameters specified independently for the oscillators (Program/Sampling mode), timbres (Combination mode), tracks (Sequencer mode), and audio inputs (in all modes).

For example, since you can adjust the master effect send levels for each timbre/track, you can make settings so that reverb is applied deeply to the piano, lightly to the strings, and not at all to the bass.

If you're using insert effects, use the post-IFX **Send1** and **Send2** to adjust the send amounts.

Program mode

Use the **Send1 (to MFX1)** and **Send2 (to MFX2)** parameters of the P8: "Routing" page, or the **Send1** and **Send2** parameters of the P8: "Insert FX" page for the post-IFX1-12 signals, to set the Master Effect send level.

If you have set **Bus Select** to L/R or Off, **Send1 (to MFX1)** and **Send2 (to MFX2)** of the "Routing" page are effective. These parameters can be set for oscillators 1 and 2 individually. (Fig. 2-1a)

Note: You can use the control surface to control Send 1 and 2. For details, see "8-1f: OSC MFX Send" on page 129.

If you have set **Bus Select** to IFX1-12, **Send1** and **Send2** of the "Insert FX" page for the post-P8-IFX1-12 signals are effective. If you are using the Insert Effects in chain (series), the **Send1** and **Send2** parameters for the post-IFX (last IFX) are effective (Fig 2-1b, 2-1c).

If you have set **Bus Select** to 1-8, or 1/2-7/8, the oscillator signals are output directly to AUDIO OUTPUT (INDIVIDUAL) 1-8.

In this case the Send 1 and Send 2 settings are ignored, and the Master Effects will not be applied. (page 815)

MIDI Send1 responds to CC#93 and Send2 responds to CC#91 on the global **MIDI channel**. At this time, the actual send level uses the value of the Send 1 and 2 settings for Oscillators 1 and 2, multiplied by the Send 1 and 2 values received via MIDI.

If you have selected "Drums" for **Oscillator Mode** (Program 1-1a) of a Program, the "Use DKit Setting" box (Program 8-1b) becomes available. If you check this box, Send1 and Send2 levels for each key of the selected DrumKit become effective. If **Bus Select** is set to L/R or Off for a drum instrument key, **Send1 (to MFX1)** and **Send2(toMFX2)** become effective.

If **Bus Select** is set to IFX1-12, the post-IFX1-12 **Send1** and **Send2** (Program 8-5a) become effective.

If this is unchecked, **Send1 (to MFX1)** and **Send2 (to MFX2)** (Program 8-1f), and the post IFX1-12 **Send1** and **Send2** (Program 8-5a) will be valid for all drum instruments, in the same way as when **Oscillator Mode** is Single or Double, or for EXi programs.

Combination and Sequencer modes

Use **Send1 (to MFX1)** and **Send2 (to MFX2)** (P8: "Routing" page) for timbres (Combination) and tracks (Sequencer) to set the Send1 and 2 levels for each timbre and track. As with Program mode, if **Bus Select** is set to L/R or Off, **Send1 (to MFX1)** and **Send2 (to MFX2)** become effective.

The actual levels use these Send1 and 2 level values, multiplied by the send level values of oscillators 1 and 2 of the Program P8: "Routing" page.

Send level

For example if you set the program's OSC1 **Send1 (to MFX1)** to 127, **Send2 (to MFX2)** to 064, OSC2 **Send1 (to MFX1)** to 064, **Send2 (to MFX2)** to 127, and the combination's **Send1 (to MFX1)** to 064 and **Send2 (to MFX2)** to 127, the actual send levels of the combination will be as follows.

Fig. 2-1a

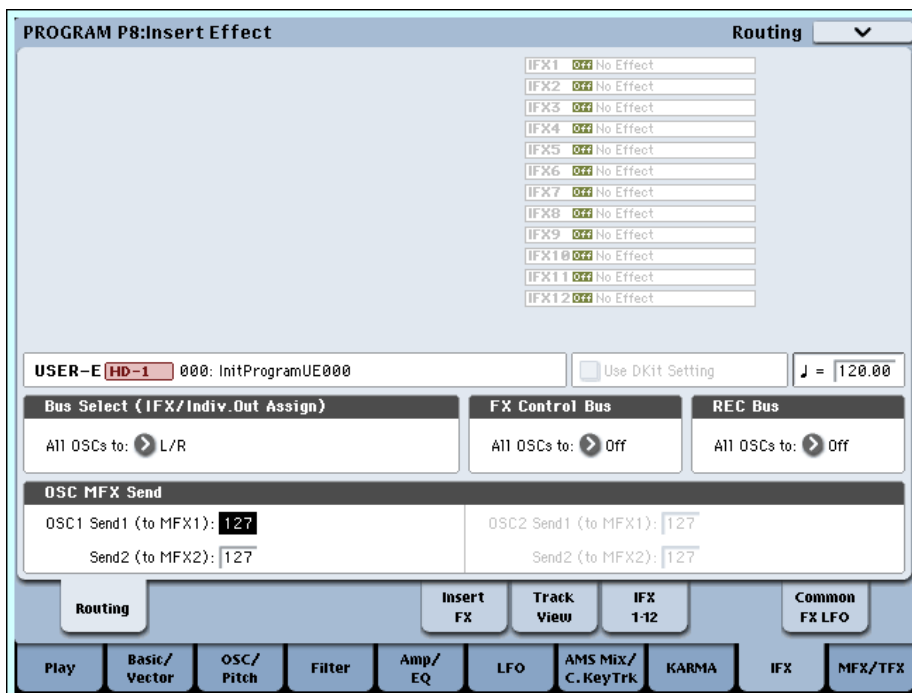


Fig. 2-1b

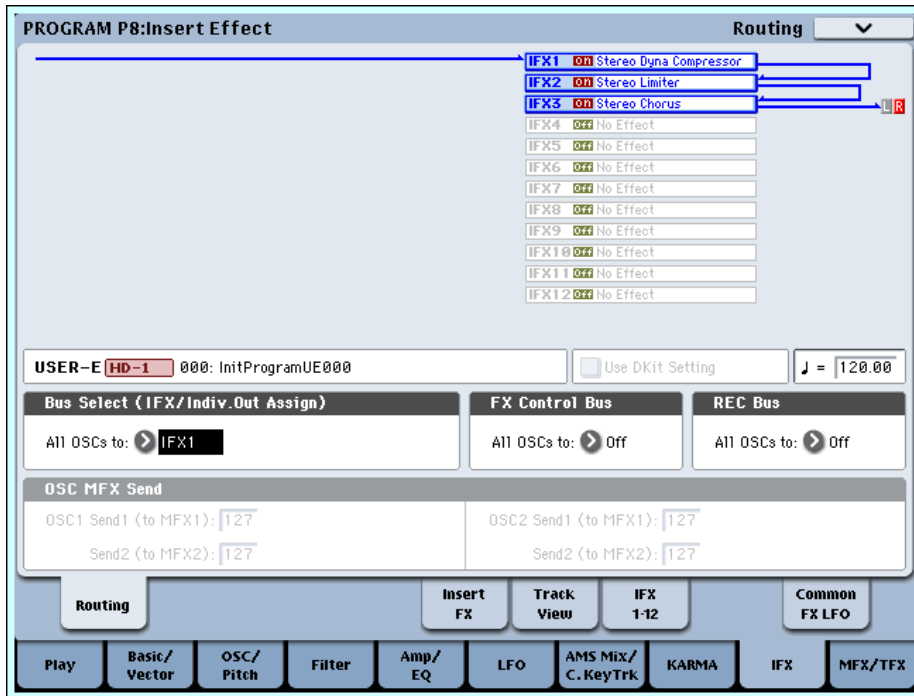
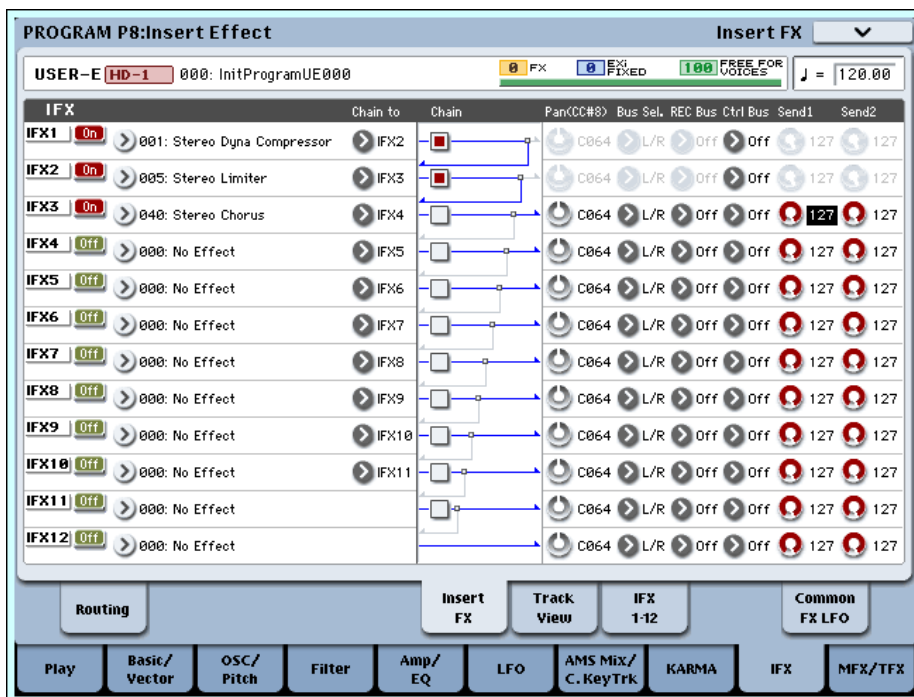


Fig. 2-1c



$OSC1/EXi1 \text{ Send1}=127 (100\%) * 064 (50\%)=064 (50\%)$
 $OSC1/EXi1 \text{ Send2}=064 (50\%) * 127 (100\%)=064 (50\%)$
 $OSC2/EXi2 \text{ Send1}=064 (50\%) * 064 (50\%)=032 (25\%)$
 $OSC2/EXi2 \text{ Send2}=127 (100\%) * 127 (100\%)=127 (100\%)$
 If IFX1-12 is selected for **Bus Select**, use the **Send1** and **Send2** parameters for the post-IFX signals. If 1-8, or 1/2-7/8 is selected instead, these Send1 and 2 settings are ignored and the Master Effect is not applied.

MIDI Send1 responds to CC#93, and Send2 responds to CC#91. If **Send1 (to MFX1)** and **Send2 (MFX2)** for each timbre/track are effective, the parameter will be controlled on the MIDI channels set for the corresponding timbres and tracks. If the **Send1** and

Send2 parameters for the post-IFX1-12 signals are effective, they can be controlled on the MIDI channels assigned to IFX1-12.

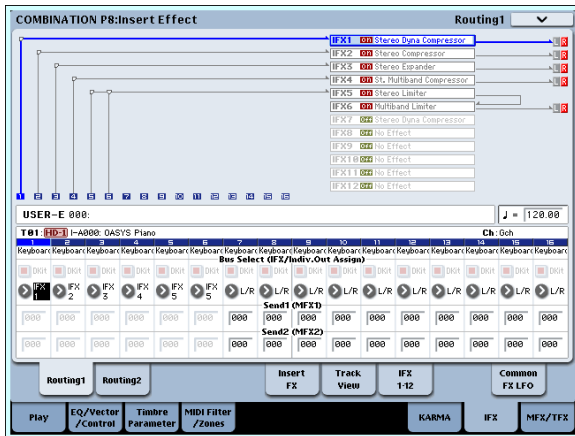
Note: You can use the control surface to control Send1 and 2. For details, see “8-1f: OSC MFX Send” on page 129.

An example for Combination mode is given below. In the upper figure (Fig. 2-2a), **Bus Select** is set so that Timbre 1 is routed to IFX1, Timbre 2 to IFX2, Timbre 3 to IFX3, Timbre 4 to IFX4, Timbres 5 and 6 to IFX5, and Timbres 7 and 16 to L/R. In this case, use **Send1** and **Send2** for the post-IFX1 (001:St. Dyna Compressor) signal to set the send level of the Timbre 1 routed to the Master Effect. (In this example they are set to 032 and 127.) In the same way, use **Send1** and **Send2** for the

post-IFX2, 3, and 4 signals to set the send levels of Timbres 2, 3, and 4, and use the **Send1** and **Send2** parameters for the post-IFX5 signal to set the send levels of Timbres 5 and 6. For Timbres 7 and 16, the settings of **Send1 (to MFX1)** and **Send2 (to MFX2)** will be effective. (At this time, the actual send levels use these Send 1 and 2 values multiplied by the Send1 and 2 settings for Program oscillators 1 and 2.)

“Bus Select DKit” is valid if you’ve selected a drum track for a Timbre (Combination) or Track (Sequencer).

Fig. 2–2a

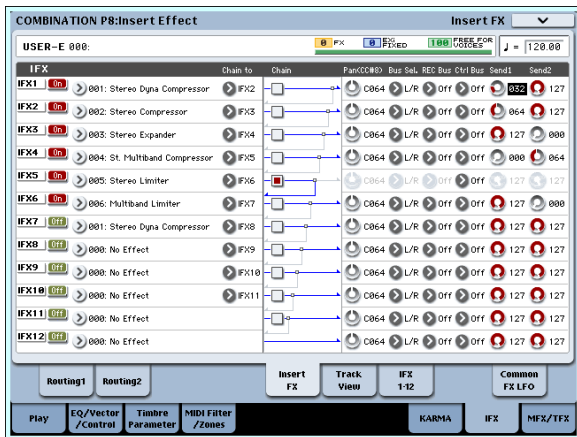


If you select **DKit**, the **Bus Select** settings for each key become effective, and each drum instrument sound will be routed to the corresponding buses. At this time, the actual send levels use these Send 1 and 2 values, multiplied by the Send1 and 2 settings for each DrumKit key.

If a drum kit’s **Bus Select** is set to L/R or Off, the levels will be these Send 1 and 2 settings multiplied by the send levels you specify in Program P8: Routing page for OSC1 **Send1 (to MFX1)** and **Send2 (to MFX2)** (Program 8–1d), just as in other cases (**Oscillator Mode Single or Double**).

If **Bus Select** is set to IFX1–12, use **Send1** and **Send2** for the post-IFX signal. If **Bus Select** is set to 1–8, or 1/2–7/8, the Send 1 and 2 settings will be ignored.

Fig. 2–2b



Sampling mode

You can apply insert effects, master effects, and total effects to an external audio source from the AUDIO INPUT 1, 2, 3, 4, or S/P DIF IN jacks, and sample the result. You can also apply insert effects, master effects, and total effects to samples assigned to a multisample, and resample the result.

Use the P0– Audio Input page to make settings for external audio sources from the AUDIO INPUT 1, 2, 3, 4, or S/P DIF IN jacks.

The **Bus Select** setting for each jack specifies the bus to which the external input source will be sent. You can choose from L/R, IFX1–12, 1–8, 1/2–7/8, or Off. If **Bus Select** is set to L/R or Off, use **Send1 (to MFX1)** and **Send2 (to MFX2)** to adjust the send levels to the master effects. If **Bus Select** is set to IFX1–12, use the post-IFX **Send1** and **Send2** to adjust the send levels to the master effects.

If you want to apply the master effects to the samples of a multisample and play or resample the result, use the P8 - Routing page settings **Send1 (to MFX1)** and **Send2 (to MFX2)** or the P8 - Insert FX page settings post-IFX1–12 **Send1** and **Send2** settings to adjust the send levels to the master effects.

MIDI Send1 can be controlled by receiving CC#93, and Send2 by receiving CC#91. These parameters are controlled on the global **MIDI channel**.

Note: You can use the control surface to control Send 1 and 2. For details, see “8–1f: OSC MFX Send” on page 129.

Audio Input, S/P DIF IN

In Program, Combination, Sequencer, and Disk modes, external audio sources from the AUDIO INPUT 1, 2, 3, 4, and S/P DIF IN jacks can be processed by insert effects, master effects, and total effects just as they can in Sampling mode.

In the P0– Audio Input/Sampling page of each mode, the **Use Global Settings** parameter makes settings for external input from the AUDIO INPUT 1, 2, 3, 4, and S/P DIF IN jacks.

Set **Bus Select** to specify the bus to which the external audio input will be sent. You can select L/R, IFX1–12, 1–8, 1/2–7/8, or Off. If **Bus Select** (Global P0: 0–3a) is set to L/R or Off, adjust the send levels to the master effects using **Send1 (to MFX1)** and **Send2 (to MFX2)**. If **Bus Select** is set to IFX1–12, use the post-IFX **Send1** and **Send2**. If this is set to 1–8 or 1/2–7/8, the signal will not be sent to the master effects.

⚠ In Disk mode, effects will use the settings of the mode in which you previously were.

Note: You can use the control surface to control Send 1 and 2. For details, see “8–1f: OSC MFX Send” on page 129.

Audio CD

In Sampling mode you can apply the insert effects, master effects, and total effects to the sound of an audio CD from the internal CD-R/W or a USB-connected external CD drive.

In the P5: Audio CD page, use “Drive Select” to select the drive from which you want to input CD audio, and use **Bus Select** to select the bus to which you want to send the CD audio. You can choose from L/R, IFX1–12, 1–8, 1/2–7/8, and Off. If you want to send the CD audio to the master effects and **Bus Select** is set to L/R or Off, adjust **Send1 (to MFX1)** and **Send2 (to MFX2)**. If **Bus**

Select is set to IFX1–12, adjust the post-IFX **Send1** and **Send2**. If **Bus Select** is set to 1–8 or 1/2–7/8, the CD audio will not be sent to the master effect.

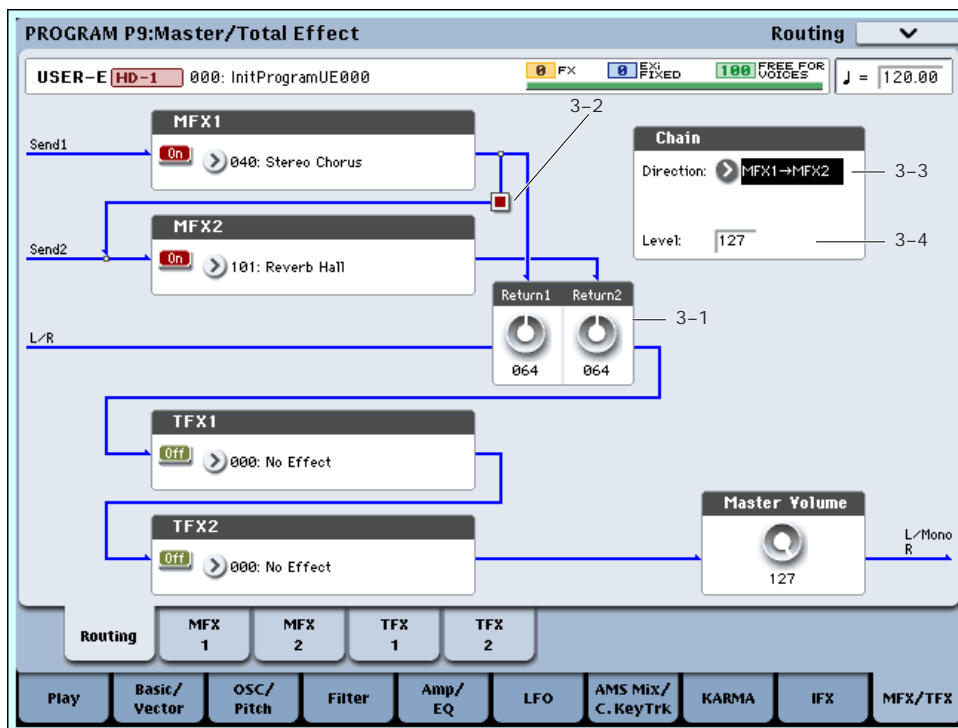
Disk mode

In the Disk mode P1– Play Audio CD page as well, you can play back an audio CD and apply the insert effects, master effects, and total effects to the playback. **Bus Select**, **Send1 (to MFX1)**, **Send2 (to MFX2)**, **FX Ctrl Bus**, **REC Bus**, **Pan**, and **Level** are linked with the settings of Sampling mode.

⚠ In Disk mode, effects will use the settings of the previously selected mode.

Mixer

The input levels to the master effects are determined by the send levels. In the P9: Routing page of each mode, you can specify the output level and chaining (series connection) between the two master effects.



Return 1, Return2

These adjust the amount of signal that is returned from the master effects MFX1 and MFX2 outputs to the L/R bus.

The left-side value of the **Wet/Dry** parameter for the MFX1 or 2 effect is the output level of that master effect. (In other words if **Wet/Dry** is 25:75, the output level is 75%. It is 100% if Wet, and 0% if Dry.) The **Wet/Dry** value multiplied by the **Return1** or **Return2** value is sent to the L/R bus and mixed with the P8 - Routing page **Bus Select** L/R or Insert FX page **Bus Select** L/R output.

For example, with MFX1 **Wet/Dry** set to 50:50 (50%) and **Return1** set to 64 (50%), the resultant effect level will be 25%. The effect level is maximum (100%) when **Wet/Dry** is set to “Wet” and **Return1** is set to 127.

Chain check box

Press this box to chain MFX1 and MFX2 to each other.

In the example shown in the preceding page, the output of MFX1 (Stereo Chorus) is added to the input of MFX2 (Reverb Hall).

Chain Direction

If you have checked the **Chain** box, you can set the direction of the connection here. You can also visually confirm the direction on the LCD.

Chain Level

This parameter determines the level of signals routed from one MFX to the other MFX in a chain connection.

Controlling the Master Effects via MIDI

In the same way as for insert effects, parameters of the master effects can also be controlled in realtime via Dynamic Modulation (Dmod) from the OASYS's controllers or an external MIDI device during performance or from the sequencer.

Program and Sampling modes

Effect parameters are controlled on the global **MIDI channel**.

Combination and Sequencer modes

In Combination and Sequencer modes, the control channel for MFX1 and MFX2 are specified by the **Ch** (Control Channel) setting in the MFX1 and 2 pages. You can choose Ch01–16 or Gch.

Ch01–16: Select this option if you wish to control the parameters for each Master Effect on different channels.

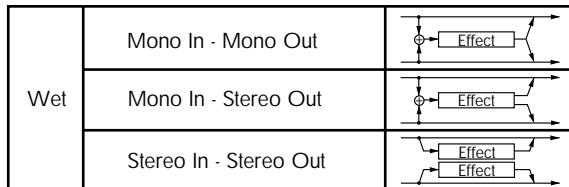
Gch: Select this option if you wish to control the parameters on the global **MIDI channel**. This is the normal setting.

Note: Since Sequencer mode lets you record and play exclusive messages and edit tracks that include System Exclusive events, you can use them to switch effects or modify effect parameter values during song playback.

Total Effects (TFX1, 2)

In/Out

The total effects TFX1 and TFX2 are stereo-in and stereo-out. The Dry (unprocessed) side of the **Wet/Dry** parameter sends the stereo input sound directly to the stereo output. The way in which the Wet (processed) side is output depends on the type of effect, as follows.



Mono-Mono Parallel

141: P4EQ/P4EQ-185: Mt.BPM Dly//Mt.BPM Dly

For details, see “Mono-Mono Parallel Effects” on page 794.

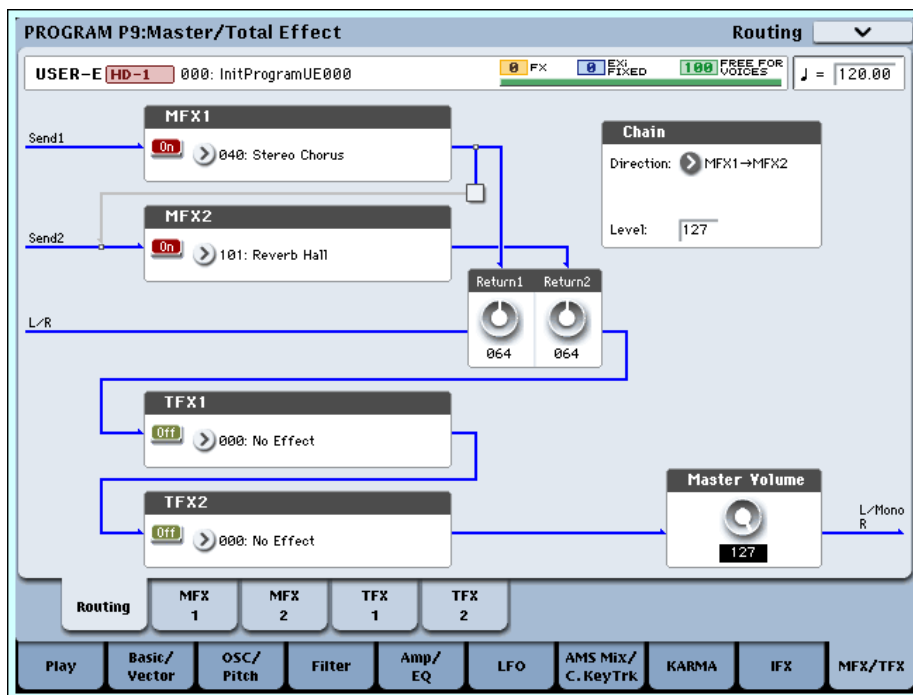
If you select 000:No Effect, the stereo input will be passed to the stereo output without any processing.

You can switch the effects on/off using the MFX1 or 2 ON/OFF buttons or the P9 - Routing settings in each mode. When off, the effect will be bypassed. The stereo input will be passed to the stereo output without any processing, just as if 000:No Effect is selected.

MIDI Separately from this ON/OFF button, MIDI control change CC#95 can be received to turn TFX1 and TFX2 off. A control change value of 0 turns them off, and a value of 1–127 restores them to the prior setting. You can also use “Effect Global SW” to turn off TFX1 and TFX2 in the same way. This is controlled on the global **MIDI channel**.

Routing

The total effects TFX1 and TFX2 are placed immediately before the AUDIO OUTPUT (MAIN) L/MONO and R outputs. Both effects (TFX1 and 2) are available in all modes.



If the **Bus Select** setting for an oscillator (Program/Sampling modes), timbre (Combination mode), track (Sequencer mode), or audio input (in all modes) or the post-insert **Bus Select** is set to L/R, the signal will be output from the AUDIO OUTPUT (MAIN) L/MONO and R jacks.

The sound from MFX1 and 2 is routed through TFX1 and TFX2, and then output to AUDIO OUTPUT (MAIN) L/MONO and R.

Mixer

Master Volume

This sets the level of the final output after passing through the total effects.

Note: You can use the control surface to control the master volume. Master volume can also be controlled from the P0- Control Surface page.

Using MIDI to control the Total Effects

In the same way as for Insert and Master Effects, the Total Effects can be controlled in realtime via Dynamic Modulation (Dmod). You can use either the built-in OASYS's controllers or an external MIDI device, during live performance or from a sequencer.

Program and Sampling modes

Effect parameters are controlled on the global **MIDI channel**.

Combination and Sequencer modes

In Combination and Sequencer modes, the control channel for TFX1 and TFX2 are specified by the **Ch** (Control Channel) setting in the TFX1 and 2 pages. You can choose Ch01-16 or Gch.

Ch01-16: Choose from these settings if you want to control each total effect on a separate channel.

Gch: Choose this setting if you want to control the total effects on the global **MIDI channel**.

Note: In Sequencer mode, you can record and play back exclusive messages, and edit tracks that include System Exclusive events. This lets you switch effects or vary the value of effect parameters while a song plays.

Outputs

Main Outputs

The main L/MONO and R outputs of the OASYS are output from the AUDIO OUTPUT (MAIN) L/MONO and R jacks, the S/P DIF OUT (MAIN) jack, and the headphone jack.

Individual Outputs

The OASYS is equipped with eight individual audio outputs, which can be used as individual mono outputs, stereo pairs, or any combination of the two. Signals sent to these outputs are also mirrored on the ADAT outputs of the optional EXB-DI, if installed. Almost any signal source can be routed to these outputs, including:

- Each note in a Drum Kit
- Insert Effect outputs
- Each Program in a Combination or Song
- Audio tracks
- Audio inputs

You can use these to isolate or group together sounds for recording, or for complex live performance setups.

If the signal is going through one or more insert effects, the output is set at the last IFX in the chain, via the **Bus Select** parameter on the P8-5 Insert Effects page.

If a Program, Timbre, or Track is *not* going through any insert effects, the output is set using the **Bus Select** parameters on the P8-1 or 8-2 Routing page.

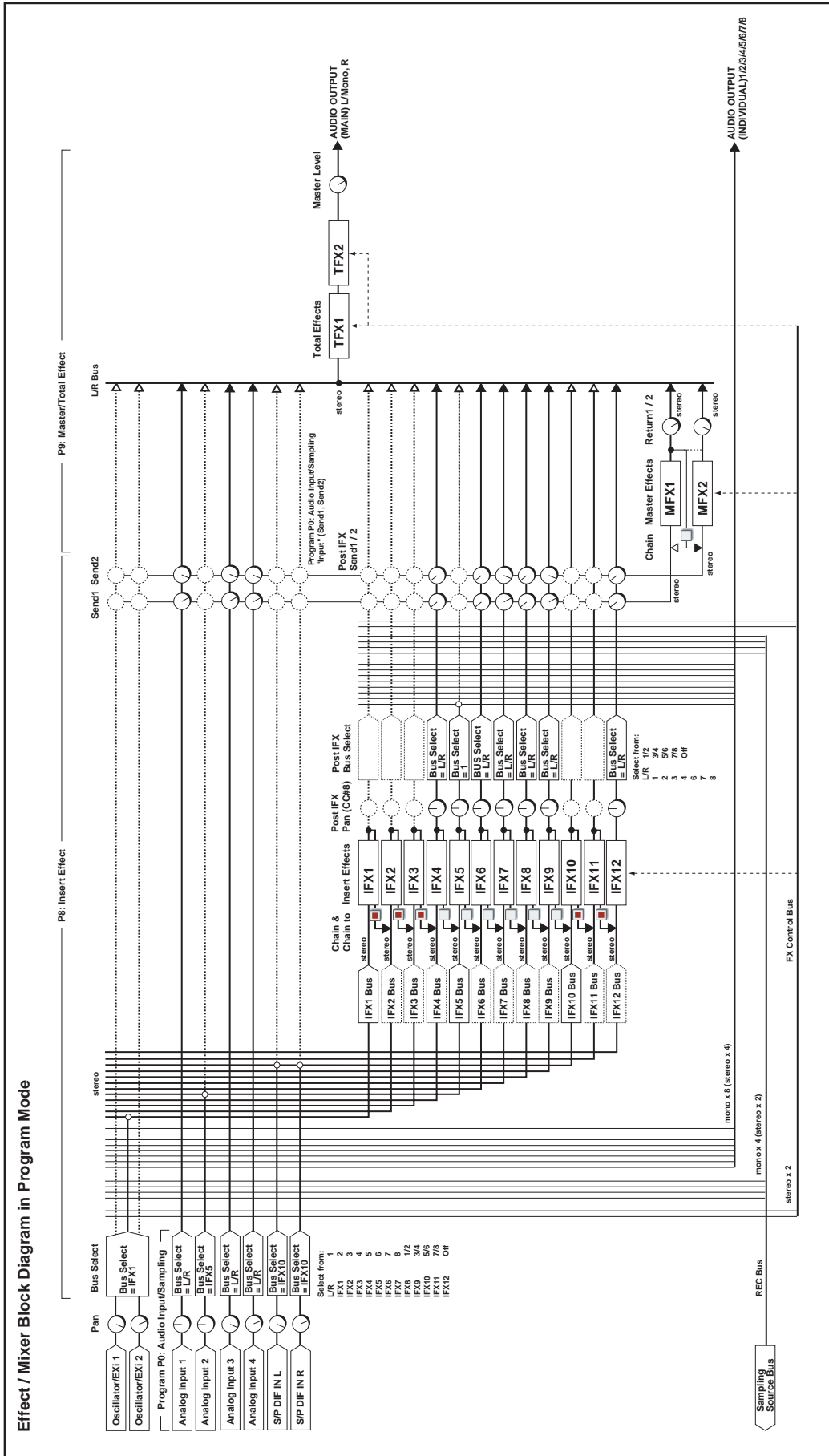
To assign audio inputs directly to outputs, use **Bus Select** parameters in the P0– Audio Input (Sampling) page.

In Global mode, the Audio page **L/R Bus Indiv. Assign** setting lets you mirror the MAIN stereo L/R output on any pair of individual outputs. You can use this to create a private monitoring setup in live and studio environments, or to send the main outputs to the optional EXB-DI's ADAT output. For more information, see “L/R Bus Indiv. Assign (Assign to L/R and Indiv.Out)” on page 707 of the Parameter Guide.

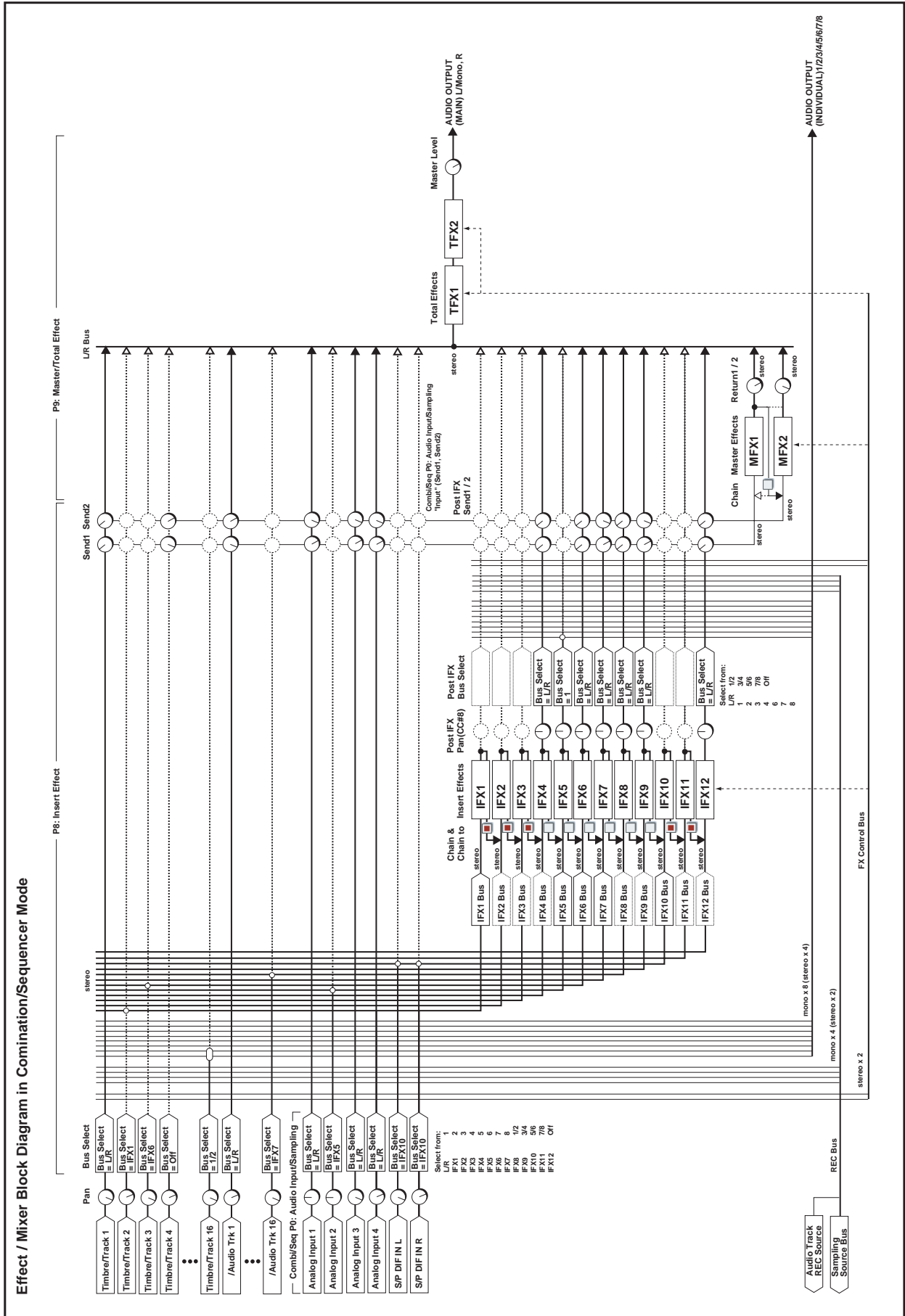
Note: You can't use the VOLUME slider to adjust the volume of the individual outputs.

Effect/Mixer Block Diagrams

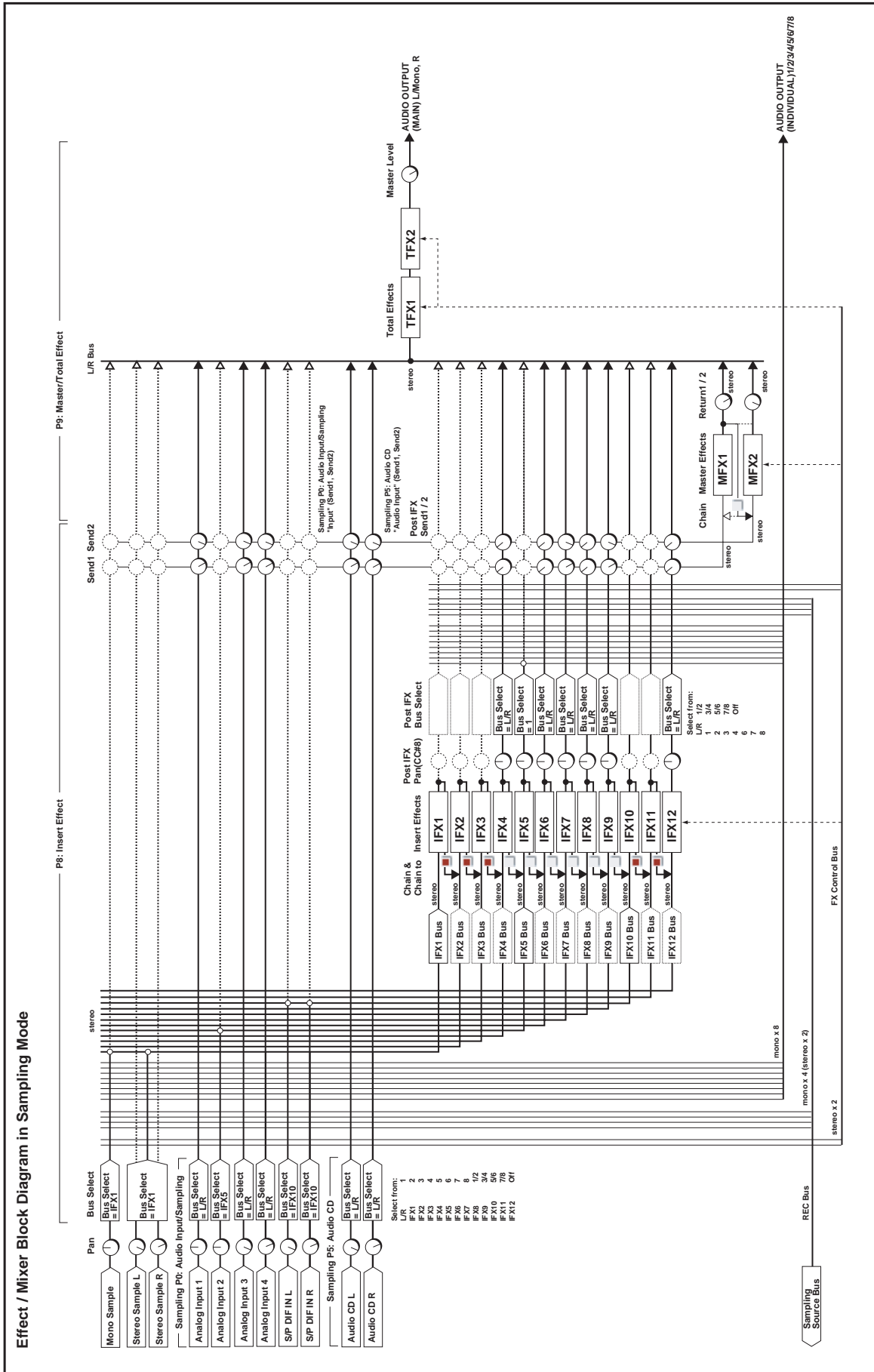
Program mode



Combination mode, Sequencer mode



Sampling mode



Dynamics

000: No Effect

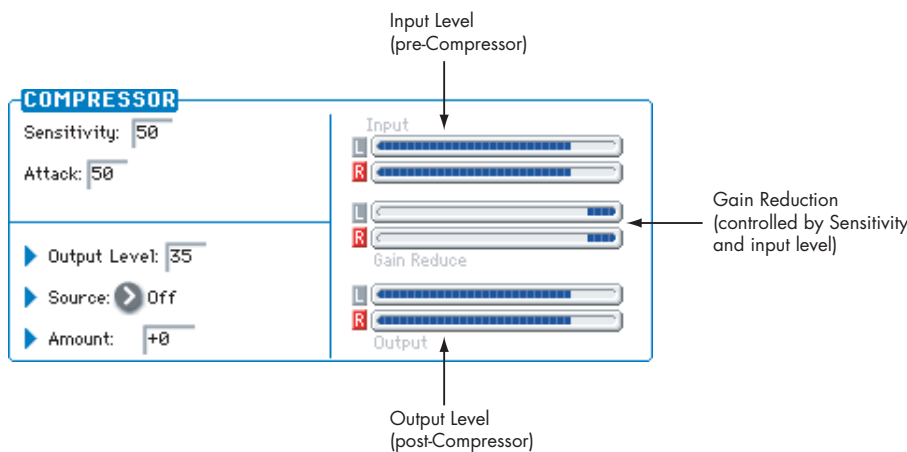
Choose this option when you are not using the selected effects slot. This frees up processing resources for other effects and/or synth voices.

When a slot is set to **No Effect**:

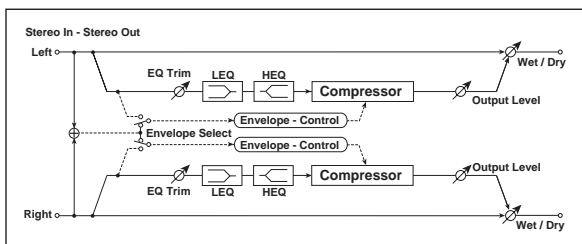
- Insert Effects and Total Effects pass through the dry, unprocessed signal
- Master Effects mute their outputs

001: Stereo Dyna Compressor

On-screen graphic, 001 Stereo Dyna Compressor



This effect reduces the dynamic range of the input signal, to regulate the level and give a “punchy” effect. It is useful for guitar, piano, and drum sounds. This is a true stereo effect; you can link the left and right channels, or use each channel separately.



ENVELOPE

Select [L/R Mix, L/R Individually]

This determines how the left and right channels of the selected **Source** are used for controlling the compressor. Note that this applies only to the control signal; the effect always processes both channels of the input signal in stereo.

L/R Mix is generally the best choice for stereo signals; this compresses both channels equally, based on the combined volumes of the left and right channels.

L/R Individually splits the effect into two separately controlled mono compressors. When processing stereo signals, this will cause the stereo image to shift.

Pre EQ

Trim [0...100]

This sets the input level for the EQ.

LEQ Fc [Low, Mid-Low]

Selects the frequency of the EQ's low band.

LEQ Gain [dB] [-15.0...+15.0]

Sets the gain of the Low EQ.

HEQ Fc [High, Mid-High]

Selects the frequency of the EQ's high band.

HEQ Gain [dB] [-15.0...+15.0]

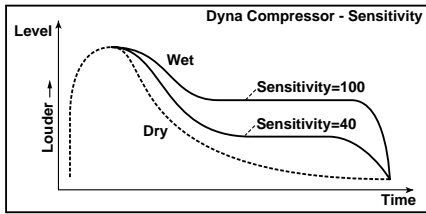
Sets the gain of the High EQ.

COMPRESSOR

Sensitivity [1...100]

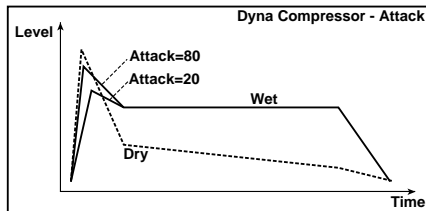
This controls the amount of compression. Increasing the value boosts lower level sounds, and raises the overall volume.

To adjust the final volume, use the **Output Level** parameter.



Attack [1...100]

This controls the onset time of the compressor.



Output Level D_{mod} [0...100]

Sets the output level of the compressor.

Source [Off...Tempo]

Selects the modulation source for the Output Level.

Amount [+/-100]

Sets the modulation amount for the Output Level.

OUTPUT

Wet/Dry D_{mod} [Dry, 1:99...99:1, Wet]

Sets the balance between the "wet" processed sound and the dry input.

Source [Off...Tempo]

Selects a modulation source for Wet/Dry.

Amount [+/-100]

Sets the modulation amount for Wet/Dry.

002: Stereo Compressor

On-screen graphic, 002 Stereo Compressor

The yellow line shows the output level, relative to the input level. This will change according to the Ratio, Threshold, and Soft Knee Width.

This meter shows the amount of gain reduction, in real-time. To show that the gain is being reduced, the meter moves in the opposite direction from the Input meter.

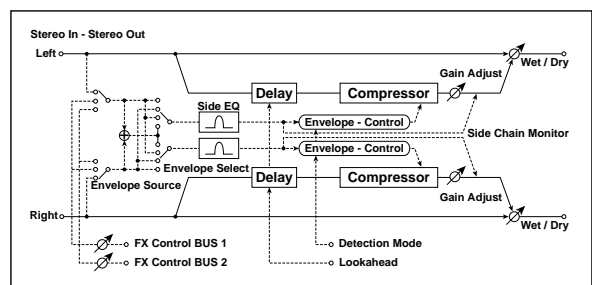
The red marks show the Threshold setting.

The light gray area shows the Soft Knee Width. Notice how the slope of the yellow line changes as it passes through this range.

The red marks show the Threshold setting.

These lights show the relation of the control input to the Threshold and Soft Knee, in real-time. Under (green) means the input is below the Soft Knee area, and so no compression is occurring. Knee (yellow) means that the input is within the Soft Knee range. Within this range, as the signal gets louder, the amount of compression will gradually increase towards the Ratio setting. Over (red) means that the input is above the Soft Knee range, and the full Ratio is being applied.

This is a sophisticated stereo compressor that allows you to make detailed settings, such as the level detection method and the compression curve.



ENVELOPE

Source [Input, FX Control 1, FX Control 2]

The action of the compressor is controlled by the level of the selected **Source**.

Input is the normal setting, in which the level of the input signal controls the compressor.

FX Control 1 or **2** let you process the input signal with the compressor, while using a completely different signal to control it. For instance, you might use a different **Timbre** or **Track** to duck the input signal. For more information, please see “FX Control Buses” on page 790.

Select [L/R Mix, Left, Right, L/R Individually]

This determines how the left and right channels of the selected **Source** are used for controlling the compressor. Note that this parameter applies only to the control signal; the effect always processes both channels of the input signal in stereo.

L/R Mix is generally the best choice for stereo signals; this compresses both channels equally, based on the combined volumes of the left and right channels.

L Only and **R Only** use only the selected channel for controlling the limiter; the other channel is ignored.

L/R Individually splits the effect into two separately controlled mono compressors. When processing stereo signals, this will cause the stereo image to shift.

Fx Control Trim [0...100]

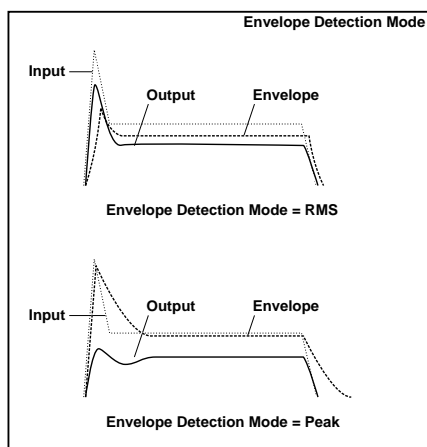
This adjusts the level of the FX Control Bus inputs.

Detection Mode [RMS, Peak]

RMS bases the amount of compression on the average level, which tends to sound more natural in most cases.

Peak does not do this averaging, and so the compressor responds more quickly to sudden jumps in level.

Choose **RMS** if you want to make the overall volume more consistent, or choose **Peak** if you want to be sure that even sudden peaks are suppressed.



Side Chain Monitor [Check-box]

When this is **On**, you'll hear the control signal (as selected by the **Source** parameter) through the sidechain EQ, instead of the output of the limiter. This can be helpful when you're tuning the EQ to emphasize or de-emphasize specific frequencies.

To hear the output of the limiter, set this to **Off**.

SIDE CHAIN EQ

This multimode filter applies only to the control signal, and not to the main audio path. Use it to alter the response of the compressor so that it reacts (or does not react) only to specific frequencies.

For instance, if you want the compressor to ignore cymbal crashes, adjust the sidechain EQ to reduce the gain of frequencies specific to the cymbals. While doing so, it may help to turn on the **Side Chain Monitor** switch, so that you can listen as you hone in on the desired frequencies.

EQ On [Check-box]

Switches the EQ on and off.

Type [Low Pass, Band Pass, High Pass, Band Reject]

Selects the type of filter for the sidechain. For more information, see “Filter Type” on page 62.

Frequency [Hz] [20...20.00k]

Sets the filter's cutoff frequency.

Q [0.5...10.0]

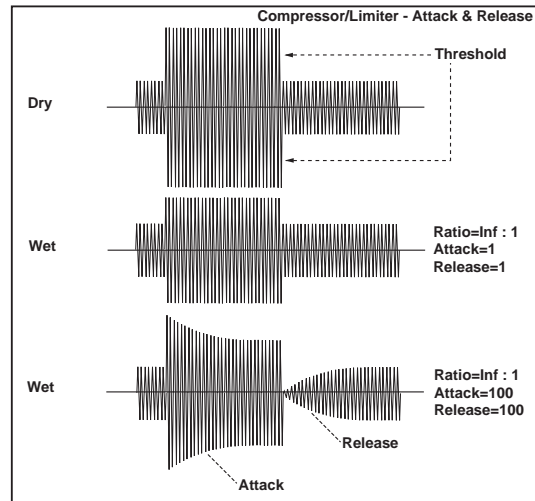
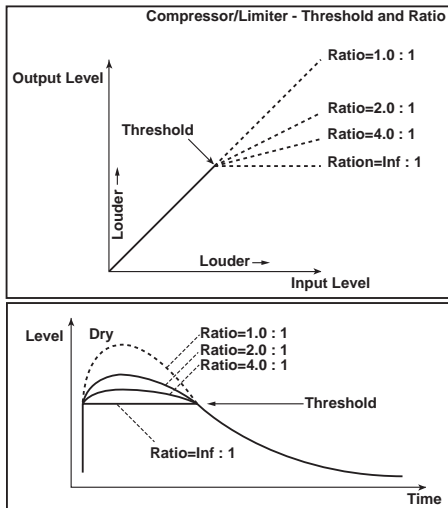
Sets the bandwidth of the EQ.

COMPRESSOR

Ratio [1.0:1...50.0:1, Inf:1]

This determines how strong the effect of the compressor will be, expressed by how many dB in input level over the **Threshold** is required for a 1dB change in output level.

At **1.0:1**, the compressor has no effect. At **20.00:1**, a 20dB increase in the input level (over the **Threshold**) results in only a 1dB change in output. At **Inf:1**, the compressor becomes a brick-wall limiter; once the signal hits the **Threshold**, the output level will no longer increase, regardless of the input level.

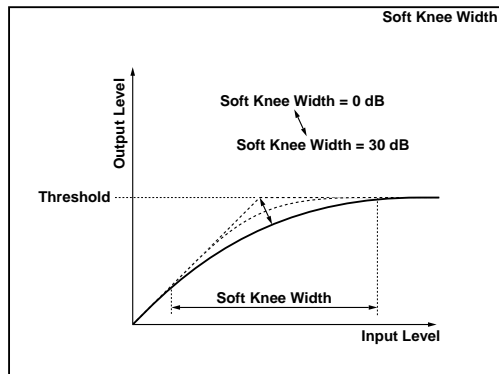


Threshold [dB] [-40...0]

Compression happens only when the input signal exceeds this level. Input levels above the threshold will be compressed, and input levels below the threshold will not be compressed.

Soft Knee Width [dB] [0...30]

Increasing this value will produce a more gentle volume change around the Threshold level.



Attack [msec] [0.45...500.0]

This determines how quickly the compressor will take affect after the signal crosses above the threshold.

Release [msec] [5...5000]

This controls how quickly the compressor will stop reducing volume level after the signal falls below the threshold.

Lookahead [Check-box]

If this is on, the input signal to the compressor is delayed so that the level will be detected from the trigger input before the input signal is actually processed. This allows compression to accurately follow changes in the trigger input.

Gain Adjust [dB] $D_{mod} \leq$ [-Inf, -38...+24]

Sets the output gain. It's often useful to increase the gain, since compression causes the entire level to be reduced.

Source [Off...Tempo]

Selects the modulation source for the output gain.

Amount [-63...+63]

Sets the amount of output gain modulation.

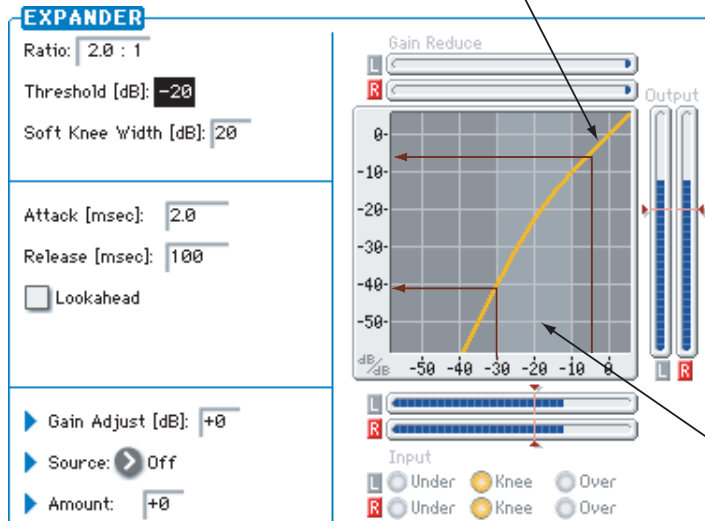
OUTPUT

This is the standard effects output section, with modulatable control over wet/dry balance. For more information, see "OUTPUT" on page 820.

003: Stereo Expander

On-screen graphic, 003 Stereo Expander

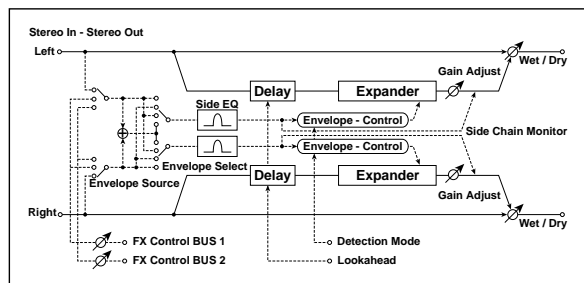
The yellow line shows the output level, relative to the input level. This will change according to the Ratio, Threshold, and Soft Knee Width. The expander lowers the level when the input signal is below the Threshold, to the left of the gray area. In the example shown here, a -30 dB input results in -40 dB output, while a -5dB input passes through unchanged.



Please see the description of the Stereo Compressor for more information on the graphic display.

The light gray area shows the Soft Knee Width. Notice how the slope of the yellow line changes as it passes through this range.

An expander is like the opposite of a compressor: it makes quiet signals more quiet. You can use this to increase dynamic range, emphasizing the differences between soft and loud.



ENVELOPE

This part of the effect allow you to select and listen to the control signal, adjust the input level of the FX Control Buses, and select between RMS and Peak detection modes. The parameters are the same as for the Stereo Compressor; for more information, see "ENVELOPE" on page 821.

SIDE CHAIN EQ

This multimode filter applies only to the control signal, and not to the main audio path. Use it to alter the response of the expander so that it reacts (or does not react) only to specific frequencies. The parameters are the same as for the Stereo Compressor; for more information, see "SIDE CHAIN EQ" on page 821.

EXPANDER

Ratio [1.0:1...10.0:1]

Sets the signal compression ratio.

Threshold [dB] [-40...0]

Sets the level above which the compressor is applied. For more information, see "Threshold [dB]" on page 822.

Soft Knee Width [dB] [0...30]

Sets the curve at which compression is applied. p.822.

Attack [msec] [0.45...500.0]

Sets the attack time. For more information, see "Attack [msec]" on page 822.

Release [msec] [5...5000]

Sets the release time. For more information, see "Release [msec]" on page 822.

Lookahead [Check-box]

Switches level detection look-ahead (expander input delay) on/off. For more information, see "Lookahead" on page 822.

Gain Adjust [dB] [-Inf, -38...+24]

Sets the output gain.

Source [Off...Tempo]

Selects the modulation source for the output gain.

Amount [-63...+63]

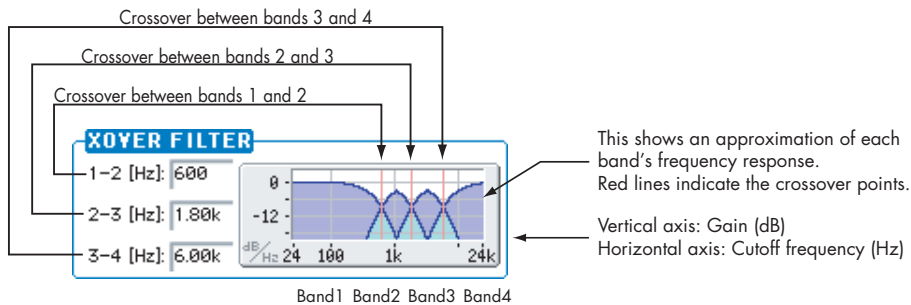
Sets the modulation amount of the output gain.

OUTPUT

This is the standard effects output section, with modulatable control over wet/dry balance. For more information, see "OUTPUT" on page 820.

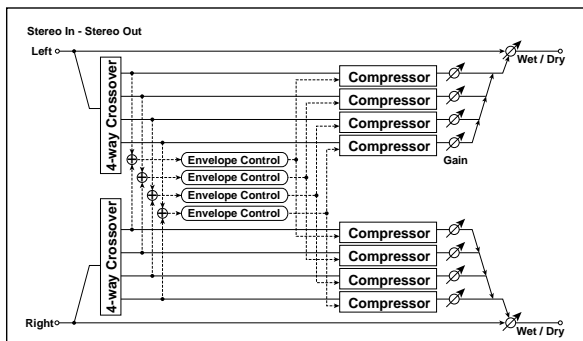
004: St.Multiband Compressor

On-screen graphic, 004 St. Multiband Compressor crossover



This stereo effect divides the input signal into four bands, low through high, with separate dynamics control of each band. While it's named a "compressor," it's actually much more than that. It can be used as a compressor, expander, gate, or EQ—with each band performing a different function, if desired.

The dynamics processing works somewhat differently than a standard compressor/expander. For more information, see "Range [dB]," below.



XOVER FILTER

Slope [6dB Oct, 12dB Oct, 18dB Oct, 24dB Oct]

Selects the steepness of the crossover filters.

Frequency 1-2 [Hz] [40...240]

Sets the frequency at which bands 1 and 2 are divided.

Frequency 2-3 [Hz] [100...6.00k]

Sets the frequency at which bands 2 and 3 are divided.

Frequency 3-4 [Hz] [2.00k...16.00k]

Sets the frequency at which bands 3 and 4 are divided.

ADJUST

Knee [Soft, 0.01...0.74, Hard]

This effectively controls both the onset/offset shape of the dynamics processing, and (in conjunction with **Range**), the compression/expansion ratio.

For more information, see "Range [dB]," below.

Output Gain [dB] [-18.0...+18.0]

Sets the overall output gain.

Bands 1-4

Each of the four bands has identical parameters.

These meters show the band's input level and gain reduction, in real-time. The red mark shows the Threshold setting.

Solo [Check-box]

Use this setting to audition the processed sound of each band.

If this is On, the output of other bands will be muted. If this is On for more than one band, only the bands for which this is On will be heard. Normally, this should be turned Off for all bands.

Bypass [Check-box]

You can bypass compression for each band individually.

When this is On, you'll hear the band's un-compressed signal.

Threshold [dB] [-80.0...0.0]

The compression/expansion functions only in a range around the **Threshold** level. Signals outside of this range are not affected.

For more information, see "Range [dB]," below.

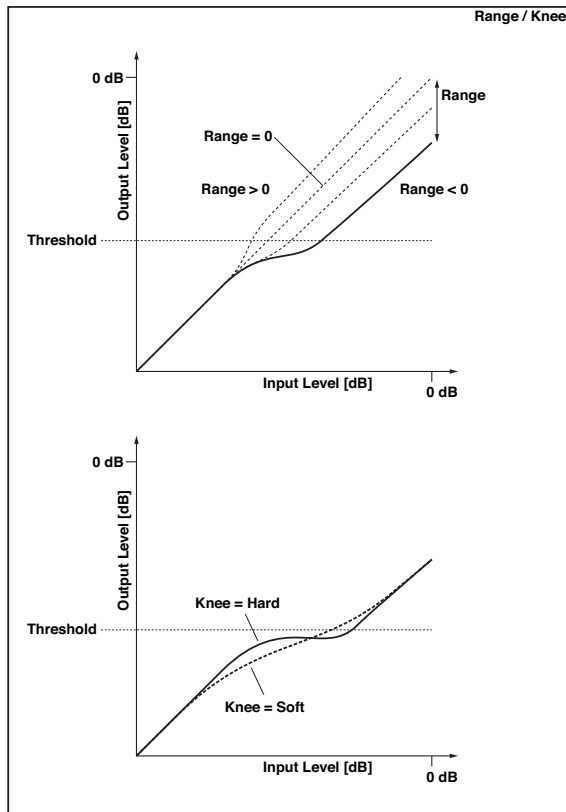
Range [dB] [-24.0...+18.0]

The combination of **Threshold** and **Range** controls the band's basic functionality (traditional compressor, low-level expander, etc.), and the combination of **Range** and **Knee** creates the band's compression/expansion.

To create a traditional compressor action, set the **Threshold** around 0.0, and the **Range** to a negative value.

To create a low-level expander (raising lower volume levels, while leaving higher levels untouched), set the **Threshold** to a low level, and the **Range** to a positive value.

You can also create special compression effects, such as compressing (or expanding) only the middle range of levels. For more information, see the diagram below.



Attack [msec] [0.60...500.0]

Sets the band's attack time. For more information, see "Attack [msec]" on page 822.

Release [msec] [5...5000]

Sets the band's release time.

Gain [dB] [-18.0...+18.0]

Sets the band's output gain.

OUTPUT

This is the standard effects output section, with modulatable control over wet/dry balance. For more information, see "OUTPUT" on page 820.

005: Stereo Limiter

On-screen graphic, 005 Stereo Limiter

The yellow line shows the output level, relative to the input level. This will change according to the Ratio and Threshold settings. Input above the Threshold will be compressed. In the example shown here, a -10 dB input will result in -20 dB output.

This meter shows the amount of gain reduction, in real-time. To show that the gain is being reduced, the meter moves in the opposite direction from the Input meter.

This meter shows the output level, in real-time.

The red marks show the Threshold setting.

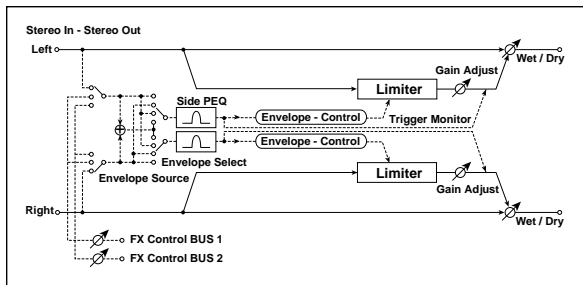
Vertical axis: Output from the limiter
Horizontal axis: Input to the envelope control

This meter shows the control signal, in real-time, including the effect of the Side Chain EQ.

The red marks show the Threshold setting.

These lights show the relation of the control input to the Threshold, in real-time. Under (green) means the input is below the Threshold, and so the signal will pass through unchanged. Over (red) means that the input is above the Threshold, and so the signal will be limited.

The Limiter regulates the input signal level. It is similar to the Compressor, except that the Limiter compresses only signals that exceed the specified level to lower unnecessary peak signals. The Limiter applies a peaking-type EQ to the trigger signal (which controls the degree of the Limiter effect), allowing you to set any band width to be covered. This is a true stereo effect; you can link left and right channels, or use each channel individually.



ENVELOPE

Source [Input, FX Control 1, FX Control 2]

This selects the control signal for the limiter: the input signal, FX Control Bus 1, or FX Control Bus 2. For more information, see "Source" on page 821.

Select [L/R Mix, L Only, R Only, L/R Individually]

This determines how the left and right channels of the selected **Source** are used. Note that this parameter applies only to the control signal; the effect always processes both channels of the input signal in stereo. For more information, see "Select" on page 821.

L/R Mix is generally the best choice for stereo signals; this will cause the limiting to be applied equally to both channels, based on the combined volumes of the left and right channels.

L Only and **R Only** use only the selected channel for controlling the limiter; the other channel is ignored.

L/R Individually essentially splits the stereo limiter into two separately controlled mono limiters. When processing stereo signals, this will cause the stereo image to shift.

FX Control Trim [0...100]

This adjusts the level of the FX Control Bus inputs.

Side Chain Monitor [Check-box]

This lets you listen directly to the control signal (as selected by the **Source** parameter) through the sidechain EQ. See "Side Chain Monitor" on page 821.

SIDE CHAIN EQ

This EQ applies only to the control signal, and not to the main audio path. Use it to alter the response of the limiter so that it reacts (or does not react) only to specific frequencies.

For instance, if you want the limiter to ignore cymbal crashes, adjust the sidechain EQ to reduce the gain of frequencies specific to the cymbals. While doing so, it may help to turn on the **Side Chain Monitor** switch, so that you can listen as you hone in on the desired frequencies.

Side PEQ On [Check-box]

This lets you enable and disable the sidechain EQ—handy for comparing its effect.

Fc [Hz] [20...12.00k]

Sets the EQ center frequency for the control signal.

Q [0.5...10.0]

Sets the EQ bandwidth for the control signal.

Gain [dB] [-18.0...+18.0]

Sets the EQ gain for the control signal.

LIMITER

Ratio [1.0:1...50.0:1, Inf:1]

Sets the signal compression ratio. For more information, see “Ratio” on page 821.

Threshold [dB] [-40...0]

Sets the level above which the compressor is applied. For more information, see “Threshold [dB]” on page 822.

Attack [1...100]

Sets the attack time. For more information, see “Attack [msec]” on page 822.

Release [1...100]

Sets the release time. For more information, see “Release [msec]” on page 822.

Gain Adjust [dB] [-Inf, -38...+24]

Sets the output gain. For more information, see “Gain Adjust [dB]” on page 822.

Source [Off...Tempo]

Selects the modulation source for the output gain.

Amount [-63...+63]

Sets the modulation amount of the output gain.

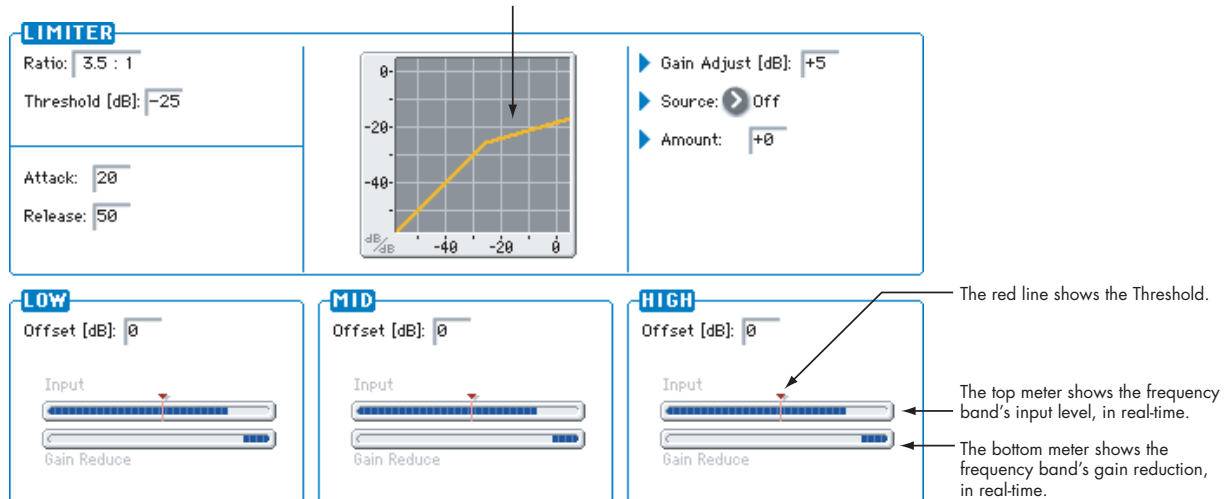
OUTPUT

This is the standard effects output section, with modulatable control over wet/dry balance. For more information, see “OUTPUT” on page 820.

006: Multiband Limiter

On-screen graphic, 006 Multiband Limiter

The yellow line shows the output level, relative to the input level. This will change according to the Ratio and Threshold settings.



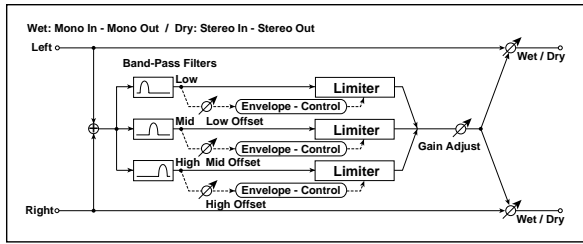
This mono effect provides separate limiters for the low, mid, and high frequencies. You can control the dynamics for each range to adjust the relative levels of the low, mid, and high ranges, with very different results from EQ.

Threshold Offsets

The three bands share common settings for ratio, attack and release times, and output gain adjust. The difference is in the threshold settings. In addition to the

overall **Threshold** parameter, each band has a threshold **Offset**, which makes the band more or less sensitive to the input signal.

For example, if you do not want to apply limiting to the high range, reduce the **High Offset** so that it is lower than the **Threshold**. This means that the high range limiter will not respond, and so the high band will pass through unaffected.



LIMITER

Ratio [1.0:1...50.0:1, Inf:1]

Sets the signal compression ratio. For more information, see "Ratio" on page 821.

Threshold [dB] [-40...0]

Sets the overall level above which the limiter is applied. Each band's Offset parameter then works as an offset for this parameter.

For more information, see "Threshold [dB]" on page 822.

Attack [1...100]

Sets the attack time. For more information, see "Attack [msec]" on page 822.

Release [1...100]

Sets the release time. For more information, see "Release [msec]" on page 822.

Gain Adjust [dB] D_{mod} [-Inf, -38...+24]

Sets the output gain. For more information, see "Gain Adjust [dB]" on page 822.

Source [Off...Tempo]

Selects the modulation source for the output gain.

Amount [-63...+63]

Sets the modulation amount of the output gain.

LOW

Offset [dB] [-40...0]

This adjusts the **Threshold** level for the low range.

MID

Offset [dB] [-40...0]

This adjusts the **Threshold** level for the mid range.

HIGH

Offset [dB] [-40...0]

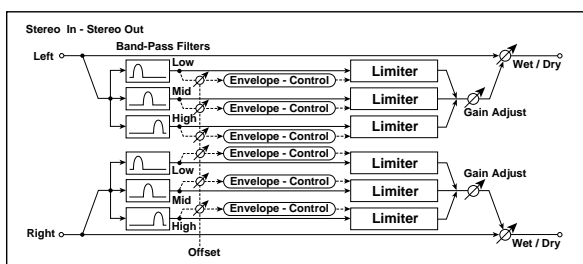
This adjusts the **Threshold** level for the high range.

OUTPUT

This is the standard effects output section, with modulatable control over wet/dry balance. For more information, see "OUTPUT" on page 820.

007: Stereo Multiband Limiter

This is a true-stereo multiband limiter. For more information, see the mono version, "006: Multiband Limiter," above.



LIMITER

Ratio [1.0:1...50.0:1, Inf:1]

Sets the signal compression ratio. For more information, see "Ratio" on page 821.

Threshold [dB] [-40...0]

Sets the level above which the compressor is applied. For more information, see "Threshold [dB]" on page 822.

Attack [1...100]

Sets the attack time. For more information, see "Attack [msec]" on page 822.

Release [1...100]

Sets the release time. p.822.

Gain Adjust [dB] D_{mod} [-Inf, -38...+24]

Sets the output gain. p.822.

Source [Off...Tempo]

Selects the modulation source for the output gain.

Amount [-63...+63]

Sets the modulation amount of the output gain.

LOW

Offset [dB] [-40...0]

This adjusts the **Threshold** level for the low range. For more information, see "Threshold Offsets" on page 827.

MID

Offset [dB] [-40...0]

This adjusts the **Threshold** level for the mid range.

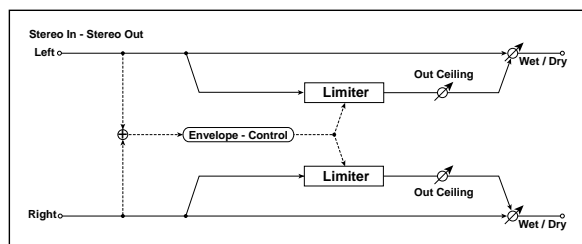
HIGH**Offset [dB]** [-40...0]This adjusts the **Threshold** level for the high range.**OUTPUT**

This is the standard effects output section, with modulatable control over wet/dry balance. For more information, see "OUTPUT" on page 820.

008: Stereo Mastering Limiter

This stereo limiter is optimized for mastering full mixes. It uses a short look-ahead delay (1.3 ms) for zero-overshoot performance, and automatically optimizes the output level to a specified maximum.

For a description of the on-screen graphics, see "005: Stereo Limiter" on page 826.

**LIMITER****Threshold [dB]** [-30.0...0.0]

This affects both the limiting threshold and the output gain.

Signals above the **Threshold** will be limited; signals below this level will not be limited, but will still benefit from any increase in output gain (see below).

The output gain is automatically increased by the difference between the **Threshold** and the **Out Ceiling**. For instance, if the **Threshold** is -9.0dB and the **Out Ceiling** is -3.0dB, gain will be increased by 6dB.

Out Ceiling [dB] [-30.0...0.0]

This controls the maximum output level. In general, it's best to set this slightly below 0.0, in order to accommodate the less-than-optimal output stages which are sometimes found in consumer audio devices.

An aggressive setting would be -0.3dB; a conservative setting, to avoid clipping on some older CD players, would be -3dB.

Release [msec] [0.65...1000.0]

This controls how long it takes the limiter to allow the gain to rise again after the signal is no longer above the threshold. Generally, settings between 1.0 and 5.0 milliseconds will be most effective. For more information, see "Release [msec]" on page 822.

OUTPUT**Wet/Dry** D^{mod} [Dry, 1:99...99:1, Wet]

Sets the balance between the effect and the dry input.

Important: The look-ahead delay will cause phasing effects if this is set to any in-between values (1:99...99:1). Only completely **Wet** or **Dry** will sound correct.

Source [Off...Tempo]

Selects a modulation source for Wet/Dry.

Amount [+/-100]

Sets the modulation amount for Wet/Dry.

Using the Stereo Mastering Limiter

Careful compression and limiting are great mastering tools. Here are some simple instructions which should produce good results with most material:

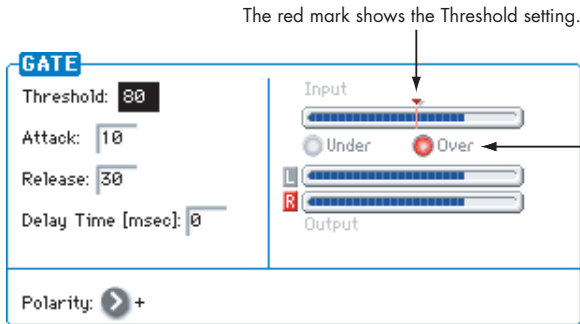
1. Go to the TFX/MFX page.
 2. For TFX2, select 008: Stereo Mastering Limiter
- The limiter should be the last effect before the output.
3. Set the **Out Ceiling** to a value between -0.3dB and -3dB.
 4. Leave the **Release** at the default setting.
 5. Make sure that **Wet/Dry** is set to **Wet**, with no modulation.
 6. Go to the loudest part of the song.
 7. While playing the song, adjust the **Threshold**, and watch the gain reduction meter. Set the **Threshold** so that the gain reduction meter rarely if ever shows more than 6dB of limiting.

You could also use a compressor in TFX1, before the limiter, such as 002: Stereo Compressor or 004: St. Multiband Compressor.

Above all, remember to be gentle; the more you increase the volume, the more likely you are to add distortion.

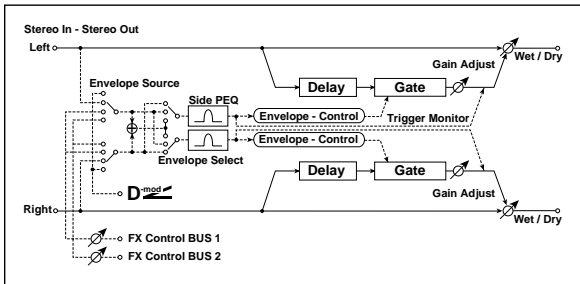
009: Stereo Gate

On-screen graphic, 009 Stereo Gate



These lights show the relation of the control input to the Threshold, in real-time. Under (green) means the input is below the Threshold, and Over (red) means that it is above the Threshold. Going above the Threshold may make the gate open or close, depending on the Polarity setting.

This effect mutes the input signal when it falls below a specified level. You can also invert the on/off status of the gate, or use note-on/off messages to turn the gate on/off directly.

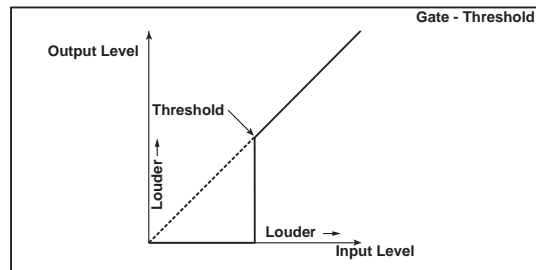


GATE

Threshold [0...100]

Sets the level at which gating is applied.

Note that this does not apply when the ENVELOPE Source is set to Dmod.



ENVELOPE

Source [Dmod, Input, FX Control 1, FX Control 2]

Selects the source to control the gate: Dmod control, or use the input signal or FX Control Bus 1 or 2 as a trigger. See "Source" on page 821.

Dmod Control [Off...Tempo]

Selects the source that will control the gate when Envelope Source = Dmod.

Select [L/R Mix, L Only, R Only]

Selects the control signal: left and right linked, left only, or right only. See "Select" on page 821.

FX Control Trim [0...100]

This adjusts the level of the FX Control Bus inputs.

Side Chain Monitor [Check-box]

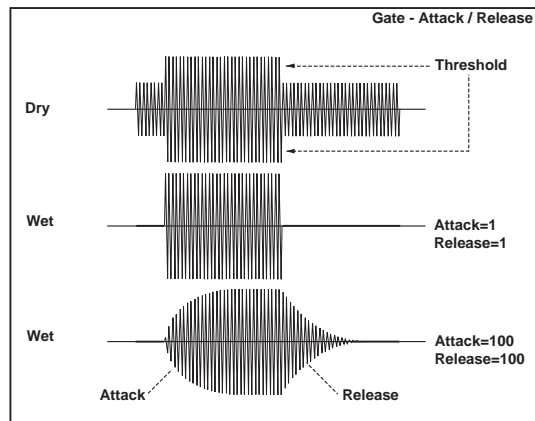
Switches between monitoring the effect output and the trigger signal. For more information, see "Side Chain Monitor" on page 826.

Attack [1...100]

Sets the attack time.

Release [1...100]

Sets the release time.



SIDE CHAIN EQ

This band of fully parametric EQ applies only to the control signal, and not to the main audio path. Use it to alter the response of the limiter so that it reacts (or does not react) only to specific frequencies. Its parameters are identical to those in the Stereo Limiter; for more information, see "SIDE CHAIN EQ" on page 826.

Delay Time [msec] [0...100]

This sets the delay time for the input to the gate. When using shorter Attack Time settings, you can lengthen the Delay Time so that the sound is input after the gate opens.

Polarity [+, -]

This controls the way that the gate opens and closes in response to the input signal.

+: This is the default setting, for normal gate behavior. The gate will open when the input is above the Threshold, and close when the input falls below it.

-: This reverses the normal operation. The gate will *close* when the input is above the Threshold, and *open* when the input falls below it.

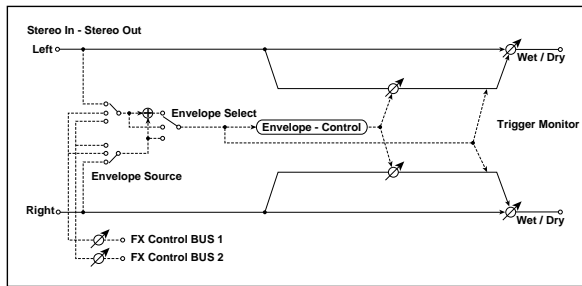
With -, the direction in which the modulation source opens or closes the gate is reversed as well.

OUTPUT

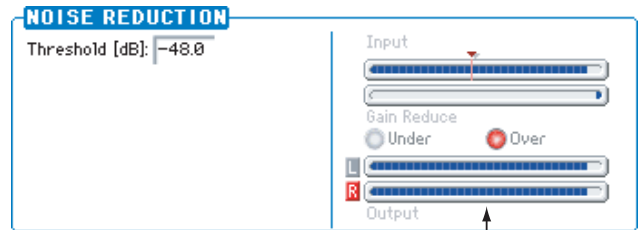
This is the standard effects output section, with modulatable control over wet/dry balance. For more information, see "OUTPUT" on page 820.

010: Stereo Noise Reduction

This effect minimizes obtrusive noise by reducing the volume when the signal is at a low level. You can use this if a guitar or mic signal from the audio input contains noise.



On-screen graphic, 010 Stereo Noise Reduction



This is a realtime indication of the control input signal level (Input), the gain reduction produced by the control input signal (Gain Reduce), and the output signal level (Output). Noise Reduction reduces the noise level below the Threshold.

ENVELOPE

Envelope Source [Input, FX Control 1, FX Control 2]

Selects the trigger source to use: the input signal, FX Control Bus 1, or FX Control Bus 2. p.821.

Envelope Select [L/R Mix, Left, Right]

Selects whether the compressor is linked between left/right, controlled only by the left signal, only by the right signal, or independently for left and right. p.821.

Fx Control Trim [0...100]

This adjusts the level of the FX Control Bus inputs.

NOISE REDUCTION

Trigger Monitor [Check-box]

Switches between monitoring the effect output and the trigger signal. p.826.

Threshold [dB] [-72.0...-22.0]

Sets the noise level

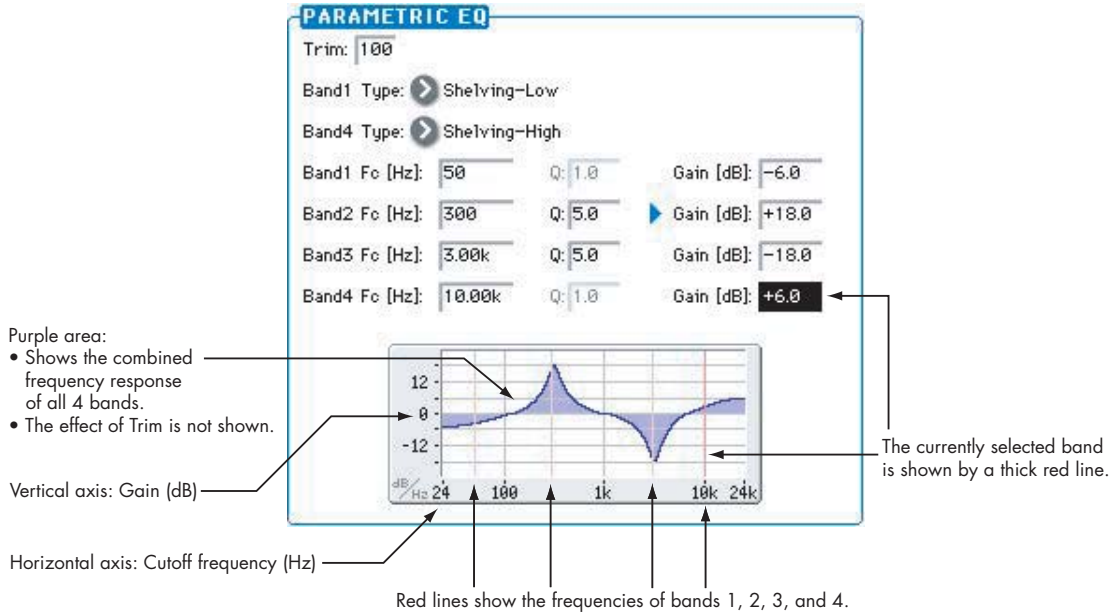
OUTPUT

This is the standard effects output section, with modulatable control over wet/dry balance. For more information, see "OUTPUT" on page 820.

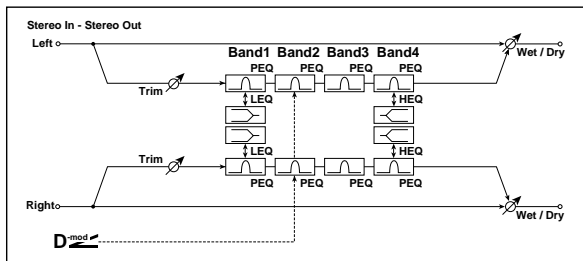
EQ and Filters

011: Stereo Parametric 4EQ

On-screen graphic, 011 Stereo Parametric 4EQ



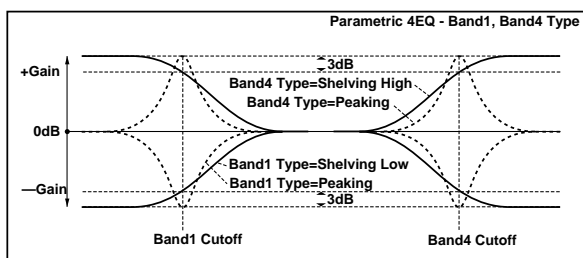
This is a stereo 4-band parametric equalizer. Bands 1 and 4 can be set to either peaking or shelving modes, and you can modulate the gain of Band 2 in real-time.



PARAMETRIC EQ

Trim [0...100]
 Sets the input level.

Band1 Type [Peaking, Shelving-Low]
Peaking creates a bell shape around a center frequency.
Shelving creates a slope up to a “shelf,” which then extends all the way to the bottom or top of the frequency range.



Band4 Type [Peaking, Shelving-High]

Selects the EQ type for Band 4. See “Band1 Type,” above.

Band1 Fc [Hz] [20...1.00k]

Sets the center frequency of Band 1.

Q [0.5...10.0]

Sets the bandwidth of Band 1. The higher the value, the narrower the band becomes.

Gain [dB] [-18.0...+18.0]

Sets the gain of Band 1.

Band2 Fc [Hz] [50...10.00k]

Sets the center frequency of Band 2.

Q [0.5...10.0]

Sets the bandwidth of Band 2.

Gain [dB] D_{mod} [-18.0...+18.0]

Sets the gain of Band 2.

Band3 Fc [Hz] [300...10.00k]

Sets the center frequency of Band 3.

Q [0.5...10.0]

Sets the bandwidth of Band 3.

Gain [dB] [-18.0...+18.0]

Sets the gain of Band 3.

Band4 Fc [Hz] [500...20.00k]

Sets the center frequency of Band 4.

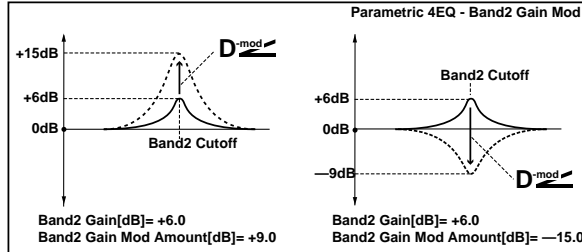
Q [0.5...10.0]
Sets the bandwidth of Band 4.

Gain [dB] [-18.0...+18.0]
Sets the gain of Band 4.

Band2 Source [Off...Tempo]
Selects the modulation source for the Band 2 gain.

Amount [dB] [-18.0...+18.0]
Sets the modulation amount for the Band 2 gain.

GAIN MOD

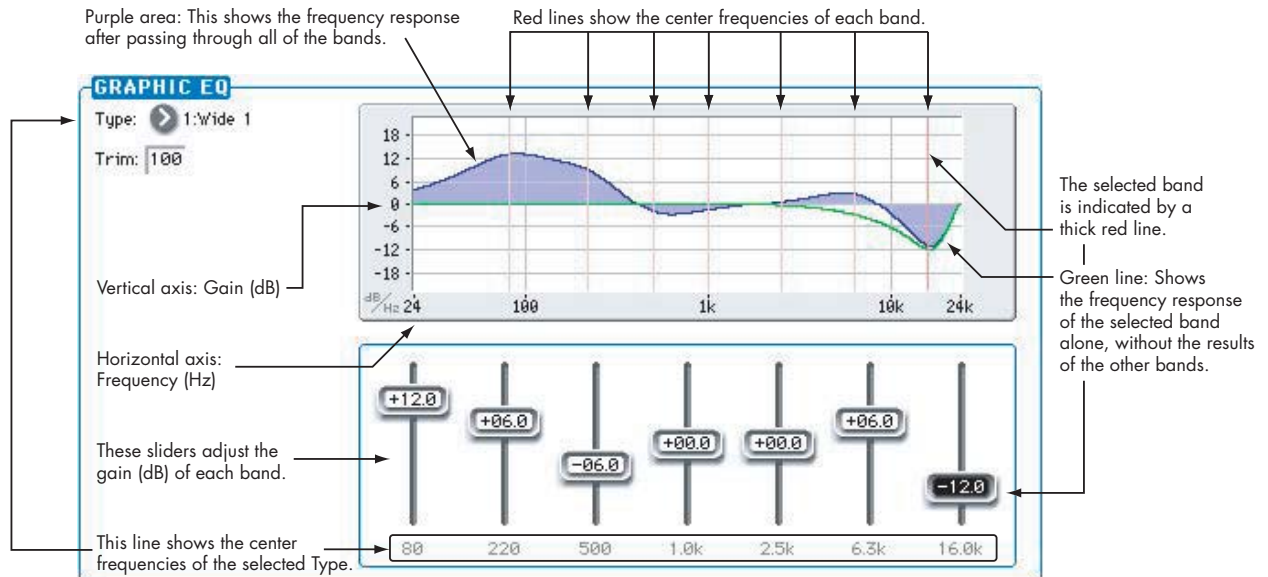


OUTPUT

This is the standard effects output section, with modulatable control over wet/dry balance. For more information, see "OUTPUT" on page 820.

012: Stereo Graphic 7EQ

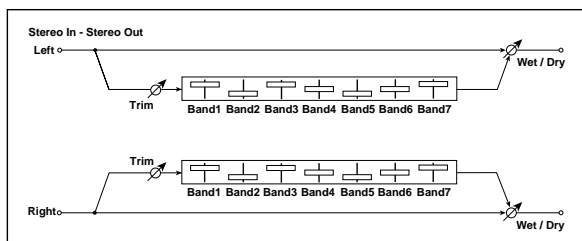
On-screen graphic, 012: Stereo Graphic 7EQ



This is a stereo 7-band graphic equalizer. The bar graph of the gain setting for each band gives you a clear, visual idea of frequency responses. You can select a center frequency setting for each band from twelve types, according to the sound.

7:Low, 8:Wide Low, 9:Mid, 10:Wide Mid, 11:High, 12:Wide High

This parameter selects a combination of center frequencies for each band. Each center frequency is shown on the bottom of the Gain slider.



You can configure a 21-Band Graphic EQ ranging from 80Hz to 18kHz if you route three Graphic 7Band EQ effects in series, with a setting of 7:Low, 9:Mid, and 11:High for each EQ.

Trim [0...100]

Sets the input level

(Band1...8 Gain [dB]) [-18.0...+18.0]

These controls set the gain for each of the eight bands.

GRAPHIC EQ

Type [1:Wide 1, 2:Wide 2, 3:Wide 3, 4:Half Wide 1, 5:Half Wide 2, 6:Half Wide 3,

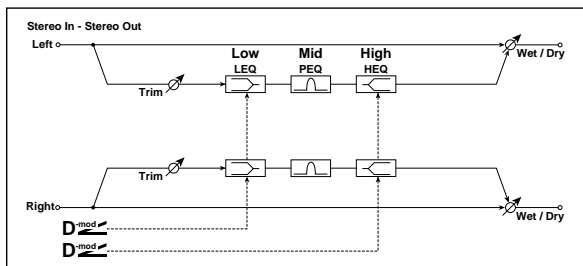
OUTPUT

This is the standard effects output section, with modulatable control over wet/dry balance. For more information, see "OUTPUT" on page 820.

013: Stereo Master 3EQ

This is a stereo three-band equalizer, with sweepable low and high shelving and a fully parametric mid-band. The low and high gains can be controlled in real-time. You can use this as a TFX to make final adjustments to the sound.

For a description of the on-screen EQ graphic, see "011: Stereo Parametric 4EQ" on page 832.



PARAMETRIC EQ

Trim [0...100]

Sets the input level.

Low Fc [Hz] [0...980]

Sets the cutoff frequency of the Low EQ (shelving type).

Gain [dB] D_{mod} [-18.0...+18.0]

Sets the gain of the Low EQ.

Mid Cutoff [Hz] [100...10.00k]

Sets the cutoff frequency of the Mid EQ (peaking type).

Q [0.5...10.0]

Sets the bandwidth of the Mid EQ

Gain [dB] [-18.0...+18.0]

Sets the gain of the Mid EQ.

High Cutoff [Hz] [500...20.00k]

Sets the cutoff frequency of the High EQ (shelving type).

Gain [dB] D_{mod} [-18.0...+18.0]

Sets the gain of the High EQ.

GAIN MOD

Low Source [Off...Tempo]

Selects the source that will modulate the Low Gain.

Amount [dB] [-36.5...+36.0]

Sets the amount by which the Low Gain will be modulated.

High Source [Off...Tempo]

Selects the source that will modulate the High Gain.

Amount [dB] [-36.5...+36.0]

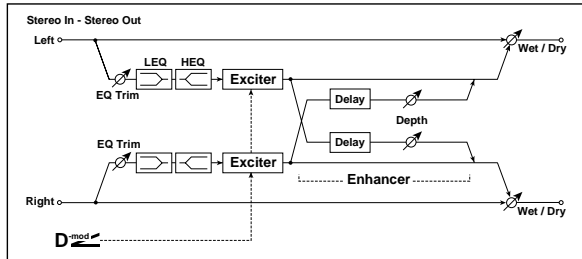
Sets the amount by which the High Gain will be modulated.

OUTPUT

This is the standard effects output section, with modulatable control over wet/dry balance. For more information, see "OUTPUT" on page 820.

014: Stereo Exciter/Enhncr

This effect is a combination of the Exciter, which adds a punch to the sound and the Enhancer, which adds spread and presence.



Pre EQ

Trim [0...100]

Sets the 2-band EQ input level.

LEQ Fc [Low, Mid-Low]

Selects the cutoff frequency (low or mid-low) of the low-range equalizer.

LEQ Gain [dB] [-15.0...+15.0]

Sets the gain of the Low EQ.

HEQ Fc [High, Mid-High]

Selects the cutoff frequency (high or mid-high) of the high-range equalizer.

HEQ Gain [dB] [-15.0...+15.0]

Sets the gain of the High EQ.

EXCITER

Emphasis Frequency [0...70]

This parameter sets the frequency to be emphasized. Higher values will emphasize lower frequencies.

Source [Off...Tempo]

Selects the modulation source for the Emphasis Frequency.

Amount [-70...+70]

Sets the amount of modulation of the frequency to be emphasized

Blend [+/-100]

This parameter sets the depth (intensity) of the Exciter effect. Positive values give a frequency pattern (to be emphasized) different from negative values.

Source [Off...Tempo]

Selects the modulation source for the Exciter intensity.

Amount [+/-100]

Sets the modulation amount for the Exciter intensity.

ENHANCER

L Delay Time [msec] [0.0...50.0]

The L and R Delay Time parameters set the delay times for the Enhancer's left and right channels. Specifying slightly different delay times for the left and right channels will add a stereo image, depth, and width to the sound.

R Delay Time [msec] [0.0...50.0]

Sets the delay time for the Enhancer's right channel. For more information, see "L Delay Time [msec]," above.

Depth [0...100]

Sets the determines to what degree the Enhancer effect is applied.

Source [Off...Tempo]

Selects the modulation source of the Enhancer width.

Amount [+/-100]

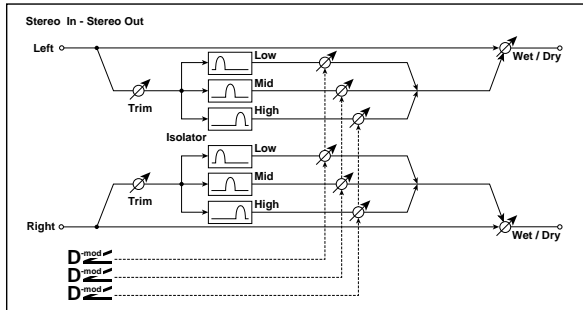
Sets the modulation amount of the Enhancer width.

OUTPUT

This is the standard effects output section, with modulatable control over wet/dry balance. For more information, see "OUTPUT" on page 820.

015: Stereo Isolator

This is a stereo effect that separates the input signal into low, mid, and high-frequency bands, and controls the volume of each band independently. For example you can separately boost or cut the kick, snare, and hi-hat sounds from a drum signal in realtime.



XOVER FILTER

For a description of the on-screen Crossover Filter graphic, see "004: St.Multiband Compressor" on page 824.

Trim [0...100]

Sets the input level.

Frequency Low-Mid [Hz] [100...500]

Sets the frequency at which the low and mid bands are divided.

Frequency Mid-High [Hz] [2000...6000]

Sets the frequency at which the mid and high bands are divided.

ISOLATOR

Low Gain [dB] D_{mod} [-Inf, -59...+12]

Sets the low-frequency gain.

Source [Off...Tempo]

Selects the source that will modulate low-frequency gain.

Amount [-72...+72]

Sets the amount by which the low-frequency gain will be modulated.

Mid Gain [dB] D_{mod} [-Inf, -59...+12]

Sets the mid-frequency gain.

Source [Off...Tempo]

Selects the modulation source for mid-frequency gain.

Amount [-72...+72]

Sets the amount by which the mid-frequency gain will be modulated.

High Gain [dB] D_{mod} [-Inf, -59...+12]

Sets the high-frequency gain.

Source [Off...Tempo]

Selects the modulation source for high-frequency gain.

Amount [-72...+72]

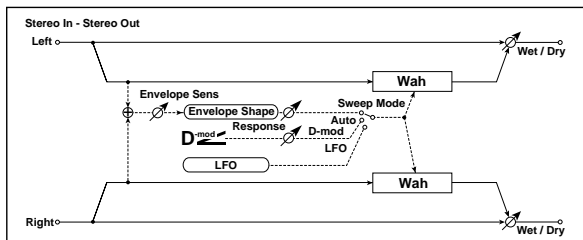
Sets the amount by which the high-frequency gain will be modulated.

OUTPUT

This is the standard effects output section, with modulatable control over wet/dry balance. For more information, see "OUTPUT" on page 820.

016: Stereo Wah/Auto Wah

This stereo wah effect allows you to create sounds from vintage wah pedal simulation to auto-wah simulation, and much broader range settings.



CONTROL

Sweep Mode [Auto, Dmod, LFO]

This parameter selects how the wah will be controlled.

Auto makes the sweeps follow the input signal's volume envelope. Auto-wah is frequently used for funk guitar parts and clav sounds.

Dmod lets you control the filter directly via a modulation source, just like a wah pedal.

LFO uses an LFO to create cyclic sweeps.

Source D_{mod} [Off...Tempo]

Selects the modulation source for the wah when **Sweep Mode** is set to **Dmod**.

Response [0...100]

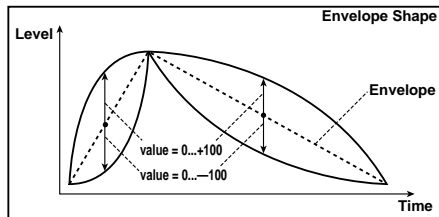
Sets the response speed when **Sweep Mode** is set to **Auto** or **Dmod**.

Envelope Sens [0...100]

This parameter sets the sensitivity of auto-wah. Increase the value if the input signal is too low to sweep. Reduce the value if the input signal is so high that the filter is stopped temporarily.

Envelope Shape [+/-100]

This parameter determines the sweep curve for the auto-wah.

**LFO****Frequency**

Frequency [Hz] D_{mod} [-0.02...20.00]

This sets the LFO speed, in Hz. It applies only when **MIDI/Tempo Sync**, below, is **Off**.

Source [Off...Tempo]

This selects a modulation source for the **Frequency**.

Amount [-20.00...+20.00]

This sets the **Frequency** modulation amount, in Hz.

MIDI/Tempo Sync

MIDI/Tempo Sync D_{mod} [Check-box]

On (checked): When **MIDI/Tempo Sync** is **On**, the LFO will synchronize to tempo as set by **BPM**, below. The LFO speed will be controlled by the **Base Note** and **Times** parameters, below. All settings for **Frequency** and **Frequency Source** and **Amount** will be ignored.

Off (unchecked): When **MIDI/Tempo Sync** is **Off**, the **Frequency** settings will determine the speed of the LFO, and the **BPM**, **Base Note**, and **Times** settings will have no effect.

BPM [MIDI, 40.00...240.00]

MIDI syncs to the system tempo. **40-240** sets the tempo manually for this individual effect.

Base Note [\sharp ... \flat]

This sets the basic speed of the LFO, relative to the **BPM** setting. The values range from a 32nd note to a whole note, including triplets.

Times [$\times 1$... $\times 32$]

This multiplies the length of the **Base Note**. For instance, if the **Base Note** is set to a sixteenth note, and **Times** is set to 3, the LFO will cycle over a dotted eighth note.

LFO Type

Type [Individual, Common 1, Common 2]

Individual: the LFO uses the **Frequency** and **MIDI/Tempo Sync** parameters, above.

Common 1 or 2: the LFO uses the frequency or tempo sync of the selected Common LFO, so that you can synchronize multiple LFO-based effects together.

For more information, see "Common FX LFOs" on page 790.

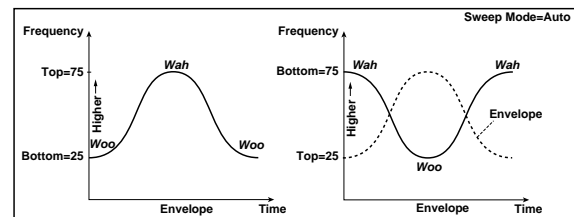
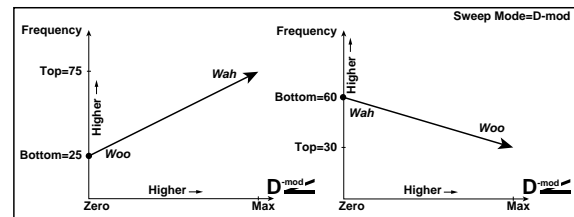
Common LFO Phase Offset [degrees] [+/-180]

This specifies the phase difference relative to the selected Common FX LFO. It applies only when **Type** is set to **Common 1** or **Common 2**.

WAH**Frequency Bottom** [0...100]

This sets the wah frequency when the modulation signal (selected by **Sweep Mode**) is at its minimum level.

To reverse the sweep direction, you can set this to be higher than the **Frequency Top**, below.

**Frequency Top** [0...100]

This sets the wah frequency when the modulation signal (selected by **Sweep Mode**) is at its maximum level.

Resonance [0...100]

Sets the resonance amount.

Low Pass Filter [Check-box]

Switches the wah low pass filter on and off.

Output Level D_{mod} [0...100]

Sets the output level of the effect sound.

Source [Off...Tempo]

Selects the modulation source that will control the effect output level.

Amount [+/-100]

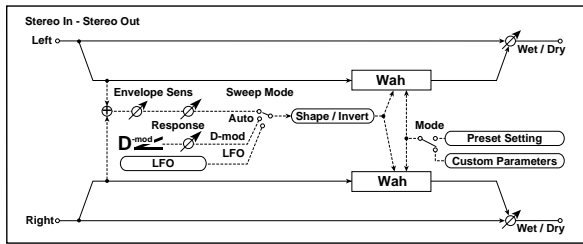
Sets the modulation amount of the effect output level.

OUTPUT

This is the standard effects output section, with modulatable control over wet/dry balance. For more information, see "OUTPUT" on page 820.

017: St. Vintage/Custom Wah

This effect models the tonal character of a vintage wah pedal. You can customize the tone and range settings.



CONTROL

Sweep Mode [Auto, Dmod, LFO]

Selects the control from auto-wah, modulation source, and LFO. For more information, see “Sweep Mode” on page 836.

Source [Off...Tempo]

Selects the modulation source for the wah when Sweep Mode is set to Dmod.

Manual [0...100]

Sets the center frequency when Sweep Mode is set to Dmod and Source is set to Off.

Response [0...100]

Sets the speed of response when Sweep Mode is set to Auto or Dmod.

Envelope Sens [0...100]

Sets the auto-wah sensitivity.

LFO

Frequency [Hz] [0.02...20.00]

This sets the LFO speed, in Hz. It applies only when MIDI/Tempo Sync, below, is Off.

Source [Off...Tempo]

This selects a modulation source for the Frequency.

Amount [-20.00...+20.00]

This sets the Frequency modulation amount, in Hz.

MIDI/Tempo Sync [Check-box]

BPM [MIDI, 40.00...240.00]

Base Note [♩ ...]

Times [x1...x32]

When MIDI/Tempo Sync is On, the LFO speed is set by BPM, Base Note, and Times, instead of Frequency. For more information, see “MIDI/Tempo Sync” on page 837.

Type [Individual, Common1, Common2]

This controls whether the effect uses its individual LFO, or one of the Common FX LFOs. For more information, see “LFO Type” on page 837.

Common LFO Phase Offset [degrees] [+/-180]

When Type is set to Common FX LFO 1 or 2, this lets you offset the phase from the master LFO.

WAH

Mode [Preset, Custom]

Selects either preset or custom settings.

Frequency Bottom [0...100]

Sets the lower limit of the wah center frequency when Mode is set to Custom. p.837.

Frequency Top [0...100]

Sets the upper limit of the wah center frequency when Mode is set to Custom. p.837.

Resonance Bottom [0...100]

Sets the lower limit of resonance amount when Mode is set to Custom.

Resonance Top [0...100]

Sets the upper limit of resonance amount when Mode is set to Custom.

Shape [+/-100]

This parameter specifies the sweep curve of the wah. It applies to all control via auto-wah, Dmod, and LFO, and lets you adjust subtle nuances of the wah effect.

Invert [Check-box]

Inverts the polarity of the sweep.

Output Level [0...100]

Sets the output level of the effect sound.

Source [Off...Tempo]

Selects the modulation source that will control the effect output level.

Amount [+/-100]

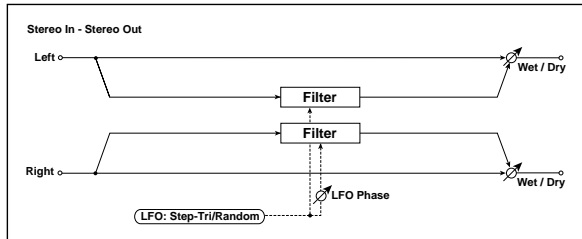
Sets the modulation amount of the effect output level.

OUTPUT

This is the standard effects output section, with modulatable control over wet/dry balance. For more information, see “OUTPUT” on page 820.

018: Stereo Random Filter

This stereo band pass filter is modulated by an LFO, using either a step-shape waveform and or a sample-and-hold shape. The filter will also self-resonate, for creating special effects.



FILTER

Manual [0...100]

Sets the filter's center frequency, before LFO modulation.

Depth [0...100]

The LFO modulates the filter's frequency; this sets the intensity of the LFO modulation.

Source [Off...Tempo]

Selects a source to modulate the LFO Depth.

Amount [+/-100]

Sets the intensity of the Depth modulation.

Resonance [0...100]

Resonance emphasizes the audio around the filter's center frequency.

At 0, there is no emphasis, and frequencies outside the center will simply diminish smoothly.

At medium settings, the resonance will alter the timbre of the filter, making it sound more nasal or extreme.

At very high settings, the resonance can be heard as a separate, whistling pitch. At 100, the filter will self-oscillate (after being fed an initial burst of input).

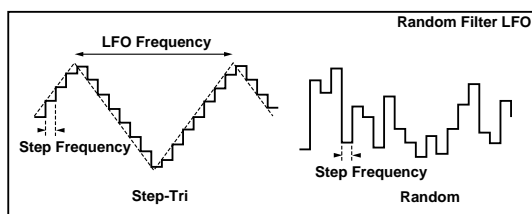
LFO

Waveform and Phase

Waveform [Step-Tri, Random]

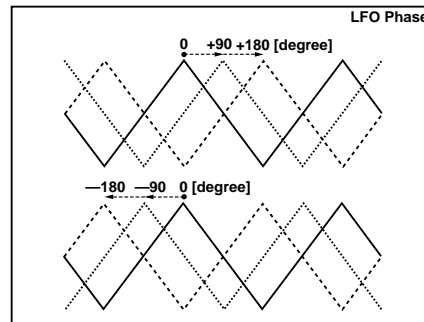
Step-Tri creates a steppy triangle waveform (see the diagram below). The LFO Frequency parameter sets the original triangle waveform speed, and the LFO Step Freq parameter adjusts the width of the steps.

Random produces a sample-and-hold waveform, with the speed controlled by the Step Freq.



Phase [degrees] [-18...+18]

This sets the LFO phase difference between the left and right, in steps of 10 degrees. Offsetting the left and right phases alters how modulation is applied to the left and right channels, creating a swelling effect.



Frequency

These parameters apply when MIDI/Tempo Sync is Off (un-checked).

Frequency [Hz] [0.02...20.00]

This sets the speed of the triangle waveform, in Hz.

Step Frequency [Hz] [0.05...50.00]

This sets the speed of the steps, in Hz.

Source [Off...Tempo]

This selects a modulation source for both the Frequency and the Step Frequency. You can set the modulation amounts individually, below.

Amount [-20.00...+20.00]

Sets the Frequency modulation amount, in Hz.

Step Amount [-50.00...+50.00]

Sets the Step Frequency modulation amount, in Hz.

MIDI/Tempo Sync

MIDI/Tempo Sync [Check-box]

When this is on, the LFO speed is set by BPM, Base Note, and Times, instead of Frequency. For more information, see "MIDI/Tempo Sync" on page 837.

BPM [MIDI, 40.00...240.00]

MIDI syncs to the system tempo. 40-240 sets the tempo manually for this individual effect.

Base Note [♭...♯]

Times [x1...x32]

These set triangle waveform's base note and multiplier. For more information, see "MIDI/Tempo Sync" on page 837.

Step Note [♭...♯]

Times [x1...x32]

These set the step's base note and multiplier. For more information, see "MIDI/Tempo Sync" on page 837.

Step LFO type

Type (Step) [Individual, Common 1, Common 2]

This controls the LFO source for the steps. It does not affect the triangle LFO.

Individual: the steps use the Frequency and MIDI/Tempo Sync parameters, above.

Common 1 or 2: the steps use the frequency or tempo sync of the selected Common LFO, so that you can synchronize multiple LFO-based effects together.

Common LFO Phase Offset [degrees] [+/-180]

Sets the phase offset when Type = Common 1 or Common 2. p.837.

OUTPUT

Wet/Dry $D_{mod} \leq$ [-Wet, -99:1...-1:99, Dry, 1:99...99:1, Wet]

This sets the balance between the effect and the dry input. From -Wet to -1:99, the effect sound's phase will be reversed.

Source [Off...Tempo]

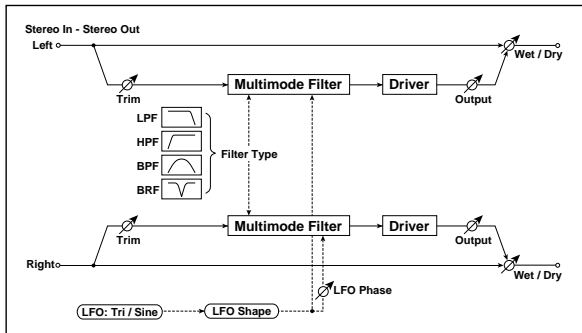
This selects a modulation source for Wet/Dry.

Amount [+/-100]

This sets the modulation amount for Wet/Dry.

019: Multi Mode Filter

This multi-mode filter includes low pass, high pass, band pass, and band reject modes. You can modulate the cutoff frequency and resonance from either an LFO or dynamic modulation.



Amount [+/-100]

Sets the amount by which the resonance will be modulated.

DRIVER

Bypass [Check-box]

Switches distortion on/off within the filter.

Gain [0...100]

Sets the distortion amount.

Low Boost [0...100]

Sets the amount of low-range boost.

Output [0...100]

Sets the output level.

MULTIMODE FILTER

Trim [0...100]

Sets the input level.

Type [LPF, HPF, BPF, BRF]

Selects the type of filter. For more information, see "Filter Type" on page 62.

Cutoff Frequency $D_{mod} \leq$ [0...100]

Sets the cutoff frequency (center frequency).

Source [Off...Tempo]

Selects the modulation source of the cutoff.

Amount [+/-100]

Sets the modulation amount of the cutoff.

Depth [0...100]

Sets the depth to which the LFO will modulate the cutoff frequency.

Resonance $D_{mod} \leq$ [0...100]

Sets the resonance amount.

Source [Off...Tempo]

Selects the source that will modulate the amount of resonance.

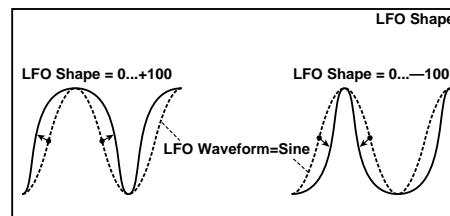
LFO

Waveform [Triangle, Sine]

Selects the LFO Waveform.

Shape [+/-100]

This changes the curvature of the LFO Waveform, which emphasizes or de-emphasizes the peaks, as shown below.



Phase [degrees] [-180...+180]

Sets the LFO phase difference between the left and right. See "Phase [degrees]" on page 839.

Frequency [Hz] $D_{mod} \leq$ [0.02...20.00]

This sets the LFO speed, in Hz. It applies only when MIDI/Tempo Sync, below, is Off.

Source [Off...Tempo]This selects a modulation source for the **Frequency**.**Amount** [-20.00...+20.00]This sets the **Frequency** modulation amount, in Hz.**MIDI/Tempo Sync**  [Check-box]**BPM** [MIDI, 40.00...240.00]**Base Note** [ ... ]**Times** [x1...x32]When **MIDI/Tempo Sync** is on, the LFO speed is set by **BPM**, **Base Note**, and **Times**, instead of **Frequency**. For more information, see "MIDI/Tempo Sync" on page 837.**Type** [Individual, Common 1, Common2]

This controls whether the effect uses its individual LFO, or one of the Common FX LFOs. For more information, see "LFO Type" on page 837.

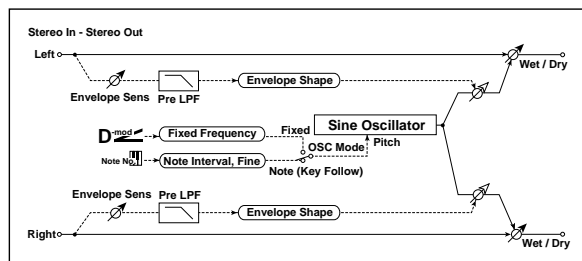
Common LFO Phase Offset [degrees] [+/-180]When **Type** is set to **Common FX LFO 1** or **2**, this lets you offset the phase from the master LFO.

OUTPUT

This is the standard effects output section, with modulatable control over wet/dry balance. For more information, see "OUTPUT" on page 820.

020: Stereo Sub Oscillator

This effect adds very low frequencies to the input signal. It's useful for creating powerful sub-bass effects, such as deep, rumbling drum sounds. You can also adjust the oscillator frequency to follow incoming MIDI notes, for use as an octaver.



ENVELOPE

Pre LPF [1...100]

This parameter sets the upper limit of the frequency range to which very low harmonics are added. Adjust this parameter if you do not want to add lower harmonics to the higher range.

Sensitivity [0...100]

Sets the sensitivity with which very low harmonics are added.

Shape [+/-100]

Sets the oscillator's volume envelope curve.

SUB OSCILLATOR

OSC Mode [Note (Key Follow), Fixed]

This determines whether the oscillator frequency follows the note number, or stays at a fixed value.

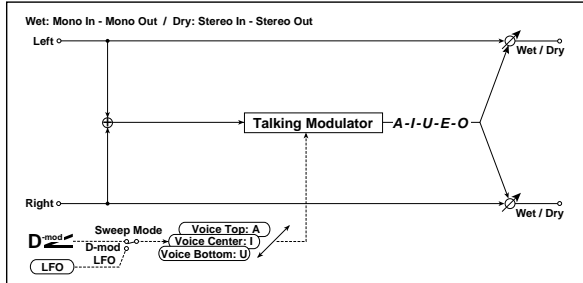
Note (Key Follow): The oscillator's frequency is based on MIDI note number (on the effect's MIDI channel), allowing you to use it as an octaver. The **Note Interval** parameter, below, sets the pitch offset from the original note, in semitones.**Fixed**: the oscillator uses the manually-set **Fixed Frequency**, below.**Note Interval** [-48...0]This sets a pitch offset from the received MIDI note number, in semitones. It applies only when **OSC Mode** is set to **Note (Key Follow)**.**Note Fine** [+/-100]This adjusts the frequency in cents (1/100 of a semitone). It applies only when **OSC Mode** is set to **Note (Key Follow)**.**Fixed Frequency [Hz]**  [10.0...80.0]Sets the oscillator frequency when **OSC Mode** is set to **Fixed**.**Source** [Off...Tempo]Selects the modulation source for the oscillator frequency when **OSC Mode** is set to **Fixed**.**Amount** [-80...+80]Sets the oscillator frequency modulation amount when **OSC Mode** is set to **Fixed**.

OUTPUT

This is the standard effects output section, with modulatable control over wet/dry balance. For more information, see "OUTPUT" on page 820.

021: Talking Modulator

This effect adds an unusual character, like a human voice, to the input signal. Modulating the tone via dynamic modulation, you can create an interesting effect that sounds as if the guitar or synthesizer is talking.



CONTROL

Sweep Mode [Dmod, LFO]

Switches between modulation source control and LFO control.

Source [Off...Tempo]

Selects the modulation source that controls the voice pattern.

Manual Voice Control [Bottom, 1...49, Center, 51...99, Top]

Voice pattern control.

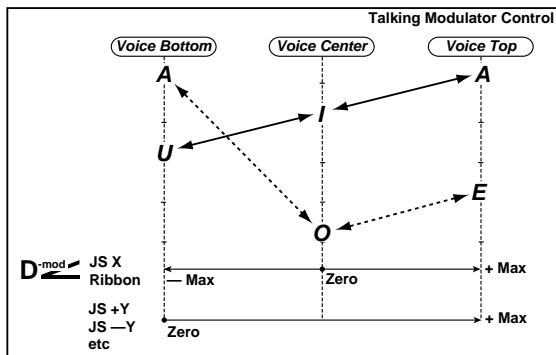
TALKING MODULATOR

The **Voice Top**, **Center**, and **Bottom** parameters assign vowels to the top, center, and bottom positions of the Dmod controller or LFO.

For instance, when **Voice Top** is set to **A**, **Voice Center** is set to **I**, and **Voice Bottom** is set to **U**:

If **Sweep Mode** is set to **Dmod** and **Ribbon** is selected as the modulation **Source**, moving your finger from the right to left of the ribbon controller will change the sound from "a" to "i," then "u."

If **Sweep Mode** is set to **LFO**, the sound will change cyclically from "a" to "i," "u," "i," then "a."



Voice Top [A, I, U, E, O]

Selects a vowel sound at the maximum modulation value.

Voice Center [A, I, U, E, O]

Selects a vowel sound at the center modulation value.

Voice Bottom [A, I, U, E, O]

Selects a vowel sound at the minimum modulation value.

Formant Shift [+/-100]

Sets the frequency to which the effect is applied.

This parameter adjusts the frequency level to which the effect is applied. If you wish to apply the effect to a higher-range sound, set this parameter to a higher value; to apply the effect to a lower-range sound, set this to a lower value.

Resonance [0...100]

Sets the Level of resonance of the voice pattern. This parameter sets the intensity of resonance for the voice pattern. A larger value will add more character to the sound.

LFO

Frequency [Hz] [0.02...20.00]

This sets the LFO speed, in Hz. It applies only when **MIDI/Tempo Sync**, below, is **Off**.

Source [Off...Tempo]

This selects a modulation source for the **Frequency**.

Amount [-20.00...+20.00]

This sets the **Frequency** modulation amount, in Hz.

MIDI/Tempo Sync [Check-box]

BPM [MIDI, 40.00...240.00]

Base Note [♩... ♪]

Times [x1...x32]

When **MIDI/Tempo Sync** is on, the LFO speed is set by **BPM**, **Base Note**, and **Times**, instead of **Frequency**. For more information, see "MIDI/Tempo Sync" on page 837.

Type [Individual, Common1, Common2]

This controls whether the effect uses its individual LFO, or one of the Common FX LFOs. For more information, see "LFO Type" on page 837.

Common LFO Phase Offset [degrees] [+/-180]

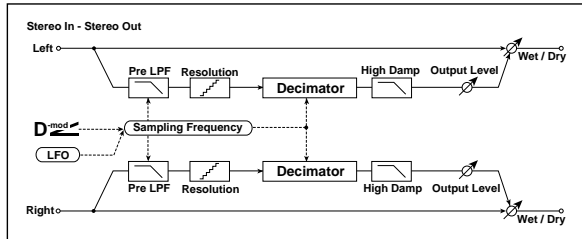
When **Type** is set to **Common FX LFO 1** or **2**, this lets you offset the phase from the master LFO.

OUTPUT

This is the standard effects output section, with modulatable control over wet/dry balance. For more information, see "OUTPUT" on page 820.

022: Stereo Decimator

This effect creates a rough sound like a cheap sampler by lowering the sampling frequency, reducing the bit depth, and creating aliasing.



DECIMATOR

Pre LPF [Check-box]

If a sampler (or other digital audio device) tries to record a pitch higher than half the sampling frequency, this generates a particular kind of pitched noise, called aliasing. Reducing the sampling frequency will tend to increase the amount of aliasing.

Set **Pre LPF** to ON to prevent aliasing, or leave it OFF to create aliasing artifacts.

To create a sound similar to a ring modulator, set the **Sampling Freq** to about 3kHz and set **Pre LPF** to OFF.

Sampling Frequency [Hz] D_{mod} [1.00k...48.00k]

Sets the sampling frequency.

Source [Off...Tempo]

Selects the modulation source of the sampling frequency.

Amount [-48.00k...+48.00k]

Sets the modulation amount of the sampling frequency.

Depth D_{mod} [0...100]

Sets the depth of the sampling frequency LFO modulation.

Source [Off...Tempo]

Selects the LFO modulation source of the sampling frequency.

Amount [+/-100]

Sets the LFO modulation amount of the sampling frequency.

High Damp [%] [0...100]

Sets the ratio of cut of the high range.

BIT SHAPE

Resolution [bits] [4...24]

Sets the data bit length. With lower settings, the sound may be distorted, and the volume may increase. You can use the **Output Level** parameter, below, to adjust the volume as necessary.

Output Level D_{mod} [0...100]

Sets the output level.

Source [Off...Tempo]

Selects the modulation source for the output level.

Amount [+/-100]

Sets the modulation amount of the output level.

LFO

Frequency [Hz] D_{mod} [0.02...20.00]

This sets the LFO speed, in Hz. It applies only when **MIDI/Tempo Sync**, below, is Off.

Source [Off...Tempo]

This selects a modulation source for the **Frequency**.

Amount [-20.00...+20.00]

This sets the **Frequency** modulation amount, in Hz.

MIDI/Tempo Sync D_{mod} [Check-box]

BPM [MIDI, 40.00...240.00]

Base Note [♩...♭]

Times [x1...x32]

When **MIDI/Tempo Sync** is on, the LFO speed is set by **BPM**, **Base Note**, and **Times**, instead of **Frequency**. For more information, see "MIDI/Tempo Sync" on page 837.

Type [Individual, Common 1, Common 2]

This controls whether the effect uses its individual LFO, or one of the Common FX LFOs. For more information, see "LFO Type" on page 837.

Common LFO Phase Offset [degrees] [+/-180]

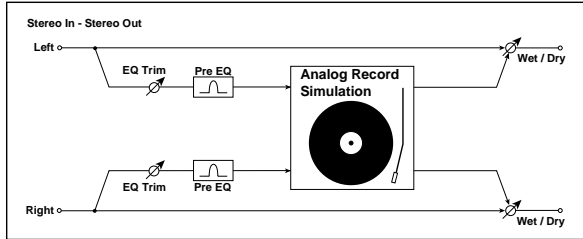
When **Type** is set to **Common FX LFO 1** or **2**, this lets you offset the phase from the master LFO.

OUTPUT

This is the standard effects output section, with modulatable control over wet/dry balance. For more information, see "OUTPUT" on page 820.

023: Stereo Analog Record

This effect simulates the noise caused by scratches and dust on analog records. It also reproduces some of the modulation caused by a warped turntable.



Pre EQ

Trim [0...100]

Sets the EQ input level.

Fc [Hz] [300...10.00k]

Sets the EQ center frequency.

Q [0.5...10.0]

Sets the EQ band width.

Gain [dB] [-18.0...+18.0]

Sets the EQ gain.

ANALOG RECORD

Speed [RPM] [33 1/3, 45, 78]

Sets the rotation speed of the record.

Flutter [0...100]

This parameter enables you to set the depth of the modulation caused by a warped turntable.

NOISE

Density [0...100]

Sets the noise density.

Tone [0...100]

Sets the noise tone.

Level [0...100]

Sets the noise level.

Source [Off...Tempo]

Selects the modulation source for the noise level.

Amount [+/-100]

Sets the modulation amount of the noise level.

CLICK

Level [0...100]

This parameter enables you to set the level of the click noise that occurs once every rotation of the turntable. This simulation reproduces record noise, and the noise generated after the music on a vinyl record finishes.

Source [Off...Tempo]

Selects the modulation source for the click noise level.

Amount [+/-100]

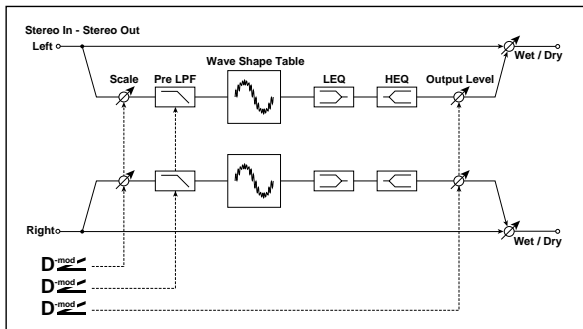
Sets the modulation amount of the click noise level.

OUTPUT

This is the standard effects output section, with modulatable control over wet/dry balance. For more information, see "OUTPUT" on page 820.

024: Stereo Wave Shaper

This is a stereo effect that reshapes the waveform of the input signal, generating numerous overtones that were not present in the original signal.

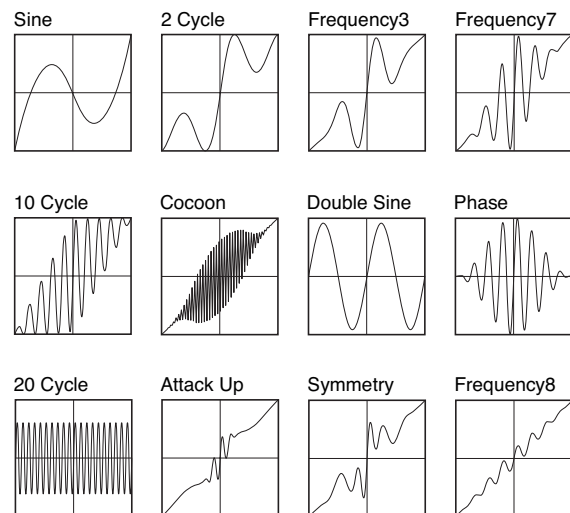


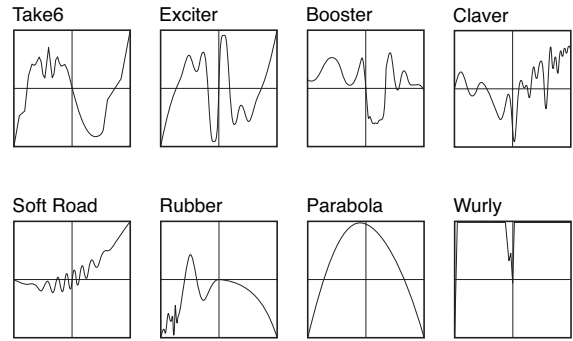
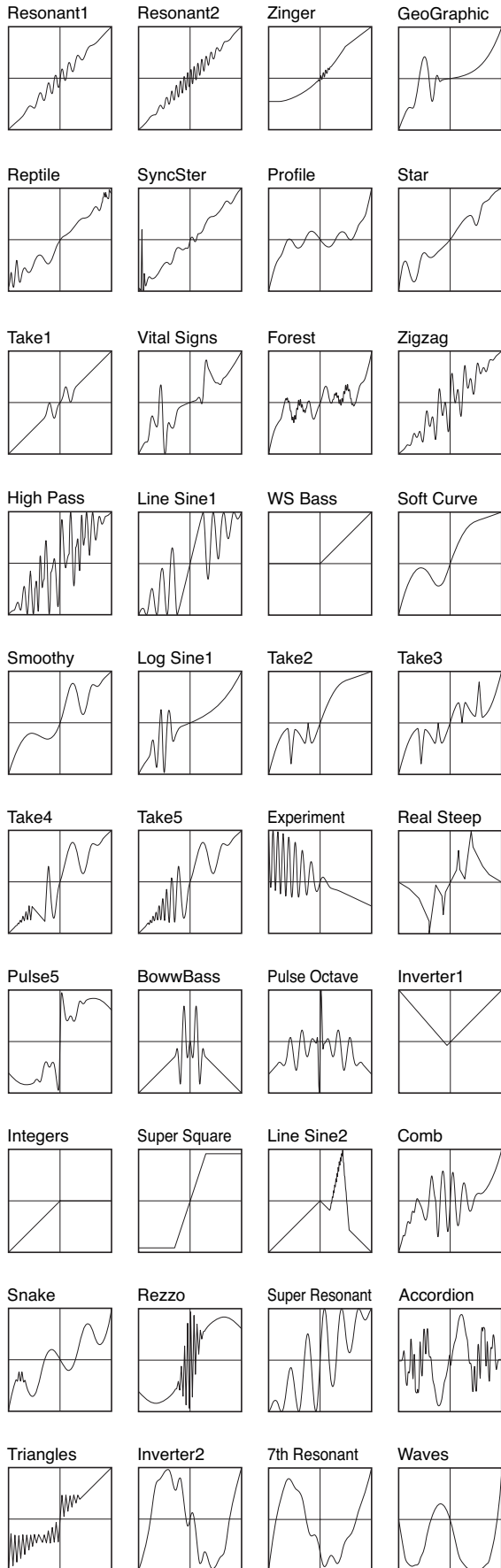
WAVE SHAPER

Wave Shape Table [Sine...Wurly]

The table determines the basic timbre of the effect.

Wave Shape Tables





Pre LPF [0...100]

Sets the damping amount in the high range.

Source [Off...Tempo]

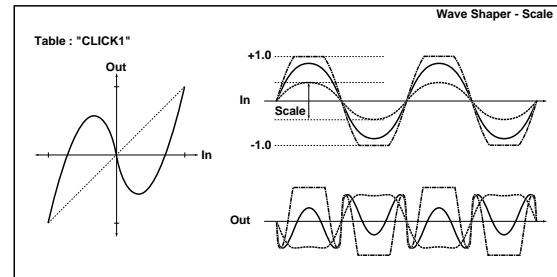
Selects the source that will modulate the amount of high range damping.

Amount [+/-100]

Sets the depth by which the amount of high range damping will be modulated.

Scale [dB] [-36...+36]

This sets the input level to the wave shape table. Even for the same waveform, changing the input level will dramatically modify the output waveform and the tone.



Source [Off...Tempo]

Selects the modulation source for the Scale.

Amount [-72...+72]

Selects the modulation amount for the Scale.

EQ

LEQ Fc [Low, Mid-Low]

Selects the cutoff frequency (low or mid-low) of the low-range equalizer.

LEQ Gain [dB] [-15.0...+15.0]

Sets the gain of the Low EQ.

HEQ Fc [High, Mid-High]

Selects the cutoff frequency (high or mid-high) of the high-range equalizer.

HEQ Gain [dB] [-15.0...+15.0]

Sets the gain of the High EQ.

Output Level [0...100]

Sets the output level.

Source [Off...Tempo]

Selects the modulation source for the **Output Level**.

Amount [+/-100]

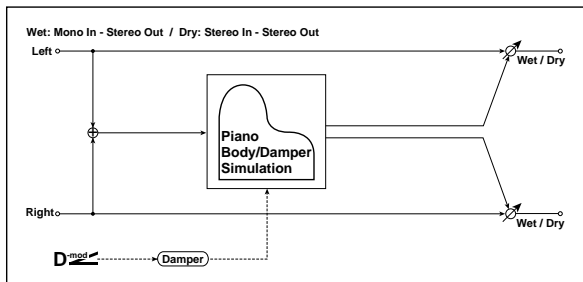
Sets the modulation amount for the **Output Level**.

OUTPUT

This is the standard effects output section, with modulatable control over wet/dry balance. For more information, see "OUTPUT" on page 820.

025: Piano Body/Damper

This effect simulates the resonance of the piano sound board caused by the string vibration, and also simulates the resonance of other strings that are not being played when you press the damper pedal. It will create a very realistic sound when applied to acoustic piano sounds.



SOUND BOARD

Depth [0...100]

This parameter sets the intensity of the soundboard's resonance.

DAMPER

Depth D_{mod} [0...100]

This parameter sets the resonance intensity of the other strings created when the damper pedal is pressed. The **Source** parameter, below, selects the modulation source from which the damper effect is applied. Usually, select Damper (CC# 64).

Source [Off...Tempo]

Selects the modulation source of damper effect.

MIDI The effect is off when a value for the modulation source specified for the **Source** parameter is 63 or smaller, and the effect is on when the value is 64 or higher.

TONE

Tone [1...100]

This controls the brightness of the soundboard resonance.

Mid Shape [0...36]

This controls the mid-range frequencies of the resonance. Higher values **decrease** the amount of mid-range frequencies.

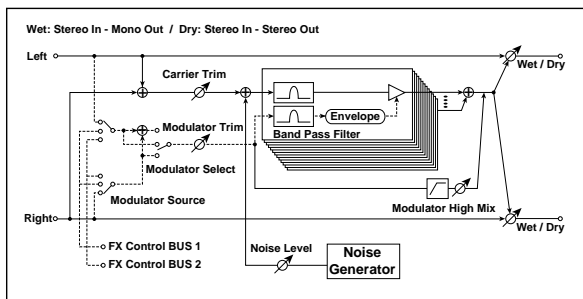
Tune [-50...+50]

This controls the fine-tuning of the resonance. Since this effect simulates the resonance of the strings, the sound varies depending on the pitch. If you have changed tuning using the "Master Tune" (Global P0), adjust this parameter value.

OUTPUT

This is the standard effects output section, with modulatable control over wet/dry balance. For more information, see "OUTPUT" on page 820.

026: Vocoder



Vocoder overview

Vocoder effects superimpose the timbre of one signal (the modulator) onto that of a second signal (the carrier). The first vocoders were intended mostly for speech effects. For instance, you can produce the classic "talking synthesizer" sound by using a voice as a modulator and a bright synthesizer pad as a carrier.

This is only part of the effect's potential, however. You can use vocoders to combine practically any two sounds, as long as the frequency ranges overlap sufficiently. Drums make particularly good modulators, for instance.

A vocoder is essentially a combination of a multi-band frequency analyzer and a multi-band dynamic EQ. The modulator signal is divided up into a number of frequency bands, and the levels of each of these bands are measured in real time. A multi-band dynamic EQ is slaved to the analyzer, following the changes in each band of the modulator with similar changes in the EQ of the carrier. This causes the carrier to assume some of the timbre of the modulator.

It's best for the carrier to contain a wide range of frequencies. If there is little or no material in some of the bands to begin with, the EQ will have nothing to alter, and the vocoder's effect will be less distinct. If you want to use a particular sound as the carrier, but it

doesn't seem to have a sufficient frequency range, try using the **Noise Level** parameter to mix in some of the vocoder's built-in noise generator.

For instance, bright synthesizer sounds, distorted guitars, noise, or strings all make good carrier signals.

Using the vocoder with a mic input

To use a voice from a microphone as a modulator:

1. **Connect a mic to Audio Input 1 or 2, and set the Input's LEVEL switch to MIC.**
2. **Go to the Global P0: Basic Setup-Audio page.**
3. **For the Audio Input to which you connected the mic, temporarily set Bus Select to L/R.**

This lets you listen to the mic input while adjusting the LEVEL control.

4. **While talking into the mic, use the LEVEL knob to adjust the level as high as possible without distortion.**

After adjusting the LEVEL, you can change the bus settings for use with the vocoder:

5. **For the Audio Input to which you connected the mic, turn Bus Select Off, and set FX Ctrl Bus Select to 1.**
6. **In the Vocoder effect, set the MODULATOR Source to FX Control Bus 1.**
7. **Route a synth sound into the Vocoder effect.**

With these settings, the sound from the mic will be used as the modulator. While you play, speak into the mic; it will sound as though the instrument is talking.

If the sound is distorted, adjust the **CARRIER Trim** and/or **MODULATOR Trim**.

CARRIER

Note that the left and right inputs are always summed into the Carrier, regardless of the **MODULATOR Select** parameter below. To use a separate signal (such as a mic input) as the Modulator, route it through **FX Control Bus 1** or **2**.

Trim [0...100]

Sets the Carrier input level.

Noise Level  [0...100]

This controls the level of the built-in noise generator. You can mix this with the Carrier input, or set the Carrier Trim to 0 and use only the noise, if desired. You can also modulate the **Noise Level** using Dmod, controlled by the **Source** and **Amount** parameters below.

Source [Off...Tempo]

Selects the modulation source for the **Noise Level**.

Amount [+/-100]

Sets the modulation amount for the **Noise Level**.

MODULATOR

Trim [0...100]

This controls the input level of the Modulator.

Source [Input, FX Control 1, FX Control 2]

Selects the signal to use as the Modulator input.

Input uses the input to the Vocoder effect. This is good when you want the input to "vocode" itself.

FX Control 1 and **2** use the signal from the FX Control Buses. For classic vocoding effects, such as a mic input as the modulator and a synth as the carrier, you **must** use one of these buses.

Select [L/R Mix, L Only, R Only]

Selects whether to use the left/right mix, only the left channel, or only the right channel of the Modulator input.

VOCODER

Formant Shift [-2...+2]

This lets you offset the Carrier filters, so that they are either higher or lower than the Modulator filters. This produces effects similar to transposing a sample, and produces significant changes in the overall character.

Response [0...100]

This controls how quickly the vocoder responds to changes in the Modulator. The default of 60 generally works well for most purposes.

Lower values produce slower response times, which can produce interesting sweeping effects. Higher values are useful for percussion, but can cause jittery response with smoother Modulator signals.

Low Gain [dB] [-12...+12]

Sets the low-range output level of the vocoder.

High Gain [dB] [-12...+12]

Sets the high-range output level of the vocoder.

Modulator High Mix [0...100]

This lets you mix a highpass-filtered version of the Modulator directly to the output, bypassing the main vocoder effect. When using a voice as the modulator, this can increase intelligibility.

OUTPUT

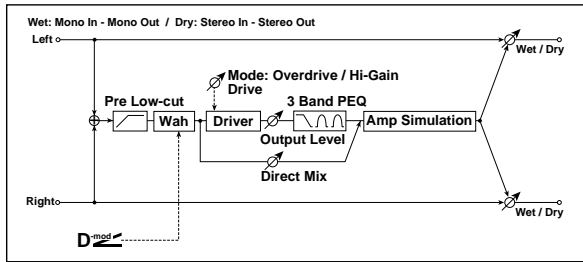
This is the standard effects output section, with modulatable control over wet/dry balance. For more information, see "OUTPUT" on page 820.

Overdrive, Amp models, and Mic models

027: OD/Hi-Gain Wah

This versatile effect offers two different-sounding distortion modes (Overdrive and Hi-Gain), a modulatable wah-wah filter, a speaker simulation, and 3-band EQ. It's suitable for guitars, organs, and general sonic mayhem.

For a description of the on-screen EQ graphic, see “011: Stereo Parametric 4EQ” on page 832.



WAH

Wah Switch

Wah Switch [Off, On]

This turns the Wah effect on and off.

Source [Off...Tempo]

Selects the modulation source that switches the Wah on and off.

Mode [Toggle, Moment]

This parameter controls how the modulation source switches the overdrive on and off.

When **Mode** = **Toggle**, the overdrive turns on or off each time you press the pedal or move the joystick. Via MIDI, overdrive turns on or off each time the modulation amount exceeds 64.

When **Mode** = **Moment** (short for Momentary), the overdrive is normally off, and turns on only when you press the pedal or move the joystick. Via MIDI, modulation values above 64 turn it on, and values below 64 turn it off.

Wah Sweep

Sweep Range [-10...+10]

This controls the width of the Wah's sweep, from the minimum to maximum values of the modulation

Source selected below.

Negative values reverse the sweep's direction, from high to low instead of low to high.

Source [Off...Tempo]

This selects a modulation source to control the Wah.

DRIVE

Pre Low-cut [0...10]

This attenuates low frequencies before the signal enters the distortion. Use this to create a sharper tone.

Drive Mode [Overdrive, Hi-Gain]

This switches between two different distortion timbres: overdrive and hi-gain distortion.

Drive [1...100]

The amount of distortion is determined by the combination of the input level and the **Drive** setting. Higher input levels, and/or higher **Drive** settings, mean more distortion.

Raising the **Drive** setting will also increase the volume; you can compensate for this by lowering the **Output Level** parameter, below.

Direct Mix [0...50]

Sets the amount of the dry sound mixed to the distortion.

Speaker Simulation [Check-box]

Switches the speaker simulation on/off.

Output Level [0...50]

This controls the output volume from the Drive section into the 3-band EQ. You can use this to reduce the volume to compensate for high Drive settings, or to prevent clipping in the EQ.

Source [Off...Tempo]

Selects the modulation source for the output level.

Amount [-50...+50]

Sets the modulation amount for the output level.

EQ

Low Fc [Hz] [20...1.00k]

Sets the center frequency for Low EQ (shelving type).

Gain [dB] [-18...+18]

Sets the gain of the Low EQ.

Mid1 Fc [Hz] [300...10.00k]

Sets the center frequency for Mid EQ 1 (peaking type).

Q [0.5...10.0]

Sets the band width of Mid EQ 1. p.832.

Gain [dB] [-18...+18]

Sets the gain of Mid EQ 1.

Mid2 Fc [Hz] [500...20.00k]

Sets the center frequency for Mid EQ 2 (peaking type).

Q [0.5...10.0]

Sets the band width of Mid EQ 2. p.832.

Gain [dB] [-18...+18]

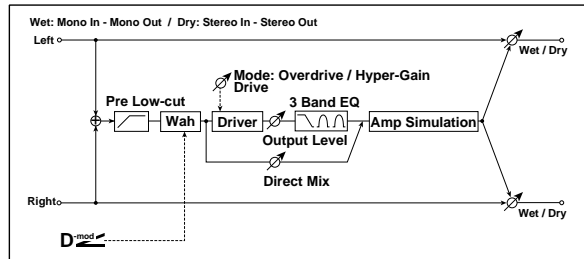
Sets the gain of Mid EQ 2.

OUTPUT

This is the standard effects output section, with modulatable control over wet/dry balance. For more information, see "OUTPUT" on page 820.

028: OD/HyperGain Wah

This distortion effect has two modes: overdrive and hyper-gain that produces a strong distortion. A higher high-gain setting is required for this effect relative to a normal-size effect.

**WAH****Wah Switch** [Off, On]**Source** [Off...Tempo]**Mode** [Toggle, Moment]

These parameters let you turn the Wah on and off from either the LCD or a controller, and determine how the controller works. For more information, see "Wah Switch" on page 848.

Sweep Range [-10...+10]**Source** [Off...Tempo]

These parameters set the modulation source and amount for the Wah. For more information, see "Wah Sweep" on page 848.

DRIVE**Pre Low-cut** [0...10]

This attenuates low frequencies before the signal enters the distortion. Use this to create a sharper tone.

Drive Mode [Overdrive, Hyper-Gain]

Switches between overdrive and hyper-gain mode.

Drive [1...120]

Sets the degree of distortion. For more information, see "DRIVE" on page 848.

Direct Mix [0...50]

Amount of the dry sound mixed to the distortion.

Speaker Simulation [Check-box]

Speaker simulation on/off.

Output Level [0...50]

Sets the output level. For more information, see "DRIVE" on page 849.

Source [Off...Tempo]

Selects the modulation source for the output level.

Amount [-50...+50]

Sets the modulation amount of the output level.

EQ**Low Fc [Hz]** [20...1.00k]

Sets the center frequency for Low EQ (shelving type).

Gain [dB] [-18...+18]

Sets the gain of the Low EQ.

Mid1 Fc [Hz] [300...10.00k]

Sets the center frequency for Mid/High EQ 1 (peaking type).

Q [0.5...10.0]

Sets the band width of Mid/High EQ 1. See "Q" on page 832.

Gain [dB] [-18...+18]

Sets the gain of Mid/High EQ 1.

Mid2 Fc [Hz] [500...20.00k]

Sets the center frequency for Mid/High EQ 2 (peaking type).

Q [0.5...10.0]

Sets the band width of Mid/High EQ 2.

Gain [dB] [-18...+18]

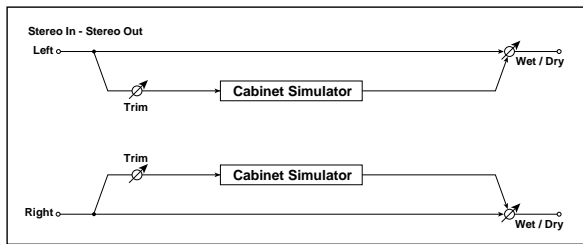
Sets the gain of Mid/High EQ 2.

OUTPUT

This is the standard effects output section, with modulatable control over wet/dry balance. For more information, see "OUTPUT" on page 820.

029: Stereo Guitar Cabinet

This simulates the acoustical character of a guitar amp's speaker cabinet.



CABINET SIMULATOR

Trim [0...100]

Sets the input level.

Type [TWEED 1x12, TWEED 4x10, BLACK 2x10, BLACK 2x12, AC15, AC30, AD412, UK H30, UK T75, US V30]

Selects the type of the cabinet. See "031: Guitar Amp Model +Cabinet" on page 851.

Air [0...100]

Sets the mic position.

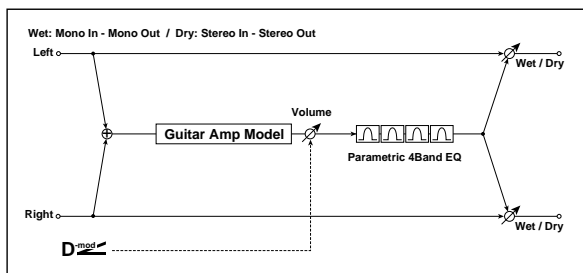
OUTPUT

This is the standard effects output section, with modulatable control over wet/dry balance. For more information, see "OUTPUT" on page 820.

030: Guitar Amp Model +P4EQ

This combines a guitar amp simulation (which even faithfully replicates the distortion and tone control circuitry) with a four-band equalizer.

For a description of the EQ graphic, see "011: Stereo Parametric 4EQ" on page 832.



GUITAR AMP MODEL

Type [AC15, AC15TB, AC30, AC30TB, UK BLUES, UK 70'S, UK 80'S, UK 90'S, UK MODERN, US MODERN, US HIGAIN, BOUTIQUE OD, BOUTIQUE CL, BLACK 2x12, TWEED 1x12, TWEED 4x10]

Selects the type of the amplifier. For more information, see "Type" on page 851.

Gain [0...100]

Sets the input gain.

Volume [0...100]

Sets the output level.

Source [Off...Tempo]

Selects the modulation source for the output level.

Amount [+/-100]

Sets the modulation amount of the output level.

Bass [0...100]

Sets the bass (low range) level.

Middle [0...100]

Sets the middle (mid range) level.

Treble [0...100]

Sets the treble (high range) level.

Cut / Presence [0...100]

This controls the high-frequency tone.

If the **Type** is AC15...AC30TB, the **Cut** (high frequency attenuation) parameter is available. For other **Type** settings, the **Presence** (high frequency boost) parameter is available.

PARAMETRIC EQ

Band1 Fc [Hz] [20...1.00k]

Sets the center frequency of Band 1.

Q [0.5...10.0]

Sets Band 1's bandwidth.

Gain [dB] [-18...+18]

Sets the gain of Band 1.

Band2 Fc [Hz] [50...5.00k]

Sets the center frequency of Band 2.

Q [0.5...10.0]

Sets Band 2's bandwidth.

Gain [dB] [-18...+18]

Sets the gain of Band 2.

Band3 Fc [Hz] [300...10.00k]

Sets the center frequency of Band 3.

Q [0.5...10.0]

Sets Band 3's bandwidth.

Gain [dB] [-18...+18]

Sets the gain of Band 3.

Band4 Fc [Hz] [500...20.00k]
 Sets the center frequency of Band 4.

Q [0.5...10.0]
 Sets Band 4's bandwidth.

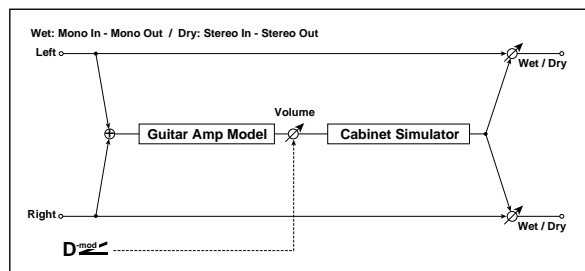
Gain [dB] [-18...+18]
 Sets the gain of Band 4.

OUTPUT

This is the standard effects output section, with modulatable control over wet/dry balance. For more information, see "OUTPUT" on page 820.

031: Guitar Amp Model +Cabinet

This simulates a guitar amp and speaker cabinet.



GUITAR AMP MODEL

Type [AC15, AC15TB, AC30, AC30TB, UK BLUES, UK 70'S, UK 80'S, UK 90'S, UK MODERN, US MODERN, US HIGAIN, BOUTIQUE OD, BOUTIQUE CL, BLACK 2x12, TWEED 1x12, TWEED 4x10]

Selects the type of the amplifier. For more information, see "Recommended Combinations of Guitar Amp Models and Cabinet Simulators" on page 852.

AC15: VOX AC15 manufactured in 1962.

AC15TB: VOX AC15TB (an AC15 modified by the addition of a top boost circuit).

AC30: Normal channel of a VOX AC30TB.

AC30TB: Brilliant channel of a VOX AC30TB.

UK BLUES: UK-manufactured vintage stack amp head.

UK 70'S: High treble channel of a UK-manufactured 100W amp head from 1969.

UK 80'S: UK-manufactured 100 Watt head from 1983.

UK 90'S: Lead channel of a 100W dual channel head.

UK MODERN: UK-manufactured 100W modern amp.

US MODERN: High-gain amp with metal plate.

US HIGAIN: 1991 model 100W amp head covered in snake- skin.

BOUTIQUE OD: Overdrive channel of a high-end 100W hand made amp.

BOUTIQUE CL: Clean channel of a high-end, hand-made 100W amp.

BLACK 2x12: 2x12 combo amp indispensable for country or blues players.

TWEED 1x12: Combo amp covered in tweed cloth.

TWEED 4x10: 4x10 combo amp designed for bass guitar.

Gain [0...100]

Sets the input gain.

Volume [0...100]

Sets the output level.

Source [Off...Tempo]

Selects the modulation source for the output level.

Amount [+/-100]

Sets the modulation amount of the output level.

Bass [0...100]

Sets the bass (low range) level.

Middle [0...100]

Sets the middle (mid range) level.

Treble [0...100]

Sets the treble (high range) level.

Cut / Presence [0...100]

Sets the presence (high-frequency tone). p.850.

Cabinet Sim SW [Check-box]

Switches the cabinet simulator on/off.

CABINET SIMULATOR

Type [See Below]

Selects the type of the cabinet. p.852.

TWEED 1x12: Open-back cabinet with one 12" speaker, typically used for blues.

TWEED 4x10: Open-back cabinet with four 10" speakers.

BLACK 2x10: Open-back cabinet with two 10" speakers.

BLACK 2x12: American open-back cabinet with two 12" speakers.

AC15: Vox open-back cabinet with one 12" "Blue" speaker.

AC30: Vox open-back cabinet with two 12" "Blue" speakers.

AD412: VOX AD412 closed-back cabinet with four 12" speakers.

UK H30: Closed-back classic cabinet with four 30W 12" speakers.

UK T75: Closed-back cabinet with four 75W 12" speakers.

US V30: Closed-back cabinet with four 30W 12" speakers.

Air [0...100]

Sets the mic position.

OUTPUT

This is the standard effects output section, with modulatable control over wet/dry balance. For more information, see "OUTPUT" on page 820.

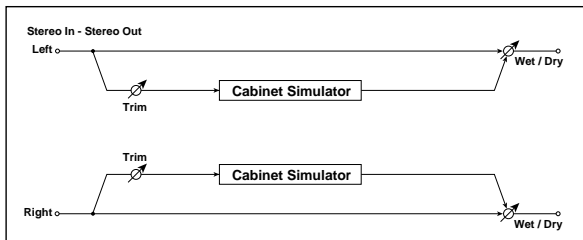
AMP MODEL	CABINET
UK 90'S	UK T75
UK MODERN	UK T75, US V30
US MODERN	US V30
US HIGAIN	US V30, UK T75
BOUTIQUE OD	UK H30
BOUTIQUE CL	UK H30
BLACK 2x12	BLACK 2x12
TWEED 1x12	TWEED 1x12
TWEED 4x10	TWEED 4x10

Recommended Combinations of Guitar Amp Models and Cabinet Simulators

AMP MODEL	CABINET
AC15	AC15
AC15TB	AC15
AC30	AC30
AC30TB	AC30
UK BLUES	UK H30
UK 70'S	UK H30
UK 80'S	UK T75

032: Stereo Bass Cabinet

This simulates the acoustical character of a bass amp's speaker cabinet.



Type [LA 4x10, MDN 4x10, MTL 4x10, CLS 8x10, UK 4x12, STD 1x15, JAZ 1x15, AC 2x15, US 2x15, UK 4x15, LA 1x18, COMBI]

Selects the cabinet type. See "034: Bass Amp Model +Cabinet" on page 853.

OUTPUT

This is the standard effects output section, with modulatable control over wet/dry balance. For more information, see "OUTPUT" on page 820.

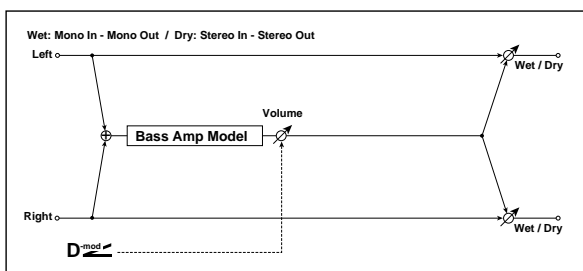
CABINET SIMULATOR

Trim [0...100]

Sets the input level.

033: Bass Amp Model

This simulates a bass amp.



BASS AMP MODEL

Type [LA STUDIO, JAZZ, GOLD PANEL, SCOOPED, VALVE2, VALVE, CLASSIC]

Selects the type of the amplifier. For more information, see "034: Bass Amp Model +Cabinet" on page 853.

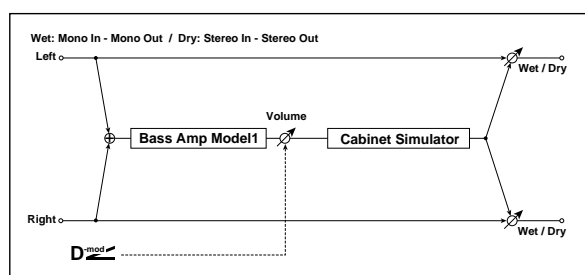
Volume [0...100]

Sets the output level.

Source	[Off...Tempo]	Treble	[0...100]
Selects the modulation source for the output level.		Sets the treble (high range) level.	
Amount	[+/-100]	Presence	[0...100]
Sets the modulation amount of the output level.		Sets the presence (high-frequency tone).	
Bass	[0...100]	<hr/>	
Sets the bass (low range) level.		OUTPUT	
Middle	[0...100]	This is the standard effects output section, with modulatable control over wet/dry balance. For more information, see "OUTPUT" on page 820.	
Mid Range	[0...4]		
Sets the mid-frequency range.			

034: Bass Amp Model +Cabinet

This simulates a bass amp and speaker cabinet.



BASS AMP MODEL

Type [LA STUDIO, JAZZ, GOLD PANEL, SCOOPED, VALVE2, VALVE, CLASSIC]

Selects the amplifier type. See "Recommended Combinations of Bass Amp Models and Cabinets" on page 854.

LA STUDIO: An amp typical of the LA sound.

JAZZ: A combo amp favored by jazz bassists.

GOLD PANEL: An amp distinctive for its eye-catching gold panel and clean sound.

SCOOPED: An amp typical of 80's sounds.

VALVE2: A tube amp suitable for rock.

VALVE: A tube amp with the ULTRA LO switch turned ON.

CLASSIC: A tube amp whose basic character changes according to the setting of the value dial.

Volume [0...100]

Sets the output level.

Source [Off...Tempo]

Selects the modulation source for the output level.

Amount [+/-100]

Sets the modulation amount of the output level.

Bass [0...100]

Sets the bass (low range) level.

Middle [0...100]

Sets the middle (mid range) level.

Mid Range [0...4]

Sets the mid-frequency range.

Treble [0...100]

Sets the treble (high range) level.

Presence [0...100]

Sets the presence (high-frequency tone).

CABINET SIMULATOR

Cabinet Sim SW [Check-box]

Switches the cabinet simulator on/off.

Type [LA 4x10, MDN 4x10, MTL 4x10, CLS 8x10, UK 4x12, STD 1x15, JAZ 1x15, AC 2x15, US 2x15, UK 4x15, LA 1x18, COMBI]

Selects the cabinet type. See "Recommended Combinations of Bass Amp Models and Cabinets" on page 854.

LA 4x10: Four 10" speakers; LA sound.

MDN 4x10: Four 10" speakers; modern cabinet.

MTL 4x10: Four 10" aluminum-cone speakers; modern cabinet.

CLS 8x10: Eight 10" speakers; classic cabinet.

UK 4x12: Four 12" speakers; UK-manufactured cabinet.

STD 1x15: One 15" speaker; studio combo cabinet.

JAZ 1x15: One 15" speaker; jazz combo cabinet.

AC 2x15: Two 15" speakers; cabinet for AC100.

US 2x15: Two 15" speakers; US-manufactured cabinet.

UK 4x15: Four 15" speakers; UK-manufactured cabinet.

LA 1x18: One 18" speaker; LA sound.

COMBI: One 12" and one 18" speaker combination cabinet.

OUTPUT

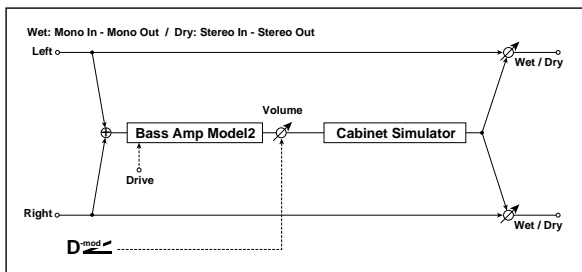
This is the standard effects output section, with modulatable control over wet/dry balance. For more information, see "OUTPUT" on page 820.

Recommended Combinations of Bass Amp Models and Cabinets

AMP MODEL	CABINET
LA STUDIO	LA 4X10 or LA 1X18
JAZZ	JAZ 1X15
GOLD PANEL	MDN 4X10
SCOOPED	MTL 4X10
VALVE2	CLS 8X10
VALVE	CLS 8X10
CLASSIC	COMBI

035: Bass Amp TubeDrive +Cab

This simulates a bass amp (with gain and drive) and speaker cabinet.



BASS AMP MODEL

Amplifier Type [STUDIO, AC100, UK MAJOR]

Selects the type of the amplifier. p.854.

STUDIO: A tube combo ideal for the Motown sound.

AC100: A 100W tube amp made by Vox.

UK MAJOR: A 200W tube amp made in the UK.

Gain [0...100]

Sets the input gain.

Volume [0...100]

Sets the output level.

Source [Off...Tempo]

Selects the modulation source for the output level.

Amount [+/-100]

Sets the modulation amount of the output level.

Bass [0...100]

Sets the bass (low range) level.

Middle [0...100]

Sets the middle (mid range) level.

Treble [0...100]

Sets the treble (high range) level.

Presence [0...100]

Sets the presence (high-frequency tone).

CABINET SIMULATOR

Cabinet Sim SW [Check-box]

Switches the cabinet simulator on/off.

Cabinet Type [LA 4x10, MDN 4x10, MTL 4x10, CLS 8x10, UK 4x12, STD 1x15, JAZ 1x15, AC 2x15, US 2x15, UK 4x15, LA 1x18, COMBI]

Selects the cabinet type. See "034: Bass Amp Model +Cabinet" on page 853, and "Recommended Combinations of Bass Amp Models and Cabinets" on page 854.

OUTPUT

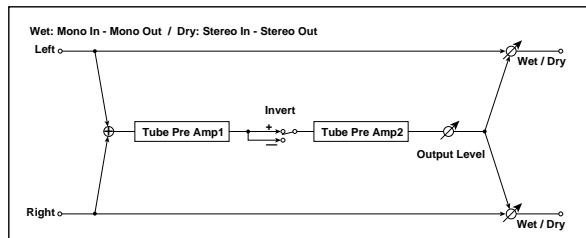
This is the standard effects output section, with modulatable control over wet/dry balance. For more information, see "OUTPUT" on page 820.

Recommended Combinations of Bass Amp Models and Cabinets

AMP MODEL	CABINET
STUDIO	STD 1X15
AC100	AC 2X15
UK MAJOR	UK 4X15, UK 4X12

036: Tube PreAmp Modeling

This effect simulates a two-stage vacuum tube preamp. You can make individual settings for two vacuum tubes connected in series. This lets you create the warm sound typical of vacuum tubes.



TUBE PREAMP1

Low Cut [Hz] [Thru, 21...8.00k]

Sets the cutoff frequency for the low cut filter of stage 1.

High Cut [Hz] [53...20.00k, Thru]

Sets the cutoff frequency for the high cut filter of stage 1.

Gain [dB] [-Inf, -38...+24]

Sets the input gain for stage 1.

Saturation [%] [0...100]

Sets the input/output response for stage 1. See "Saturation [%]" on page 856.

Bias [0...100]

Sets the bias voltage for stage 1. See "Bias" on page 856.

Phase [Normal, Wet Invert]

Turns phase reversal on/off.

With the Wet Invert setting, the phase of the signal will be inverted between stage 1 and stage 2. Since "Bias" is applied to the inverted signal in stage 2, this will change the tonal character.

TUBE PREAMP2

Low Cut [Hz] [Thru, 21...8.00k]

High Cut [Hz] [53...20.00k, Thru]

Gain [dB] [-24.0...+24.0]

Saturation [%] [0...100]

Bias [0...100]

These parameters are identical to those for "TUBE PREAMP1," above.

Output Level [dB] [-48.0...+0.0]

Sets the output level.

OUTPUT

Wet/Dry D_{mod} [Dry, 1:99...99:1, Wet]

Sets the balance between the effect and the dry input.

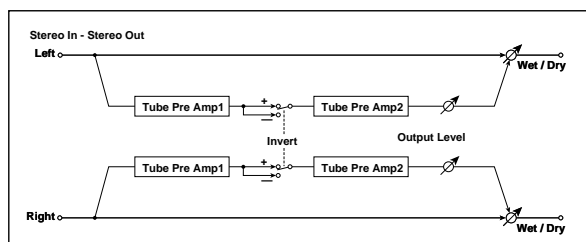
Source [Off...Tempo]

Selects a modulation source for Wet/Dry.

Amount [+/-100]

Sets the modulation amount for Wet/Dry.

037: St. Tube PreAmp Modeling

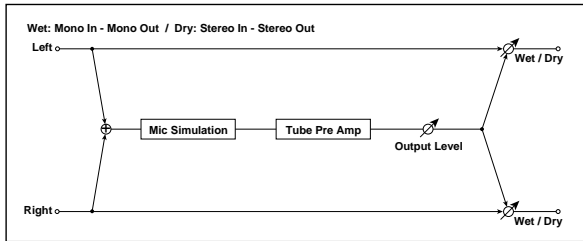


This is similar to "036: Tube PreAmp Modeling", but in stereo.

For more information, see "036: Tube PreAmp Modeling" on page 855.

038: Mic Modeling +PreAmp

This effect simulates a mic and vacuum tube preamp. You can choose from various types of mic and positions to create differing sonic characters.



MIC SIMULATOR

Type [Vnt.Dy/55SH, Mlt.Cn/C414, Pc.Cn/C451, Whale/MD421, Vo.Dy/SM58, Mlt.Dy/SM57, Vo.Cn/U87, Vo.Tube/U47, BDr.Dy/RE20]

Selects the type of mic.

Position [Close, On, Off, Far]

This expresses the effect that the mic position has on the sound. The Close setting is the closest mic position, and the Far setting is the farthest.

TUBE PREAMP

Low Cut [Hz] [Thru, 21...8.00k]

Sets the frequency of the low cut filter.

High Cut [Hz] [53...20.00k, Thru]

Sets the frequency of the high cut filter.

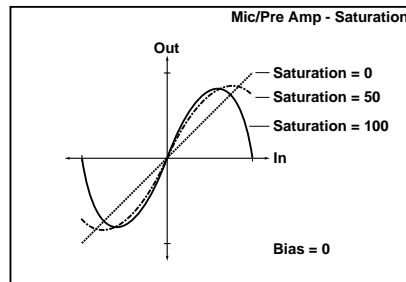
Gain [dB] [-24.0...+24.0]

Sets the input gain to the vacuum tube preamp.

Saturation [%] [0...100]

Sets the input/output response of the preamp.

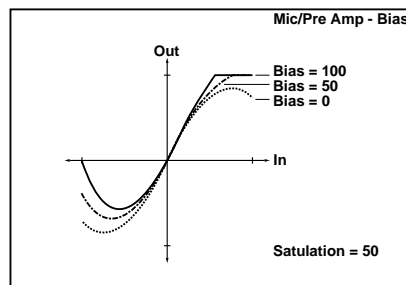
At higher settings, the waveform will change at high gain levels, tending to cause distortion. Lower settings will produce linear response.



Bias

[0...100]

This expresses the effect that changes in vacuum tube bias have on the distortion of the waveform. Higher settings of this value will produce distortion even at low gain levels. Since this will also change the overtone structure, you can use it to control the tonal character.



Output Level [dB]

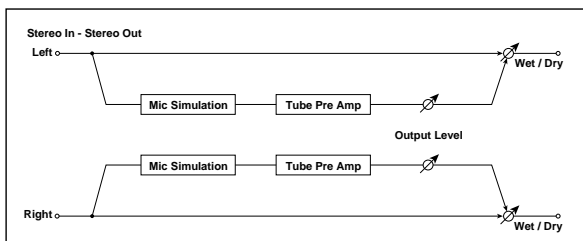
[-48.0...+0.0]

Sets the output level of the preamp.

OUTPUT

This is the standard effects output section, with modulatable control over wet/dry balance. For more information, see "OUTPUT" on page 820.

039: St. Mic Modeling +PreAmp



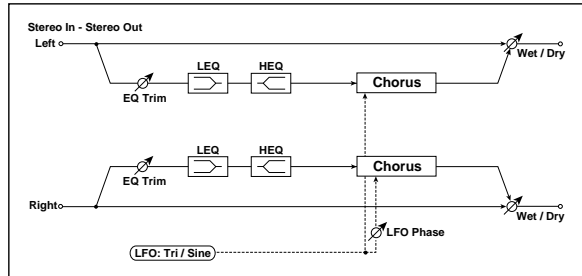
This is similar to "038: Mic Modeling +PreAmp", but in stereo. For example, you might use this to simulate micing of a stereo source such as a rotary speaker.

For more information, see "038: Mic Modeling +PreAmp" on page 856.

Chorus, Flanger, and Phaser

040: Stereo Chorus

This effect adds thickness and warmth to the sound by modulating the delay time of the input signal. You can add spread to the sound by offsetting the phase of the left and right LFOs from each other.



Pre EQ

Trim [0...100]

Sets the EQ input level.

LEQ Fc [Low, Mid-Low]

Selects the cutoff frequency (low or mid-low) of the low-range equalizer.

LEQ Gain [dB] [-15.0...+15.0]

Sets the gain of the Low EQ.

HEQ Fc [High, Mid-High]

Selects the cutoff frequency (high or mid-high) of the high-range equalizer.

HEQ Gain [dB] [-15.0...+15.0]

Sets the gain of the High EQ.

LFO

Waveform [Triangle, Sine]

Selects the LFO Waveform.

Phase [degrees] [-180...+180]

Sets the LFO phase difference between the left and right. See "Phase [degrees]" on page 839.

Frequency [Hz] D_{mod} [0.02...20.00]

This sets the LFO speed, in Hz. It applies only when **MIDI/Tempo Sync**, below, is **Off**.

Source [Off...Tempo]

This selects a modulation source for the **Frequency**.

Amount [-20.00...+20.00]

This sets the **Frequency** modulation amount, in Hz.

MIDI/Tempo Sync D_{mod} [Check-box]

BPM [MIDI, 40.00...240.00]

Base Note [♪...♭]

Times [x1...x32]

When **MIDI/Tempo Sync** is on, the LFO speed is set by **BPM**, **Base Note**, and **Times**, instead of **Frequency**. For more information, see "MIDI/Tempo Sync" on page 837.

Type [Individual, Common 1, Common 2]

This controls whether the effect uses its individual LFO, or one of the Common FX LFOs. For more information, see "LFO Type" on page 837.

Common LFO Phase Offset [degrees] [+/-180]

When **Type** is set to **Common FX LFO 1** or **2**, this lets you offset the phase from the master LFO.

CHORUS

L Pre Delay [msec] [0.0...50.0]

Sets the delay time for the left channel. Setting the left and right delay times to slightly different values allows you to control the stereo image.

R Pre Delay [msec] [0.0...50.0]

Sets the delay time for the right channel.

Depth D_{mod} [0...100]

Sets the depth of LFO modulation.

Source [Off...Tempo]

Selects the modulation source for the LFO modulation depth.

Amount [+/-100]

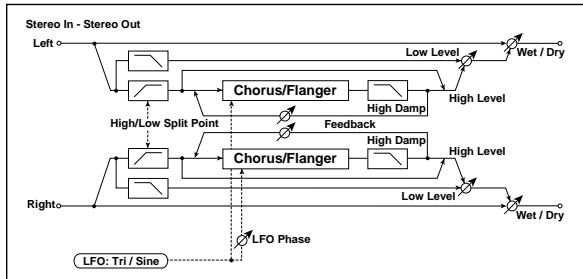
Sets the modulation amount of the LFO modulation depth.

OUTPUT

This is the standard effects output section, with modulatable control over wet/dry balance. For more information, see "OUTPUT" on page 820.

041: Stereo Harmonic Chorus

This effect applies chorus only to higher frequencies. This can be used to apply a chorus effect to a bass sound without making the sound thinner. You can also use feedback to turn the chorus into a flanger.



CHORUS

Pre Delay [msec] [0.0...50.0]

Sets the delay time from the original sound.

Depth D^{mod} [0...100]

Sets the depth of LFO modulation.

Source [Off...Tempo]

Selects the modulation source of the LFO modulation depth.

Amount [+/-100]

Sets the modulation amount of the LFO modulation depth.

Feedback [+/-100]

Sets the feedback amount for the chorus. Increasing the feedback turns the chorus into a flanger.

High Damp [%] [0...100]

Sets the high range damping amount of the chorus block.

High/Low Split Point [1...100]

This sets the frequency split point between the low and high ranges. Only the high range will be processed through the chorus.

Low Level [0...100]

Sets the low range output level.

High Level [0...100]

Sets the high range (chorus) output level.

LFO

Waveform [Triangle, Sine]

Selects the LFO Waveform.

Phase [degrees] [-180...+180]

Sets the LFO phase difference between the left and right. See "Phase [degrees]" on page 839.

Frequency [Hz] D^{mod} [0.02...20.00]

This sets the LFO speed, in Hz. It applies only when **MIDI/Tempo Sync**, below, is **Off**.

Source [Off...Tempo]

This selects a modulation source for the **Frequency**.

Amount [-20.00...+20.00]

This sets the **Frequency** modulation amount, in Hz.

MIDI/Tempo Sync D^{mod} [Check-box]

BPM [MIDI, 40.00...240.00]

Base Note [Musical Note Icon]

Times [x1...x32]

When **MIDI/Tempo Sync** is on, the LFO speed is set by **BPM**, **Base Note**, and **Times**, instead of **Frequency**. For more information, see "MIDI/Tempo Sync" on page 837.

Type [Individual, Common1, Common2]

This controls whether the effect uses its individual LFO, or one of the Common FX LFOs. For more information, see "LFO Type" on page 837.

Common LFO Phase Offset [degrees] [+/-180]

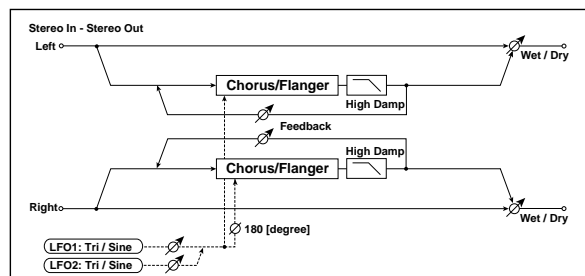
When **Type** is set to **Common FX LFO 1** or **2**, this lets you offset the phase from the master LFO.

OUTPUT

This is the standard effects output section, with modulatable control over wet/dry balance. For more information, see "OUTPUT" on page 820.

042: St. Bi-phase Modulation

This stereo chorus effect adds two different LFOs together. You can set the Frequency and Depth parameters for each LFO individually. Depending on the setting of these LFOs, very complex waveforms will create an analog-type, unstable modulated sound.



MODULATION

L Pre Delay [msec] [0.0...50.0]

Sets the delay time for the left channel. p.857.

R Pre Delay [msec] [0.0...50.0]

Sets the delay time for the right channel. p.857.

Depth 1 [0...100]

Sets the depth of LFO1 modulation.

Depth 2 [0...100]

Sets the depth of LFO2 modulation.

Source [Off...Tempo]

Selects the modulation source of LFO1&2 modulation depth.

Amount 1 [+/-100]

Sets the modulation amount of LFO1 modulation depth.

Amount 2 [+/-100]

Sets the modulation amount of LFO2 modulation depth.

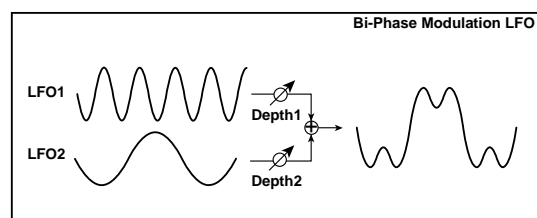
Feedback [+/-100]

Sets the feedback amount. See "Feedback" on page 858.

High Damp [%] [0...100]

Sets the damping amount in the high range.

LFO1/2



LFO1 Waveform [Triangle, Sine]

Selects the waveform for LFO1.

LFO2 Waveform [Triangle, Sine]

Selects the waveform for LFO2.

Phase Sw [0 degree, 180 degree]

This lets you invert the LFO phase between the left and right channels.

LFO1 Frequency [Hz] [0.02...30.00]

This sets the speed of LFO1, in Hz.

LFO2 Frequency [Hz] [0.02...30.00]

This sets the speed of LFO2, in Hz.

Source [Off...Tempo]

Selects a source to modulate the speeds of LFO1 & 2.

LFO1 Amount [-30.00...+30.00]

This sets the LFO1 Frequency modulation amount, in Hz.

LFO2 Amount [-30.00...+30.00]

This sets the LFO2 Frequency modulation amount, in Hz.

LFO1 Type [Individual, Common 1, Common 2]

This controls whether the effect uses its individual LFO1, or one of the Common FX LFOs. For more information, see "LFO Type" on page 837.

Common LFO Phase Offset [degrees] [+/-180]

When Type is set to Common FX LFO 1 or 2, this lets you offset the phase from the master LFO.

LFO2 Type [Individual, Common 1, Common 2]

This controls whether the effect uses its individual LFO2, or one of the Common FX LFOs. For more information, see "LFO Type" on page 837.

Common LFO Phase Offset [degrees] [+/-180]

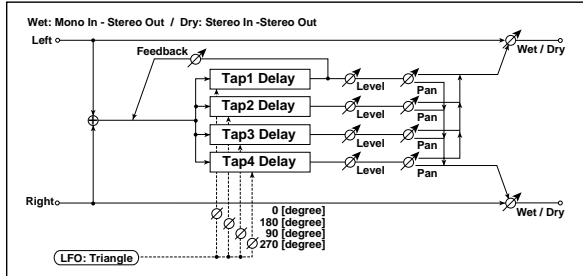
When Type is set to Common FX LFO 1 or 2, this lets you offset the phase from the master LFO.

OUTPUT

This is the standard effects output section, with modulatable control over wet/dry balance. For more information, see "OUTPUT" on page 820.

043: Multitap Cho/Delay 4Taps

This effect has four chorus blocks, each with a different LFO phase. You can create a complex stereo image by setting each block's delay time, depth, output level, and pan individually. You can also fix some of the chorus blocks to combine the chorus and delay effects.



MOD DELAY

Taps 1-4

There are four delay taps, each with separate settings for delay time, chorus depth, level, and pan. The chorus LFO phases are different for each tap:

- Tap 1 = 0 degrees
- Tap 2 = 180 degrees
- Tap 3 = 90 degrees
- Tap 4 = 270 degrees

Tap 1...4 [msec] [0...1000]

This sets the tap's delay time.

Depth 1...4 [0...30]

This sets the tap's chorus depth.

Level 1...4 [0...30]

This sets the tap's output level.

Pan 1...4 [L6...L1, C, R1...R6]

This sets the tap's stereo position.

Tap 1 Feedback

Tap1 Feedback D_{mod} [+/-100]

Sets the Tap1 feedback amount.

Source [Off...Tempo]

Selects the modulation source of Tap1 feedback amount and effect balance.

Amount [+/-100]

Sets the Tap1 feedback amount and modulation amount.

LFO

Frequency [Hz] [0.02...13.00]

This sets the LFO speed, in Hz.

LFO Type [Individual, Common 1, Common2]

This controls whether the effect uses its individual LFO, or one of the Common FX LFOs. For more information, see "LFO Type" on page 837.

Common LFO Phase Of [deg] [-180...+180]

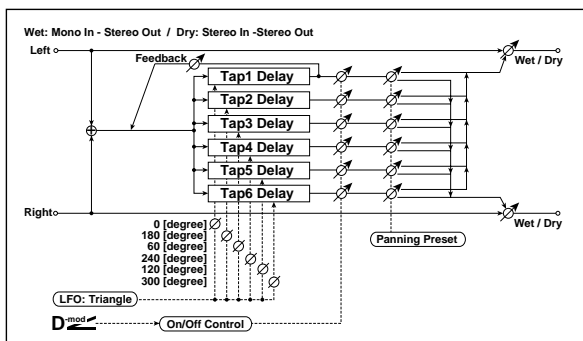
When Type is set to **Common FX LFO 1** or **2**, this lets you offset the phase from the master LFO.

OUTPUT

This is the standard effects output section, with modulatable control over wet/dry balance. For more information, see "OUTPUT" on page 820.

044: Multitap Cho/Delay 6Taps

This effect has six chorus blocks with different LFO phases. You can produce a complex stereo image by setting a different delay time and depth for each block. You can control the delay output level via a modulation source.



MODULATION DELAY

Taps 1-6

There are six delay taps, each with separate settings for delay time, chorus depth, and on/off/modulation status. The chorus LFO phases are different for each tap:

- Tap 1 = 0 degrees
- Tap 2 = 180 degrees
- Tap 3 = 60 degrees
- Tap 4 = 240 degrees
- Tap 5 = 120 degrees
- Tap 6 = 300 degrees

Tap 1...6 [msec] [0...2000]

This sets the tap's delay time.

Depth 1...6 [0...30]

This sets the tap's chorus depth.

Status 1...6 [Always On, Always Off, On Off (Dmod), Off On (Dmod)]

This turns the tap on or off, or allows its output level to be modulated by the selected Dmod source.

Always On: Output is always on. (No modulation)

Always Off: Output is always off. (No modulation)

On→Off (Dmod): Output level fades from on to off via the modulation source.

Off→On (Dmod): Output level fades from off to on via the modulation source.

Combining these parameters, you can change from 4-phase chorus to two-tap delay by crossfading them gradually via the modulation source during a performance.

Tap 1 Feedback

Tap1 Feedback D_{mod} [+/-100]

Sets the amount of feedback from Tap1.

Source [Off...Tempo]

This selects a modulation source to modulate the tap output levels (as set by **Status**, above) and the **Tap 1 Feedback** amount.

Amount [+/-100]

Sets the modulation amount for the **Tap 1 Feedback**.

Panning Preset [1: L 1 2 3 4 5 6 R, 2: L 1 3 5 2 4 6 R, 3: L 1 3 5 2 4 6 R, 4: L 1 4 5 6 3 2 R]

This selects combinations of stereo panning patterns for the tap outputs.

LFO

Frequency [Hz] [0.02... 13.00]

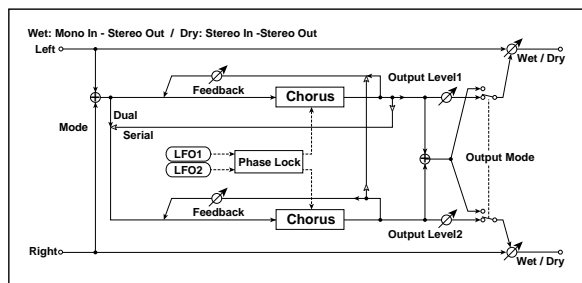
This sets the LFO speed, in Hz.

OUTPUT

This is the standard effects output section, with modulatable control over wet/dry balance. For more information, see "OUTPUT" on page 820.

045: Bi Chorus

This effect lets you place two independent chorus/flanger units in series or in parallel. If placed in series, feedback can be applied to the sound that has passed through the two chorus modules, creating even more complex modulation.



CHORUS 1

Manual [0...100]

Sets the delay time for chorus 1.

LFO1 Depth D_{mod} [0...100]

Sets the LFO modulation depth for chorus 1.

Source [Off...Tempo]

Selects the modulation source that will control LFO modulation depth.

Amount [+/-100]

Sets the amount by which the chorus 1 LFO modulation depth will be controlled.

Feedback [0...100]

Sets the feedback amount for chorus 1.

CHORUS 2

Manual [0...100]

Sets the delay time for chorus 2.

LFO2 Depth D_{mod} [0...100]

Sets the LFO modulation depth for chorus 2.

Amount [+/-100]

Sets the amount by which the chorus 2 LFO modulation depth will be controlled.

Feedback [0...100]

Sets the feedback amount for chorus 2. When **Routing** is set to **Serial**, this feeds back into Chorus 1, and Chorus 1's own **Feedback** setting is ignored.

LFO1/2

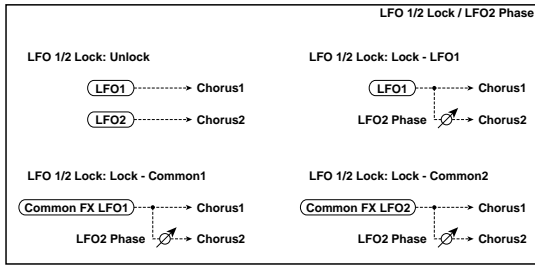
LFO1/2 Lock [Unlock, Lock-LFO1, Lock-Common1, Lock-Common2]

This selects the LFO(s) used by the two choruses.

Unlock: LFO 1 and LFO 2 will operate independently.

Lock-LFO 1: both choruses will use LFO 1, with an optional phase offset for LFO 2 (see "LFO2 Phase [degrees]," below).

Lock-Common 1 or **Lock Common 2:** both choruses will use the selected FX Common LFO, with an optional phase offset for LFO 2.



LFO2 Phase [degrees] [-180...+180]

Sets the phase difference between LFO1 and LFO2, when **LFO 1/2 Lock** is set to anything other than **Unlock**.

LFO1 Frequency [Hz] [0.02...20.00]

Sets the LFO 1 speed. This applies only if **LFO 1/2 Lock** is set to **Unlock** or **Lock-LFO1**.

LFO2 Frequency [Hz] [0.02...20.00]

Sets the LFO 2 speed. This applies only if **LFO 1/2 Lock** is set to **Unlock**.

Source [Off...Tempo]

Selects a source to modulate the speeds of LFO1 & 2.

LFO1 Amount [-20.00...+20.00]

This sets the **LFO1 Frequency** modulation amount, in Hz.

LFO2 Amount [-20.00...+20.00]

This sets the **LFO2 Frequency** modulation amount, in Hz.

MIDI/Tempo Sync [Check-box]

BPM [MIDI, 40.00...240.00]

LFO1 Note [...]

Times [x1...x32]

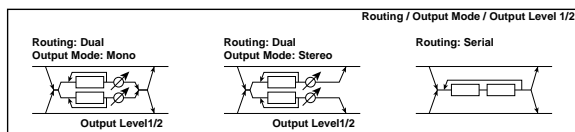
LFO2 Note [...]

Times [x1...x32]

When **MIDI/Tempo Sync** is on, the LFO speeds are set by **BPM**, **Note**, and **Times**, instead of **Frequency**. The two LFOs each have their own settings for **Note** and **Times**. For more information, see "MIDI/Tempo Sync" on page 837.

MODE

Chorus 1 and 2 are connected as shown in the diagram.



Routing [Dual, Serial]

Selects parallel or serial connection for chorus 1 and 2.

If **Routing** is set to **Serial**, the **Chorus 1 Output Level**, **Chorus 2 Output Level**, and **Chorus 2 Feedback** settings are ignored.

Output Mode [Mono, Stereo]

This applies only when **Routing** is set to **Dual**.

Mono: The outputs of both chorus 1 and 2 are summed together and panned to the center.

Stereo: Chorus 1 goes to the left output, and chorus 2 goes to the right output.

Chorus 1 Output Level [0...100]

Sets the output level for chorus 1.

Chorus2 Output Level [0...100]

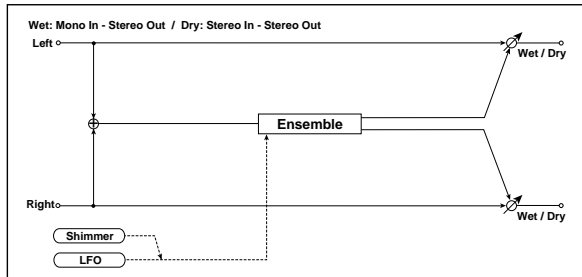
Sets the output level for chorus 2.

OUTPUT

This is the standard effects output section, with modulatable control over wet/dry balance. For more information, see "OUTPUT" on page 820.

046: Ensemble

This Ensemble effect has three chorus blocks that use LFO to create subtle shimmering, and gives three dimensional depth and spread to the sound, because the signal is output from the left, right, and center.



ENSEMBLE

Depth D_{mod} [0...100]

Sets the depth of the LFO modulation.

Source [Off...Tempo]

Selects the modulation source for the LFO depth.

Amount [+/-100]

Sets the modulation amount of the LFO modulation depth.

LFO

Speed D_{mod} [1...100]

Sets the LFO speed.

Source [Off...Tempo]

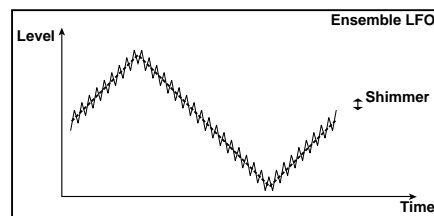
Selects a modulation source for LFO speed.

Amount [+/-100]

Sets the modulation amount of LFO speed.

Shimmer [0...100]

This parameter sets the amount of shimmering of the LFO waveform. Increasing this value adds more shimmering, making the chorus effect more complex and richer.

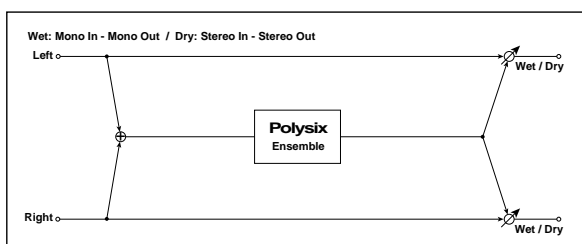


OUTPUT

This is the standard effects output section, with modulatable control over wet/dry balance. For more information, see "OUTPUT" on page 820.

047: Polysix Ensemble

This models the ensemble effect built into the classic Korg PolySix programmable polyphonic synthesizer.



POLYSIX ENSEMBLE

Depth D_{mod} [0...100]

Sets the depth of the effect.

Source [Off...Tempo]

Selects the modulation source that will control the effect depth.

Amount [+/-100]

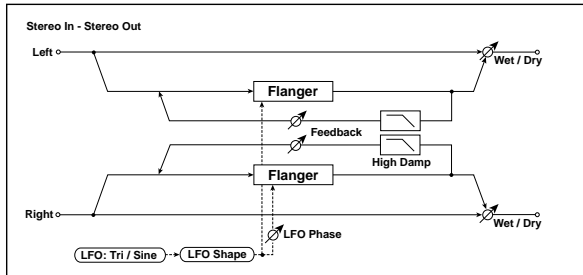
Sets the amount by which the effect depth will be modulated.

OUTPUT

This is the standard effects output section, with modulatable control over wet/dry balance. For more information, see "OUTPUT" on page 820.

048: Stereo Flanger

This effect gives a significant swell and movement of pitch to the sound. It is more effective when applied to a sound with a lot of harmonics. This is a stereo flanger. You can add spread to the sound by offsetting the phase of the left and right LFOs from each other.



FLANGER

Delay Time [msec] [0.0...50.0]

Sets the delay time from the original sound.

Depth [0...100]

Sets the depth of LFO modulation.

Feedback [+/-100]

This controls the intensity of the flanger effect. Positive and negative values create different timbres.

Mixing the processed and dry signals via **Wet/Dry** will enhance the effect. For maximum intensity, set **Feedback** and **Wet/Dry** so that they are either both positive or both negative; this emphasizes the flanger's harmonic peaks.

High Damp [%] [0...100]

This sets the amount of high-frequency damping in the flanger's feedback loop. Increasing the value will reduce high-frequency harmonics.

LFO

Waveform [Triangle, Sine]

Selects the LFO Waveform.

Shape [+/-100]

Changes the curvature of the LFO Waveform. p.840.

Phase [degrees] [-180...+180]

Sets the LFO phase difference between the left and right. See "Phase [degrees]" on page 839.

Frequency [Hz] D_{mod} [0.02...20.00]

This sets the LFO speed, in Hz. It applies only when **MIDI/Tempo Sync**, below, is **Off**.

Source [Off...Tempo]

This selects a modulation source for the **Frequency**.

Amount [-20.00...+20.00]

This sets the **Frequency** modulation amount, in Hz.

MIDI/Tempo Sync D_{mod} [Check-box]

BPM [MIDI, 40.00...240.00]

Base Note [♪...♩]

Times [x1...x32]

When **MIDI/Tempo Sync** is on, the LFO speed is set by **BPM**, **Base Note**, and **Times**, instead of **Frequency**. For more information, see "MIDI/Tempo Sync" on page 837.

Type [Individual, Common1, Common2]

This controls whether the effect uses its individual LFO, or one of the Common FX LFOs. For more information, see "LFO Type" on page 837.

Common LFO Phase Offset [degrees] [+/-180]

When **Type** is set to **Common FX LFO 1** or **2**, this lets you offset the phase from the master LFO.

OUTPUT

Wet/Dry D_{mod} [-Wet...-1:99, Dry, 1: 99...Wet]

Sets the balance between the "wet" processed sound and the dry input. Negative values invert the phase of the wet signal. This interacts with **Feedback**; for more information, see "Feedback" on page 864.

Source [Off...Tempo]

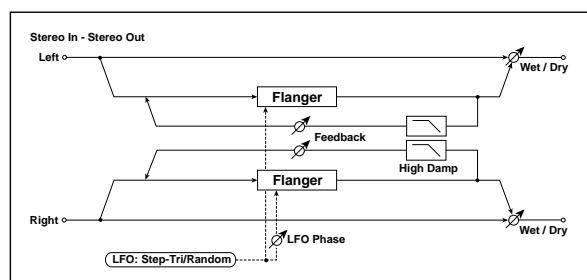
Selects a modulation source for **Wet/Dry**.

Amount [+/-100]

Sets the modulation amount for **Wet/Dry**.

049: Stereo Random Flanger

The stereo effect uses a step-shape waveform and random LFO for modulation, creating a unique flanging effect.



FLANGER

Delay Time [msec] [0.0...50.0]

Sets the delay time from the original sound.

Depth [0...100]

Sets the depth of LFO modulation.

Feedback [+/-100]

This controls the intensity of the flanger. For more information, see “Feedback” on page 864.

High Damp [%] [0...100]

Sets the feedback damping amount in the high range. p.864.

LFO

These parameters control the shape and speed of the step LFO. They are identical to those in the Stereo Random Filter; for more information, see “LFO” on page 839.

OUTPUT

Wet/Dry D_{mod} [-Wet...-1:99, Dry, 1: 99...Wet]

Sets the balance between the “wet” processed sound and the dry input. Negative values invert the phase of the wet signal. This interacts with **Feedback**; for more information, see “Feedback” on page 864.

Source [Off...Tempo]

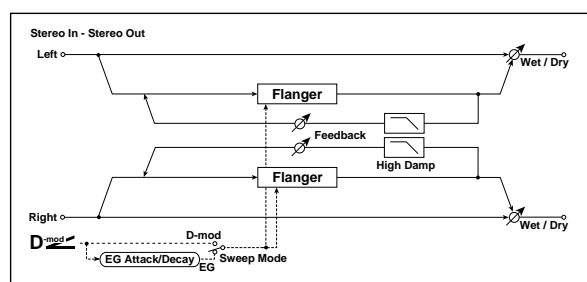
Selects a modulation source for Wet/Dry.

Amount [+/-100]

Sets the modulation amount for Wet/Dry.

050: Stereo Envelope Flanger

This Flanger uses a MIDI-triggerable envelope generator for modulation. This lets you create sequences with flanger sweeps which always happen on the same beat, for instance. You can also control the Flanger directly using a modulation source.



CONTROL

Sweep Mode [EG, Dmod]

When **Sweep Mode** is set to EG, the envelope generator controls the flanger. Note that this is the effect’s own EG, and isn’t related to the Program’s other EGs (Filter, Amp, etc.).

The **Source** parameter, below, selects the source that starts the envelope generator. If you select Gate, for example, the envelope will be triggered by note-ons.

MIDI The EG is triggered when the MIDI source’s value changes from 63 or smaller to 64 or higher.

When **Sweep Mode** is set to Dmod, the modulation source directly controls the flanger. Select the modulation source using the **Source** parameter, below.

Source D_{mod} [Off...Tempo]

Selects the modulation source that triggers the EG (when **Sweep Mode** = EG), or the modulation source that causes the flanger to sweep (when **Sweep Mode** = Dmod).

EG

Attack [1...100]

Sets the EG attack time. For more information Attack and Release, see the graphic under “Attack [msec]” on page 822.

Decay [1...100]

Sets the EG decay time.

FLANGER

L Delay Bottom [msec] [0.0...50.0]

Sets the lower limit of the left-channel delay time. For more information on the Bottom and Top settings, see the graphic under “Frequency Bottom” on page 837.

L Delay Top [msec] [0.0...50.0]

Sets the upper limit of the left-channel delay time.

R Delay Bottom [msec] [0.0...50.0]

Sets the lower limit of the right-channel delay time.

R Delay Top [msec] [0.0...50.0]

Sets the upper limit of the right-channel delay time.

Feedback [+/-100]

This controls the intensity of the flanger. For more information, see “Feedback” on page 864.

High Damp [%] [0...100]

This sets the amount of high-frequency damping in the flanger’s feedback loop. Increasing the value will reduce high-frequency harmonics.

OUTPUT

Wet/Dry D^{mod} [-Wet...-1:99, Dry, 1: 99...Wet]

Sets the balance between the “wet” processed sound and the dry input. Negative values invert the phase of the wet signal. This interacts with **Feedback**; for more information, see “Feedback” on page 864.

Source [Off...Tempo]

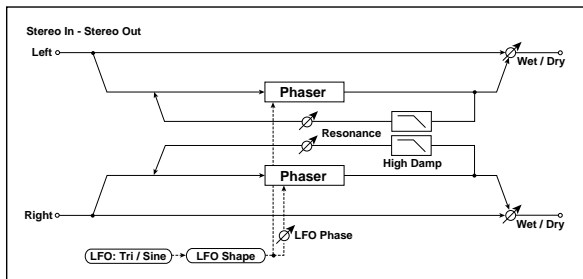
Selects a modulation source for Wet/Dry.

Amount [+/-100]

Sets the modulation amount for Wet/Dry.

051: Stereo Phaser

This effect creates a swell by shifting the phase. It is very effective on electric piano sounds. You can add spread to the sound by offsetting the phase of the left and right LFOs from each other



PHASER

Manual [0...100]

Sets the phaser’s center frequency.

Depth D^{mod} [0...100]

Sets the depth of LFO modulation.

Source [Off...Tempo]

Selects the modulation source for the LFO modulation depth.

Amount [+/-100]

Sets the modulation amount of the LFO modulation depth.

Resonance [+/-100]

This controls the intensity of the phaser effect. Positive and negative values create different timbres.

Mixing the processed and dry signals via **Wet/Dry** will enhance the effect. For maximum intensity, set **Resonance** and **Wet/Dry** so that they are either both positive or both negative; this emphasizes the phaser’s harmonic peaks.

High Damp [%] [0...100]

This sets the amount of high-frequency damping in the phaser’s feedback loop. Increasing the value will reduce high-frequency harmonics.

LFO

Waveform [Triangle, Sine]

Selects the LFO Waveform.

Shape [+/-100]

Changes the curvature of the LFO Waveform. p.840.

Phase [degrees] [-180...+180]

Sets the LFO phase difference between the left and right. See “Phase [degrees]” on page 839.

Frequency [Hz] D^{mod} [0.02...20.00]

This sets the LFO speed, in Hz. It applies only when **MIDI/Tempo Sync**, below, is Off.

Source [Off...Tempo]

This selects a modulation source for the **Frequency**.

Amount [-20.00...+20.00]

This sets the **Frequency** modulation amount, in Hz.

MIDI/Tempo Sync D^{mod} [Check-box]

BPM [MIDI, 40.00...240.00]

Base Note [Musical Notation]

Times [x1...x32]

When **MIDI/Tempo Sync** is on, the LFO speed is set by **BPM**, **Base Note**, and **Times**, instead of **Frequency**. For more information, see “MIDI/Tempo Sync” on page 837.

Type [Individual, Common1, Common2]

This controls whether the effect uses its individual LFO, or one of the Common FX LFOs. For more information, see “LFO Type” on page 837.

Common LFO Phase Offset [degrees] [+/-180]

When **Type** is set to **Common FX LFO 1** or **2**, this lets you offset the phase from the master LFO.

OUTPUT

Wet/Dry D_{mod} [-Wet...-1:99, Dry, 1: 99...Wet]

Sets the balance between the “wet” processed sound and the dry input. Negative values invert the phase of the wet signal. This interacts with **Resonance**; for more information, see “Resonance” on page 866.

Source [Off...Tempo]

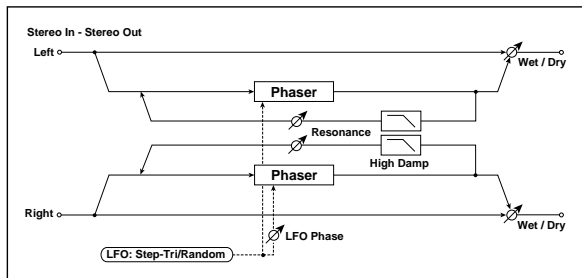
Selects a modulation source for Wet/Dry.

Amount [+/-100]

Sets the modulation amount for Wet/Dry.

052: Stereo Random Phaser

This is a stereo phaser. The effect uses a step-shape waveform and random LFO for modulation, creating a unique phasing effect.



PHASER

Manual [0...100]

Sets the frequency to which the effect is applied.

Depth [0...100]

Sets the depth of LFO modulation.

Resonance [+/-100]

This controls the intensity of the phaser. For more information, see “Resonance” on page 866.

High Damp [%] [0...100]

This sets the amount of high-frequency damping in the phaser’s feedback loop. Increasing the value will reduce high-frequency harmonics.

LFO

Waveform [Step-Tri, Step-Sin, Random]

Selects the LFO Waveform. For more information, see “Waveform” on page 839.

Phase [degrees] [-180...+180]

Sets the LFO phase difference between the left and right. See “Phase [degrees]” on page 839.

Frequency [Hz] D_{mod} [0.02...20.00]

Step Frequency [Hz] D_{mod} [0.05...50.00]

Source [Off...Tempo]

Amount [-20.00...+20.00]

Step Amount [-50.00...+50.00]

These parameters control the speed of the LFO when **MIDI/Tempo Sync** is **Off**. For more information, see “Frequency” on page 839.

MIDI/Tempo Sync MIDI [Check-box]

BPM [MIDI, 40.00...240.00]

Base Note MIDI [♪... ♪]

Times [x1...x32]

Step Note MIDI [♪... ♪]

Times [x1...x32]

These parameters control the speed of the LFO when **MIDI/Tempo Sync** is **On**. For more information, see “Frequency” on page 839.

Type (Step) [Individual, Common 1, Common 2]

Common LFO Phase Offset [degrees] [+/-180]

These parameters control the LFO source for the steps; they do not affect the triangle or sine LFOs. For more information, see “Step LFO type” on page 840.

OUTPUT

Wet/Dry D_{mod} [-Wet...-1:99, Dry, 1: 99...Wet]

Sets the balance between the “wet” processed sound and the dry input. Negative values invert the phase of the wet signal. This interacts with **Resonance**; for more information, see “Resonance” on page 866.

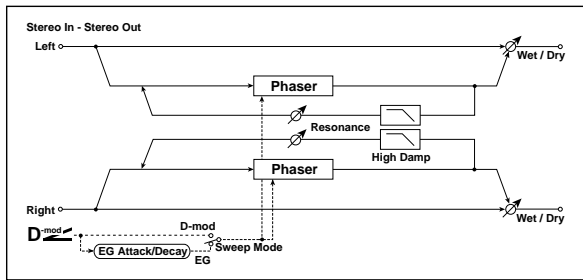
Source [Off...Tempo]

Selects a modulation source for Wet/Dry.

Amount [+/-100]

Sets the modulation amount for Wet/Dry.

053: Stereo Envelope Phaser



This stereo phaser uses an envelope generator for modulation. You will obtain the same pattern of phasing each time you play. You can also control the Phaser directly using the modulation source.

PHASER

L Manual Bottom [0...100]

Sets the lower limit of the left-channel phaser's sweep.

For more information on the Bottom and Top settings, see the graphic under "Frequency Bottom" on page 837.

L Manual Top [0...100]

Sets the upper limit of the left-channel phaser's sweep.

R Manual Bottom [0...100]

Sets the lower limit of the right-channel phaser's sweep.

R Manual Top [0...100]

Sets the upper limit of the right-channel phaser's sweep.

CONTROL

Sweep Mode [EG, Dmod]

Determines whether the phaser is controlled by the envelope generator or by the modulation source. p.865.

Source D_{mod} [Off...Tempo]

Selects the modulation source that triggers the EG (when EG is selected for Sweep Mode), or modulation source that causes the phaser to sweep (when Dmod is selected for Sweep Mode). p.865.

EG

Attack [1...100]

Sets the EG attack time. For more information Attack and Release, see the graphic under "Attack [msec]" on page 822.

Decay [1...100]

Sets the EG decay time.

PHASER

Resonance [+/-100]

This controls the intensity of the phaser. For more information, see "Resonance" on page 866.

High Damp [%] [0...100]

This sets the amount of high-frequency damping in the phaser's feedback loop. Increasing the value will cut high-range harmonics.

OUTPUT

Wet/Dry D_{mod} [-Wet...-1:99, Dry, 1: 99...Wet]

Sets the balance between the "wet" processed sound and the dry input. Negative values invert the phase of the wet signal. This interacts with **Resonance**; for more information, see "Resonance" on page 866.

Source [Off...Tempo]

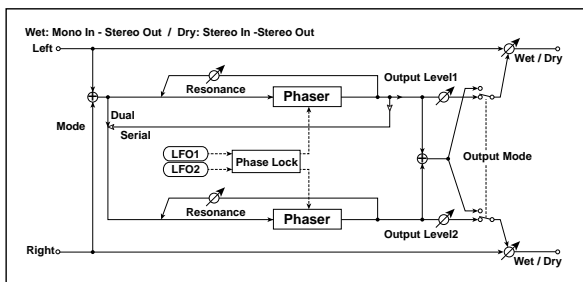
Selects a modulation source for Wet/Dry.

Amount [+/-100]

Sets the modulation amount for Wet/Dry.

054: Bi Phaser

This effect provides two independent phasers that can be connected in series or in parallel.



PHASER 1

Manual [0...100]

Sets the frequency of phaser 1.

LFO1 Depth D_{mod} [0...100]

Sets the LFO modulation depth of phaser 1

Source [Off...Tempo]

Selects a source to control LFO modulation depth of both phasers.

Amount [+/-100]

Sets the amount by which the phaser 1 LFO modulation depth will be controlled.

Resonance [0...100]

This controls the intensity of Phaser 1. For more information, see "Resonance" on page 866.

PHASER2

Manual [0...100]

Sets the frequency of phaser 2.

LFO2 Depth D_{mod2} [0...100]

Sets the LFO modulation depth of phaser 2.

Amount [+/-100]

Sets the amount by which the phaser 2 LFO modulation depth will be controlled.

Resonance [0...100]

This controls the intensity of Phaser 1. For more information, see "Resonance" on page 866.

LFO1/2

These are the parameters for the two LFOs, which are identical to those in the Bi Chorus effect. For more information, see "LFO1/2" on page 861.

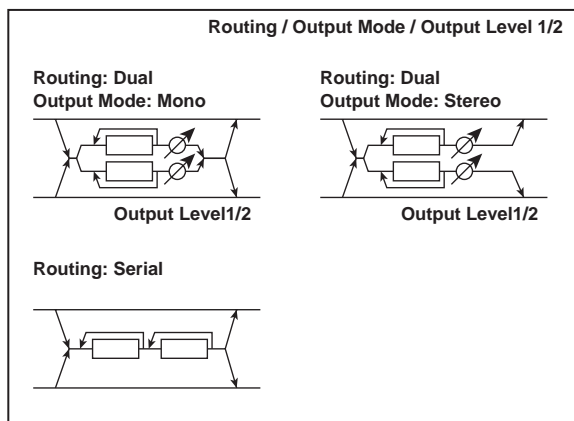
MODE

Routing [Dual, Serial]

Selects whether the phasers are connected in parallel or in series. If **Routing** is set to **Serial**, the **Phaser 1 Output Level** and **Phaser 2 Output Level** settings are ignored.

Output Mode [Mono, Stereo]

Selects whether phaser 1 and 2 will be routed separately to the left and right channels, or summed to mono.



Phaser1 Output Level [0...100]

Sets the output level for phaser 1. This applies only if **Routing** is set to **Dual**.

Phaser2 Output Level [0...100]

Sets the output level for phaser 2. This applies only if **Routing** is set to **Dual**.

OUTPUT

Wet/Dry D_{mod} [-Wet...-1:99, Dry, 1: 99...Wet]

Sets the balance between the "wet" processed sound and the dry input. Negative values invert the phase of the wet signal. This interacts with **Resonance**; for more information, see "Resonance" on page 866.

Source [Off...Tempo]

Selects a modulation source for Wet/Dry.

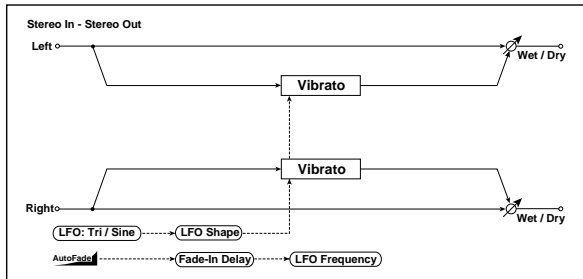
Amount [+/-100]

Sets the modulation amount for Wet/Dry.

Modulation and Pitch Shift

055: Stereo Vibrato

This effect modulates the pitch of the input signal to create a shimmering timbre. AutoFade allows you to increase or decrease the vibrato speed.



AUTOFADE

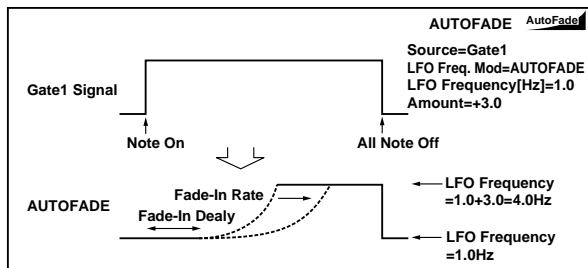
Autofade lets you modulate the LFO Frequency via a simple envelope, triggered by a Dmod source. This is enabled by setting **LFO Frequency Mod** to **AUTOFADE**, and can only be used when **BPM/Tempo Sync** is **Off**.

The intensity of the autofade's effect is controlled by the normal **Amount** parameter, under **Frequency**.

Autofade example

The diagram below shows a setup with note-ons triggering the autofade, causing the LFO to speed up from 1.0Hz to 4.0Hz.

The **AUTOFADE Source** is set to **Gate1**, **LFO Frequency Mod** is set to **AUTOFADE**, **LFO Frequency [Hz]** is set to **1.0**, and the modulation **Amount** is set to **3.0**.



Source D_{mod} [Off...Tempo]

Selects the trigger source for the Autofade.

AutoFade is triggered when the Dmod value changes from 63 or smaller to 64 or higher, and turns off again when the Dmod value goes below 64.

Rate [1...100]

Sets the speed of the fade-in. Higher values are faster.

Fade-In Delay [msec] [00...2000]

This sets the time from the trigger source turning on (going above a value of 63) until the fade-in starts.

LFO Frequency Mod [Dmod, AUTOFADE]

This selects whether the LFO will be modulated by the normal Frequency Dmod source, or by the Autofade envelope.

VIBRATO

Depth D_{mod} [0...100]

Sets the depth of LFO modulation

Source [Off...Tempo]

Selects the modulation source of the LFO modulation depth.

Amount [+/-100]

Sets the modulation amount of the LFO modulation depth.

LFO

Waveform [Triangle, Sine]

Selects the LFO Waveform.

Shape [+/-100]

Changes the curvature of the LFO Waveform. For more information, see "Shape" on page 840.

Frequency [Hz] D_{mod} [0.02...20.00]

This sets the LFO speed, in Hz. It applies only when **MIDI/Tempo Sync**, below, is **Off**.

Source [Off...Tempo]

This selects a modulation source for the **Frequency**.

Amount [-20.00...+20.00]

This sets the **Frequency** modulation amount, in Hz.

MIDI/Tempo Sync D_{mod} [Check-box]

BPM [MIDI, 40.00...240.00]

Base Note [Musical Note]

Times [x1...x32]

When **MIDI/Tempo Sync** is on, the LFO speed is set by **BPM**, **Base Note**, and **Times**, instead of **Frequency**. For more information, see "MIDI/Tempo Sync" on page 837.

Type [Individual, Common1, Common2]

This controls whether the effect uses its individual LFO, or one of the Common FX LFOs. For more information, see "LFO Type" on page 837.

Common LFO Phase Offset [degrees] [+/-180]

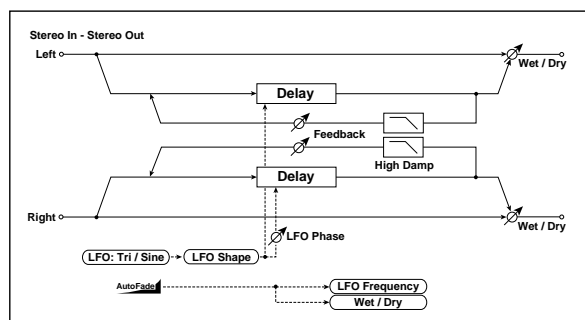
When **Type** is set to **Common FX LFO 1** or **2**, this lets you offset the phase from the master LFO.

OUTPUT

This is the standard effects output section, with modulatable control over wet/dry balance. For more information, see “OUTPUT” on page 820.

056: Stereo Auto Fade Mod.

This stereo chorus/flanger effect enables you to control the LFO speed and effect balance using auto fade, and you can spread the sound by offsetting the phase of the left and right LFOs from each other.



AUTOFADE

For more information on the Autofade parameters, see “AUTOFADE” on page 870.

Source D_{mod} [Off...Tempo]

Selects the modulation source that starts AutoFade.

Rate [1...100]

Sets the rate of fade-in.

Fade-In Delay [msec] [00...2000]

Sets the fade-in delay time.

LFO Frequency Mod [Dmod, AUTOFADE]

Switches between D-mod and AUTOFADE for the LFO frequency modulation.

Wet/Dry Mod [Dmod, AUTOFADE]

Switches between D-mod and AUTOFADE for the effect balance modulation.

MOD DELAY

L Delay Time [msec] [0.0...500.0]

Sets the left channel delay time.

R Delay Time [msec] [0.0...500.0]

Sets the right channel delay time.

Depth [0...200]

Sets the depth of LFO modulation.

Feedback [+/-100]

Sets the feedback amount. See “Feedback” on page 858.

High Damp [%] [0...100]

Sets the feedback damping amount in the high range. See “High Damp [%]” on page 864.

LFO

Waveform [Triangle, Sine]

Selects the LFO Waveform.

Shape [+/-100]

Changes the curvature of the LFO Waveform. For more information, see “Shape” on page 840.

Phase [degrees] [-40...+40]

Sets the LFO phase difference between the left and right. See “Phase [degrees]” on page 839.

Frequency [Hz] D_{mod} [0.02...20.00]

This sets the LFO speed, in Hz.

Source [Off...Tempo]

This selects a modulation source for the Frequency.

Amount [-20.00...+20.00]

This sets the Frequency modulation amount, in Hz.

Type [Individual, Common1, Common2]

This controls whether the effect uses its individual LFO, or one of the Common FX LFOs. For more information, see “LFO Type” on page 837.

Common LFO Phase Offset [degrees] [+/-180]

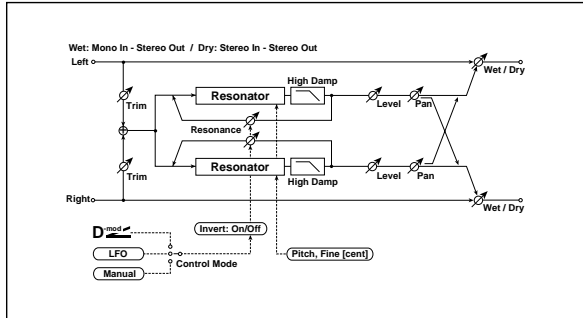
When Type is set to **Common FX LFO 1** or **2**, this lets you offset the phase from the master LFO.

OUTPUT

This is the standard effects output section, with modulatable control over wet/dry balance. For more information, see “OUTPUT” on page 820.

057: 2-Voice Resonator

This effect includes two independent resonators, which each resonate at a specified pitch in response to the input signal. You can use this to add a unique character to a string sound by emphasizing certain harmonics, for instance, or to introduce a pitched element into a drum loop. The resonance intensity can be controlled via an LFO or Dmod.



CONTROL

Trim [0...100]

This sets the input level for the effect.

Control Mode [Manual, LFO, Dmod]

This sets the way that the Resonance is controlled.

Manual: the **Resonance** parameter controls the intensity of the effect.

LFO: the intensity of resonance is controlled by the LFO. As the LFO sways between positive and negative values, the resonators alternate between octaves of the specified pitch.

Dmod: the resonance is controlled by the dynamic modulation source. If you use a bipolar modulation source, such as JS X or Ribbon, you can modulate the resonance so that the resonance sounds in both the high and low octaves, similar to the LFO.

LFO/Dmod Invert [Check-box]

This applies only when **Control Mode** is set to LFO or Dmod.

Enabling **LFO/Dmod Invert** reverses the **Resonance** modulation for Voice 2. As the Dmod or LFO increases, Voice 1's Resonance will be positive, but Voice 2's will be negative (and thus resonate at the lower octave).

Source [Off...Tempo]

Selects a modulation source to control **Resonance** intensity.

Modulation Depth [+/-100]

Sets the amount of resonance intensity modulation. This applies to both LFO and Dmod.

LFO

Frequency [Hz] [0.02...20.00]

This sets the LFO speed, in Hz. It applies only when **MIDI/Tempo Sync**, below, is Off.

MIDI/Tempo Sync [Check-box]

BPM [MIDI, 40.00...240.00]

Base Note [Musical notation]

Times [x1...x32]

When **MIDI/Tempo Sync** is on, the LFO speed is set by **BPM**, **Base Note**, and **Times**, instead of **Frequency**. For more information, see "MIDI/Tempo Sync" on page 837.

Type [Individual, Common1, Common2]

Selects either (individual) LFO, Common FX LFO1, or Common LFO2. See "LFO Type" on page 837.

Common LFO Phase Offset [degrees] [-180...+180]

Sets the phase offset when Type = Common 1 or Common 2. See "Common LFO Phase Offset [degrees]" on page 837.

VOICE1

Pitch [C0...B8]

This sets the tuning of Voice 1, by note name.

Fine [cents] [-50...+50]

This adjusts the fine-tuning of Voice 1, in cents.

Resonance [+/-100]

This applies only when **Control Mode** is set to **Manual**.

Negative settings change the harmonic content, and also make the resonance one octave lower.

High Damp [%] [0...100]

This sets the amount of damping for the high frequencies of the resonant sound. Lower values mean less damping, creating a metallic sound with stronger harmonics.

Level [0...100]

This sets the output level for Voice 1.

Pan [L6...L1, C, R1...R6]

This sets the stereo position of Voice1.

VOICE2

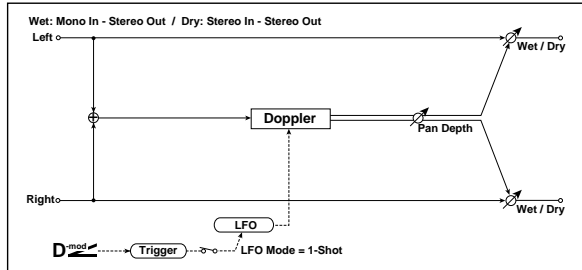
The parameters for Voice 2 are the same as those for "VOICE1," above.

OUTPUT

This is the standard effects output section, with modulatable control over wet/dry balance. For more information, see "OUTPUT" on page 820.

058: Doppler

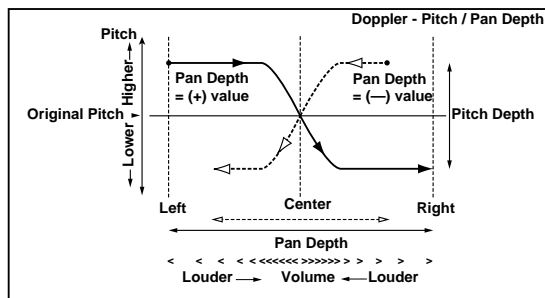
This effect simulates the “Doppler effect” of a moving sound with a changing pitch, like the siren of a passing ambulance. Mixing the effect sound with the dry sound will create a unique chorus effect.



DOPPLER

Pitch Depth Dmod [0...100]

With the Doppler effect, the pitch is raised as the sound approaches, and the pitch is lowered as the sound goes away. This parameter controls the amount of this pitch variation.



Source [Off...Tempo]

Selects the modulation source of pitch variation.

Amount [+/-100]

Sets the modulation amount of pitch variation.

Pan Depth Dmod [+/-100]

This sets the width of the stereo image of the effect sound. With larger values, the sound seems to come and go from much further away. With positive values, the sound moves from left to right; with negative values, it moves from right to left.

Source [Off...Tempo]

Selects the modulation source of panning.

Amount [+/-100]

Sets the modulation amount of panning.

LFO

Mode [Loop, 1-Shot]

This selects whether the Doppler effect repeats continuously (**Loop**), or cycles once and then stops (**1-Shot**).

When **Mode** is set to **Loop**, and **Dmod Sync** is set to **On**, you can reset the LFO via Dmod (as specified by the **Source** parameter, below).

When **Mode** is set to **1-Shot**, the Doppler effect happens only once when triggered, and then stops until it is triggered again. The trigger source is specified by the **Source** parameter, below. Note that this requires you to manually trigger the effect; otherwise, you won't hear the Doppler at all.

Dmod Sync [Check-box]

When this is **On**, and **Mode** is set to **Loop**, you can reset the LFO via Dmod (as specified by the **Source** parameter, below).

Source Dmod [Off...Tempo]

Selects the LFO reset modulation source.

MIDI The effect is triggered when the MIDI value changes from 63 or smaller to 64 or higher.

Frequency [Hz] Dmod [0.02...20.00]

This sets the LFO speed, in Hz. It applies only when **MIDI/Tempo Sync**, below, is **Off**.

Source [Off...Tempo]

This selects a modulation source for the **Frequency**.

Amount [-20.00...+20.00]

This sets the **Frequency** modulation amount, in Hz.

MIDI/Tempo Sync Dmod [Check-box]

BPM [MIDI, 40.00...240.00]

Base Note [♩ ... ♪]

Times [x1...x32]

When **MIDI/Tempo Sync** is on, the LFO speed is set by **BPM**, **Base Note**, and **Times**, instead of **Frequency**. For more information, see “MIDI/Tempo Sync” on page 837.

Type [Individual, Common1, Common2]

This controls whether the effect uses its individual LFO, or one of the Common FX LFOs. For more information, see “LFO Type” on page 837.

Common LFO Phase Offset [degrees] [+/-180]

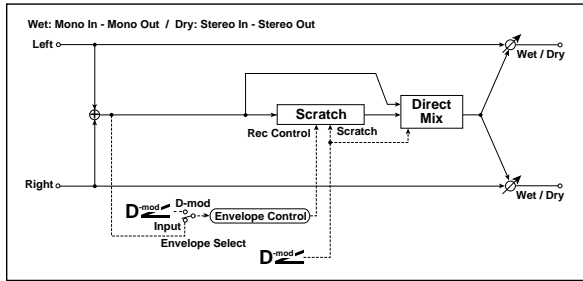
When **Type** is set to **Common FX LFO 1** or **2**, this lets you offset the phase from the master LFO.

OUTPUT

This is the standard effects output section, with modulatable control over wet/dry balance. For more information, see “OUTPUT” on page 820.

059: Scratch

This effect simulates the sound of scratching on a turntable, by recording the input and then modulating the playback.



RECORD

Envelope Select [Dmod, Input]

Selects whether the start and end of recording is controlled via the modulation source or the input signal level.

Dmod: the input signal will be recorded only when the modulation value is 64 or higher.

Input: the input signal will be recorded only when its level is over the **Threshold** value.

The maximum recording time is 2,730msec. If this is exceeded, the recorded data will start being erased from the top.

Source [Off...Tempo]

Selects the modulation source that controls recording when **Envelope Select** is set to Dmod.

Threshold [0...100]

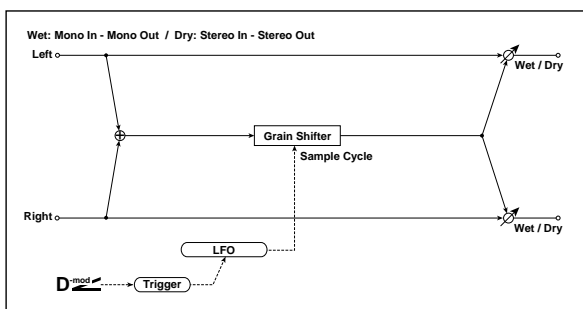
Sets the recording start level when **Envelope Select** is set to Input.

Response [0...100]

This sets the speed of the response to the end of recording. Set a smaller value when you are recording a phrase or rhythm pattern, and set a higher value if you are recording only one note.

060: Grain Shifter

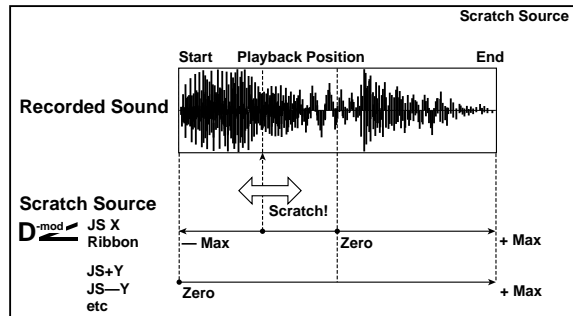
This effect cuts extremely short samples ("grains") from the input signal waveform and plays them repeatedly, giving a mechanical character to the sound.



PLAYBACK

Scratch Source [Off...Tempo]

This selects the modulation source for the "scratch." The modulation value corresponds to the playback position.



Response [0...100]

This controls how fast the effect responds to the **Scratch Source**.

Direct Mix [Always On, Always Off, Cross Fade]

This controls how the dry sound is mixed with the effected sound. To use this parameter effectively, set **Wet/Dry** to Wet.

Always On: The dry sound is always heard at the output, and the scratch effect is layered on top.

Always Off: Only the scratch effect is heard at the output. If you're not scratching, there won't be any sound.

Cross Fade: Normally, the dry sound is heard at the output. When you start to scratch, the dry sound is muted; when you stop scratching, the dry sound reappears.

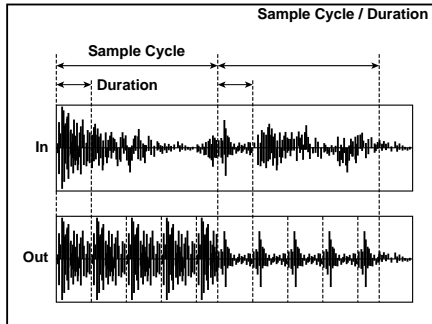
OUTPUT

This is the standard effects output section, with modulatable control over wet/dry balance. For more information, see "OUTPUT" on page 820.

GRAIN SHIFTER

Duration [0...100]

Duration sets the length of the sampled grain, and the **LFO Sample Cycle** controls how often a new grain is sampled. In between Sample Cycles, the current grain is repeated continuously.



Source [Off...Tempo]

Selects the source that will modulate the duration of the grain.

Amount [+/-100]

Sets the amount by which the grain duration will be modulated.

LFO

Sync Source [Off...Tempo]

Selects the modulation source that will reset the LFO.

Sample Cycle [Hz] [0.02...20.00]

Sets the frequency at which the grain will be switched. For more information, see "Duration," above.

Source [Off...Tempo]

Selects a modulation source for LFO speed.

Amount [-20.00...+20.00]

Sets the modulation amount of LFO speed.

MIDI/Tempo Sync [Check-box]

BPM [MIDI, 40.00...240.00]

Base Note [Musical Notation]

Times [x1...x32]

When MIDI/Tempo Sync is on, the LFO speed is set by BPM, Base Note, and Times, instead of Frequency. For more information, see "MIDI/Tempo Sync" on page 837.

Type [Individual, Common1, Common2]

This controls whether the effect uses its individual LFO, or one of the Common FX LFOs. For more information, see "LFO Type" on page 837.

Common LFO Phase Offset [degrees] [+/-180]

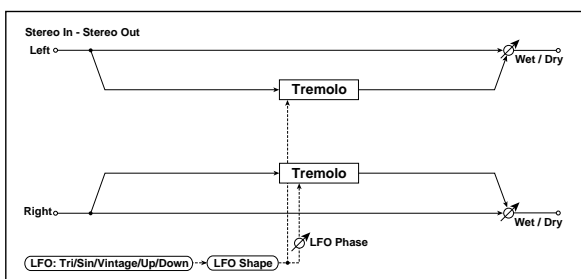
When Type is set to Common FX LFO 1 or 2, this lets you offset the phase from the master LFO.

OUTPUT

This is the standard effects output section, with modulatable control over wet/dry balance. For more information, see "OUTPUT" on page 820.

061: Stereo Tremolo

This effect modulates the volume level of the input signal. The effect is stereo, and offsetting the LFO of the left and right phases from each other produces a tremolo effect between left and right.



TREMOLO

Depth [0...100]

Sets the depth of LFO modulation.

Source [Off...Tempo]

Selects the modulation source of the depth of modulation.

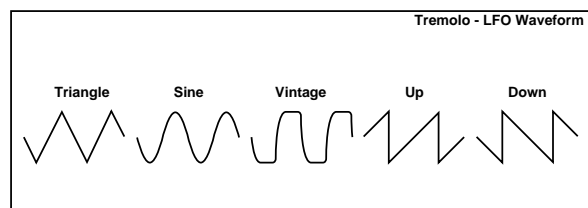
Amount [+/-100]

Sets the modulation amount of the depth of modulation.

LFO

Waveform [Triangle, Sine, Vintage, Up, Down]

This parameter sets the basic shape of the LFO. The Vintage waveform models classic guitar-amp tremolo.



Shape [+/-100]

Changes the curvature of the LFO Waveform. p.840.

Phase [degrees] [-180...+180]

This parameter determines the difference between the left and right LFO phases. Higher values create an auto-pan effect, the sound moving between left and right.

Frequency [Hz] [0.02...20.00]

This sets the LFO speed, in Hz. It applies only when MIDI/Tempo Sync, below, is Off.

Source [Off...Tempo]

This selects a modulation source for the Frequency.

Amount [-20.00...+20.00]

This sets the **Frequency** modulation amount, in Hz.

MIDI/Tempo Sync  [Check-box]

BPM [MIDI, 40.00...240.00]

Base Note [♩ ...]

Times [x1...x32]

When **MIDI/Tempo Sync** is on, the LFO speed is set by **BPM**, **Base Note**, and **Times**, instead of **Frequency**. For more information, see “MIDI/Tempo Sync” on page 837.

Type [Individual, Common 1, Common2]

This controls whether the effect uses its individual LFO, or one of the Common FX LFOs. For more information, see “LFO Type” on page 837.

Common LFO Phase Offset [degrees] [+/-180]

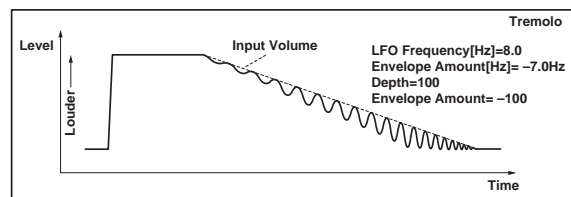
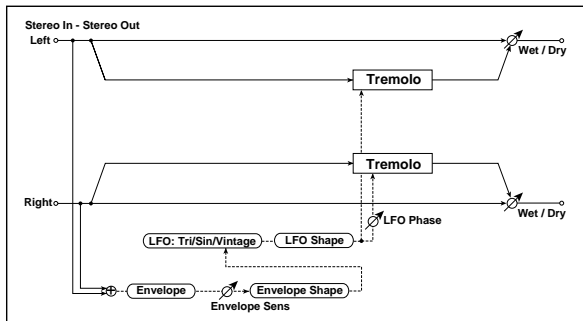
When **Type** is set to **Common FX LFO 1** or **2**, this lets you offset the phase from the master LFO.

OUTPUT

This is the standard effects output section, with modulatable control over wet/dry balance. For more information, see “OUTPUT” on page 820.

062: Stereo Envelope Tremolo

This effect uses the input signal level to modulate a stereo tremolo (LFO volume modulation). For instance, you can create a tremolo effect that becomes deeper and faster as the input gets more quiet.



ENVELOPE

Sensitivity [0...100]

Sets the envelope’s sensitivity to the input signal.

Shape [+/-100]

Sets the envelope’s curvature.

TREMOLO

Depth [0...100]

Sets the initial amount of tremolo.

Envelope Amount [+/-100]

Sets the amount added to or subtracted from the **Depth** when the envelope is at maximum.

Modulation Example

The graphic below shows an example of tremolo modulation with negative modulation of both **Depth** and **Frequency**. At the start of the note, the input is at maximum volume. This slows down the LFO **Frequency** to 1.0Hz, but also modulates the **Depth** to 0—so the tremolo doesn’t have any effect.

As the input volume dies down, the **Frequency** speeds up; the **Depth** also increases, making the tremolo effect increasingly audible. When the input volume approaches silence, the **Depth** is at its maximum (100) and **Frequency** is at 8Hz.

LFO

Waveform [Triangle, Sine, Vintage]

Selects the LFO Waveform.

Shape [+/-100]

Changes the curvature of the LFO Waveform. p.840.

Phase [degrees] [-180...+180]

Sets the LFO phase difference between the left and right. p.875.

Frequency [Hz] [0.02...20.00]

Sets initial speed of the LFO. p.876.

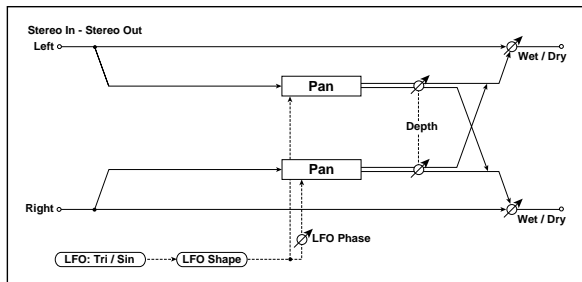
Envelope Amount [Hz] [-20.00...+20.00]

Sets the amount added to or subtracted from the **Frequency** when the envelope is at maximum. p.876.

OUTPUT

This is the standard effects output section, with modulatable control over wet/dry balance. For more information, see “OUTPUT” on page 820.

063: Stereo Auto Pan



This is a stereo-in, stereo-out auto-panner. The Phase and Shape parameters lets you create various panning effects, such as making the left and right inputs seem to chase each other around the stereo field.

AUTO PAN

Depth D_{mod} [0...100]

Sets the depth of LFO modulation.

Source [Off...Tempo]

Selects the modulation source of the depth of modulation.

Amount [+/-100]

Sets the modulation amount of the depth of modulation.

LFO

Waveform [Triangle, Sine]

Selects the LFO Waveform.

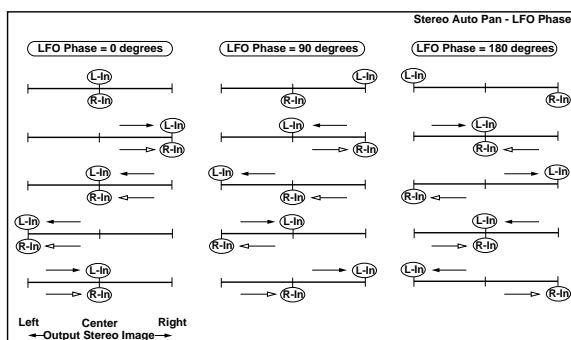
Shape [+/-100]

This changes the curvature of the LFO Waveform, which controls the way that the audio moves around the stereo field.

Phase [degrees] [-180...+180]

This determines the phase difference between the left and right LFOs. When you gradually change the value away from 0, the sounds from the left and right channels will seem to chase each other around. If you set the parameter to +180 or -180, the sounds from each channel will cross over each other.

You'll only hear the effect of this parameter if the input is true stereo, with different signals in the left and right channels.



Frequency [Hz] D_{mod} [0.02...20.00]

This sets the LFO speed, in Hz. It applies only when MIDI/Tempo Sync, below, is Off.

Source [Off...Tempo]

This selects a modulation source for the Frequency.

Amount [-20.00...+20.00]

This sets the Frequency modulation amount, in Hz.

MIDI/Tempo Sync D_{mod} [Check-box]

BPM [MIDI, 40.00...240.00]

Base Note [♩ ...]

Times [x1...x32]

When MIDI/Tempo Sync is on, the LFO speed is set by BPM, Base Note, and Times, instead of Frequency. For more information, see "MIDI/Tempo Sync" on page 837.

Type [Individual, Common1, Common2]

This controls whether the effect uses its individual LFO, or one of the Common FX LFOs. For more information, see "LFO Type" on page 837.

Common LFO Phase Offset [degrees] [+/-180]

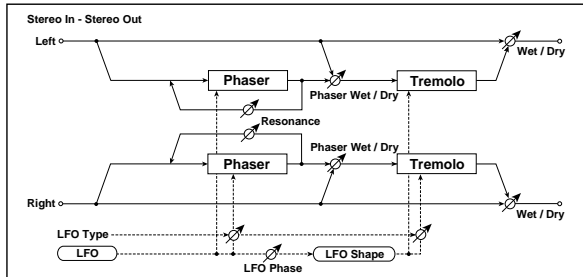
When Type is set to Common FX LFO 1 or 2, this lets you offset the phase from the master LFO.

OUTPUT

This is the standard effects output section, with modulatable control over wet/dry balance. For more information, see "OUTPUT" on page 820.

064: Stereo Phaser+Tremolo

This effect combines a stereo phaser and tremolo, with linked LFOs. Swelling phaser modulation and tremolo effects synchronize with each other, creating a soothing modulation effect particularly suitable for electric piano.



PHASER

Manual [0...100]

Sets the phaser frequency range.

Depth D_{mod} [0...100]

Sets the phaser modulation depth.

Source [Off...Tempo]

Selects the modulation source for the phaser modulation depth.

Amount [+/-100]

Sets the modulation amount for the phaser modulation depth.

Resonance [+/-100]

Sets the phaser resonance amount.

Wet/Dry [-Wet, -2:98...Dry...2:98, Wet]

Sets the balance between the phaser effect and dry sounds. p.878.

TREMOLO

Shape [+/-100]

Sets the degree of the tremolo LFO shaping. p.840.

Depth D_{mod} [0...100]

Sets the tremolo modulation depth.

Source [Off...Tempo]

Selects the modulation source for the tremolo modulation depth.

Amount [+/-100]

Sets the modulation amount of the tremolo modulation depth.

LFO

L/R Phase Type [Phaser - Tremolo, ...Phaser LR - Tremolo LR]

Selects the type of the tremolo and phaser LFOs. p.878.

Phaser - Tremolo, Phaser - Tremolo Spin, Phaser - Tremolo LR, Phaser LR - Tremolo, Phaser LR - Tremolo Spin, Phaser LR - Tremolo LR.

Phaser/Tremolo Phase [degrees] [-180...+180]

Sets the phase difference between the tremolo and phaser LFOs. p.878.

Frequency [Hz] D_{mod} [0.02...20.00]

This sets the LFO speed, in Hz. It applies only when MIDI/Tempo Sync, below, is Off.

Source [Off...Tempo]

This selects a modulation source for the Frequency.

Amount [-20.00...+20.00]

This sets the Frequency modulation amount, in Hz.

MIDI/Tempo Sync D_{mod} [Check-box]

BPM [MIDI, 40.00...240.00]

Base Note [♪...♩]

Times [x1...x32]

When MIDI/Tempo Sync is on, the LFO speed is set by BPM, Base Note, and Times, instead of Frequency. For more information, see "MIDI/Tempo Sync" on page 837.

Type [Individual, Common 1, Common 2]

This controls whether the effect uses its individual LFO, or one of the Common FX LFOs. For more information, see "LFO Type" on page 837.

Common LFO Phase Offset [degrees] [+/-180]

When Type is set to Common FX LFO 1 or 2, this lets you offset the phase from the master LFO.

OUTPUT

This is the standard effects output section, with modulatable control over wet/dry balance. For more information, see "OUTPUT" on page 820.

LFO: L/R Phase Type and Phaser/Tremolo Phase [degrees]

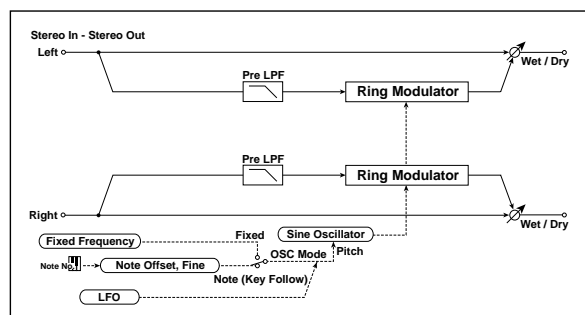
Select the type of phaser LFO and tremolo LFO for the "L/R Phase Type" parameter. How the effect sound moves or rotates depends on the type of LFO. Selecting "Phaser/Tremolo Phase" enables you to offset the timing of the phaser peak and control a subtle movement and rotation of the sound.

PHASER: Wet/Dry and OUTPUT: Wet/Dry

PHASER Wet/Dry sets the balance between the phaser output and the dry sound. OUTPUT Wet/Dry sets the balance between the final phaser and tremolo output level and the dry sound.

065: Stereo Ring Modulator

This effect creates a metallic sound by applying the oscillators to the input signal. Use the LFO or Dynamic Modulation to modulate the oscillator to create a radical modulation. Matching the oscillator frequency with a note number will produce a ring modulation effect in specific key ranges.



RING MODULATOR

Pre LPF [0...100]

If the input is very bright, the ring modulator may sound harsh or noisy. If this occurs, you can smooth out the effect by increasing the **Pre LPF** (Low Pass Filter) setting, to cut out some of the input's high frequencies. The higher the setting, the more the high frequencies will be cut.

OSC Mode [Fixed, Note (Key Follow)]

This determines whether the oscillator frequency follows the note number, or stays at a fixed value.

Note (Key Follow): The oscillator's frequency is based on MIDI note number (on the effect's MIDI channel), allowing you to use it as an octaver. The **Note Interval** parameter, below, sets the pitch offset from the original note, in semitones. Matching the oscillator frequency with the note number produces a more gentle ring modulation effect, in the correct key.

Fixed: the oscillator uses the manually-set **Fixed Frequency**, below.

Fixed Frequency [Hz] D_{mod} [0...12.00k]

This controls the oscillator frequency when **OSC Mode** is set to **Fixed**.

Source [Off...Tempo]

Selects the modulation source for the oscillator frequency when **OSC Mode** is set to **Fixed**.

Amount [-12.00k...+12.00k]

Sets the oscillator frequency modulation amount when **OSC Mode** is set to **Fixed**.

Note Offset [-48...+48]

This sets a pitch offset from the received MIDI note number, in semitones. It applies only when **OSC Mode** is set to **Note (Key Follow)**.

Try using offsets of octaves (+/-12, 24, etc.) or fifths (+7, +19, -5, etc.).

Note Fine [+/-100]

This adjusts the frequency in cents (1/100 of a semitone). It applies only when **OSC Mode** is set to **Note (Key Follow)**.

LFO Depth D_{mod} [0...100]

Sets the depth of LFO modulation for the oscillator frequency.

Source [Off...Tempo]

Selects the modulation source of the depth of modulation.

Amount [+/-100]

Sets the modulation amount of the depth of modulation.

LFO

Frequency [Hz] D_{mod} [0.02...20.00]

This sets the LFO speed, in Hz. It applies only when **MIDI/Tempo Sync**, below, is **Off**.

Source [Off...Tempo]

This selects a modulation source for the **Frequency**.

Amount [-20.00...+20.00]

This sets the **Frequency** modulation amount, in Hz.

MIDI/Tempo Sync D_{mod} [Check-box]

BPM [MIDI, 40.00...240.00]

Base Note [♯... ♭]

Times [x1...x32]

When **MIDI/Tempo Sync** is on, the LFO speed is set by **BPM**, **Base Note**, and **Times**, instead of **Frequency**. For more information, see "MIDI/Tempo Sync" on page 837.

Type [Individual, Common1, Common2]

This controls whether the effect uses its individual LFO, or one of the Common FX LFOs. For more information, see "LFO Type" on page 837.

Common LFO Phase Offset [degrees] [+/-180]

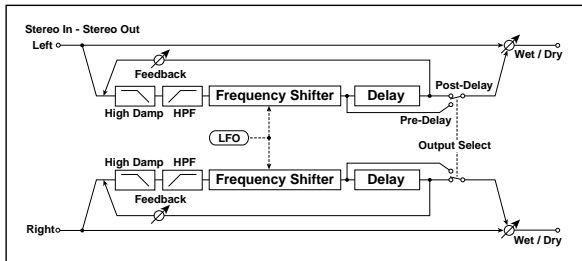
When **Type** is set to **Common FX LFO 1** or **2**, this lets you offset the phase from the master LFO.

OUTPUT

This is the standard effects output section, with modulatable control over wet/dry balance. For more information, see "OUTPUT" on page 820.

066: Stereo Frequency Shifter

This is a stereo effect that shifts the frequency of the input signal. You can use LFO modulation and delay to produce a wide range of pitch-change effects.



FREQUENCY SHIFTER

High Damp [%] [0...99]

Sets the high-frequency attenuation of the delayed sound.

HPF Fc [Hz] [20...11.90k]

Sets the cutoff frequency for the high pass filter.

Frequency Shift [Hz] D_{mod} [-6.00k...+6.00k]

Sets the amount of frequency shift.

Source [Off...Tempo]

Selects the modulation source that will control frequency shift.

Amount [-6.00k...+6.00k]

Sets the modulation amount for controlling frequency shift.

LFO Depth [Hz] D_{mod} [-6.00k...+6.00k]

Sets the depth by which the LFO will modulate the frequency shift.

Source [Off...Tempo]

Selects the modulation source that will control LFO modulation of frequency shift.

Amount [-6.00k...+6.00k]

Sets the amount by which the modulation source will control LFO modulation of the frequency shift.

LFO

Frequency [Hz] D_{mod} [0.02...20.00]

This sets the LFO speed, in Hz. It applies only when MIDI/Tempo Sync, below, is Off.

Source [Off...Tempo]

This selects a modulation source for the Frequency.

Amount [-20.00...+20.00]

This sets the Frequency modulation amount, in Hz.

MIDI/Tempo Sync D_{mod} [Check-box]

BPM [MIDI, 40.00...240.00]

Base Note [♪...♩]

Times [x1...x32]

When MIDI/Tempo Sync is on, the LFO speed is set by BPM, Base Note, and Times, instead of Frequency. For more information, see "MIDI/Tempo Sync" on page 837.

Type [Individual, Common1, Common2]

This controls whether the effect uses its individual LFO, or one of the Common FX LFOs. For more information, see "LFO Type" on page 837.

Common LFO Phase Offset [degrees] [+/-180]

When Type is set to Common FX LFO 1 or 2, this lets you offset the phase from the master LFO.

DELAY

Delay Time [msec] [0.0...2730.0]

Sets the delay time.

Feedback D_{mod} [+/-100]

Sets the feedback amount.

Source [Off...Tempo]

Selects the modulation source of feedback amount.

Amount [+/-100]

Sets the depth by which feedback amount will be modulated.

Output Select [pre-delay, post-delay]

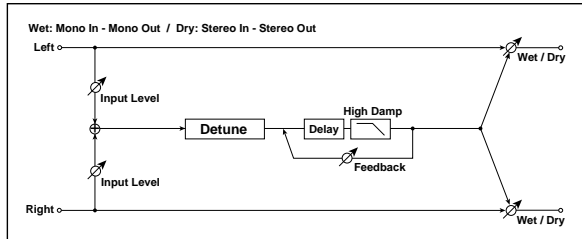
Selects whether the pre-delay or the post-delay sound will be output.

OUTPUT

This is the standard effects output section, with modulatable control over wet/dry balance. For more information, see "OUTPUT" on page 820.

067: Detune

This effect offsets the pitch slightly from the input signal. Compared to a chorus, this can be used to create a more subtle thickening effect,



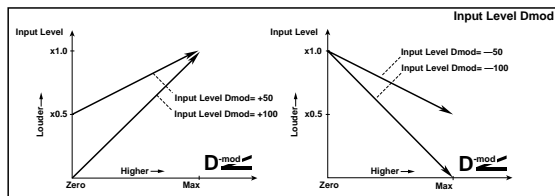
INPUT

Input Level Dmod [%] D_{mod} [+/-100]

Sets the modulation amount for the input level.

Source [Off...Tempo]

Selects the modulation source for the input level.



PITCH SHIFTER

Pitch Shift [cents] D_{mod} [+/-100]

Sets the pitch difference from the input signal.

Source [Off...Tempo]

Selects a modulation source for pitch shift.

Amount [+/-100]

Sets the modulation amount for pitch shift.

DELAY

Delay Time [msec] [0...1000]

Sets the delay time.

Feedback [+/-100]

Sets the feedback amount.

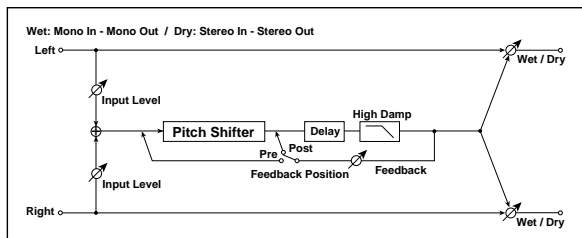
High Damp [%] [0...100]

Sets the damping amount in the high range.

OUTPUT

This is the standard effects output section, with modulatable control over wet/dry balance. For more information, see "OUTPUT" on page 820.

068: Pitch Shifter



This effect changes the pitch of the input signal. The built-in 2-second delay can be fed back through the pitch shifter, for classic, spiraling effects.

INPUT

Input Level Dmod [%] D_{mod} [+/-100]

Sets the modulation amount of the input level. See "Input Level Dmod [%]" on page 881.

Source [Off...Tempo]

Selects the modulation source for the input level.

PITCH SHIFTER

Mode [Slow, Medium, Fast]

This controls the basic operation of the pitch shifter.

Slow preserves the tonal quality of the input, but adds a fixed amount of delay. This generally works best with moderate **Pitch Shift** settings.

Fast provides a quick response time, but may change the tone. This generally works best with extreme **Pitch Shift** settings.

Medium is in-between these two.

Pitch Shift [1/2 steps] D_{mod} [-24...+24]

This sets the basic amount of pitch shifting, in semitones. You can also make precise adjustments using **Fine [cents]**, below.

Fine [cents] D_{mod} [+/-100]

This adjusts the pitch shift in cents (1/100 of a semitone).

Source [Off...Tempo]

This selects the modulation source for **Pitch Shift**. As with **Pitch Shift** itself, you can set the amount of modulation in both semitones and cents.

Pitch Shift Amount [-24...+24]

This sets the basic amount of modulation, in semitones. You can also make precise adjustments using **Fine Amount**, below.

Fine Amount [+/-100]

This adjusts the amount of modulation in cents (1/100 of a semitone).

DELAY

Delay Time [msec] [0...2000]

Sets the delay time.

Feedback Position [Pre, Post]

Pre feeds the delay back through the pitch shifter. Each time the feedback repeats, the pitch will get increasingly lower or higher.

Post means that the feedback does not go through the pitch shifter, so that the pitch stays the same through successive repeats.

Feedback [+/-100]

Sets the feedback amount.

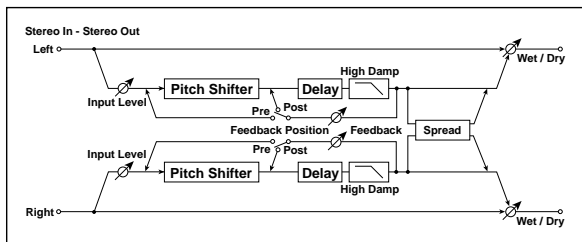
High Damp [%] [0...100]

Sets the amount of high-frequency damping in the feedback loop.

OUTPUT

This is the standard effects output section, with modulatable control over wet/dry balance. For more information, see "OUTPUT" on page 820.

069: Stereo Pitch Shifter



This is a stereo pitch shifter. The pitch shift amount for the left and right channels can be reversed from each other.

INPUT

Input Level Dmod [%] D_{mod} [+/-100]

Sets the modulation amount of the input level. See "Input Level Dmod [%]" on page 881.

Source [Off...Tempo]

Selects the modulation source for the input level.

Fine [cents] D_{mod} [+/-100]

This adjusts the pitch shift in cents (1/100 of a semitone).

Source [Off...Tempo]

This selects the modulation source for **Pitch Shift**. As with **Pitch Shift** itself, you can set the amount of modulation in both semitones and cents.

Pitch Shift Amount [-24...+24]

This sets the basic amount of modulation, in semitones. You can also make precise adjustments using **Fine Amount**, below.

Fine Amount [+/-100]

This adjusts the amount of modulation in cents (1/100 of a semitone).

DELAY

L Delay Time [msec] [0...2000]

Sets the delay time for the left channel.

R Delay Time [msec] [0...2000]

Sets the delay time for the right channel.

Feedback Position [Pre, Post]

Pre feeds the delay back through the pitch shifter. Each time the feedback repeats, the pitch will get increasingly lower or higher.

Post means that the feedback does not go through the pitch shifter, so that the pitch stays the same through successive repeats.

Feedback [+/-100]

Sets the feedback amount.

High Damp [%] [0...100]

Sets the amount of high-frequency damping in the feedback loop.

Spread [+/-100]

Sets the width of the stereo image of the effect sound. See "Spread" on page 891.

PITCH SHIFTER

Mode [Slow, Medium, Fast]

This controls whether the pitch shift will preserve tonal quality but have a longer delay time (**Slow**), or be fast but with lower quality (**Fast**). For details, see "Mode" on page 881.

L/R Pitch [Normal, Up/Down]

Determines whether or not the L/R pitch shift amount is inverted.

Normal: The pitches of the left and right channels shift together.

Up/Down: the pitch shift amount for the right channel will be reversed. If the pitch shift amount is positive, the pitch of the left channel is raised, and the pitch of the right channel is lowered.

Pitch Shift [1/2 steps] D_{mod} [-24...+24]

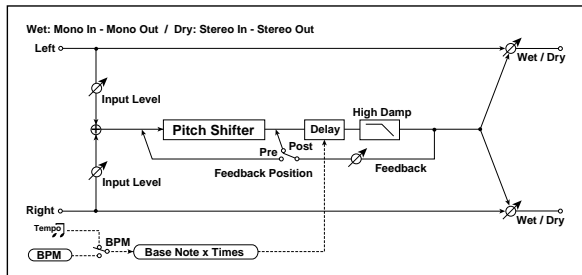
This sets the basic amount of pitch shifting, in semitones. You can also make precise adjustments using **Fine [cents]**, below.

OUTPUT

This is the standard effects output section, with modulatable control over wet/dry balance. For more information, see "OUTPUT" on page 820.

070: Pitch Shifter BPM

This pitch shifter enables you to set the delay time to match the song tempo.



INPUT

Input Level Dmod [%] [+/-100]

Sets the modulation amount of the input level. See "Input Level Dmod [%]" on page 881.

Source [Off...Tempo]

Selects the modulation source for the input level.

PITCH SHIFTER

Mode [Slow, Medium, Fast]

This controls whether the pitch shift will preserve tonal quality but have a longer delay time (**Slow**), or be fast but with lower quality (**Fast**). For details, see "Mode" on page 881.

Pitch Shift [1/2 steps] [-24...+24]

Sets the pitch shift amount in steps of a semitone. p.881

Fine [cents] [+/-100]

Sets the pitch shift amount in steps of one cent. p.881

Source [Off...Tempo]

Selects the modulation source for both **Pitch Shift** and **Fine**.

Pitch Shift Amount [-24...+24]

Sets the modulation amount for **Pitch Shift**.

Fine Amount [+/-100]

Sets the modulation amount for **Fine**.

DELAY

BPM [MIDI, 40.00...240.00]

MIDI syncs to the system tempo; 40-240 sets the tempo manually for this individual effect.

Time Over?> [---, OVER!]

The maximum delay time is 2,000msec. If the channel's combination of **BPM**, **Base Note**, and **Times** exceeds this limit, the error message "OVER!" will appear. If this occurs, change the delay time parameters so that this message no longer appears.

Base Note [♪...]

This sets the basic delay length, relative to the **BPM** setting. The values range from a 32nd note to a whole note, including triplets.

Times [x1...x32]

This multiplies the length of the **Base Note**. For instance, if the **Base Note** is set to a sixteenth note, and **Times** is set to 3, result will be a dotted eighth note.

Feedback Position [Pre, Post]

Switches the feedback connection. p.882.

Feedback [+/-100]

Sets the feedback amount. p.882.

High Damp [%] [0...100]

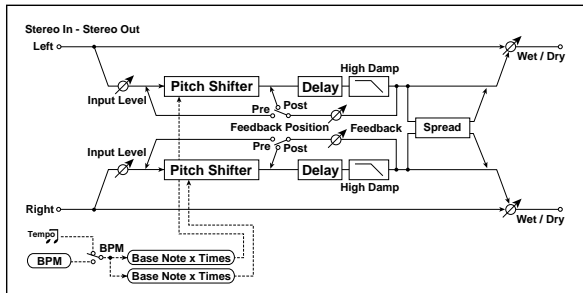
Sets the damping amount in the high range.

OUTPUT

This is the standard effects output section, with modulatable control over wet/dry balance. For more information, see "OUTPUT" on page 820.

071: Stereo Pitch Shifter BPM

This stereo pitch shifter enables you to set the delay time to match the song tempo.



INPUT

Input Level Dmod [%] **[+/-100]**

Sets the modulation amount of the input level. p.881.

Source **[Off...Tempo]**

Selects the modulation source for the input level. p.881.

PITCH SHIFTER

Mode **[Slow, Medium, Fast]**

Switches Pitch Shifter mode. p.881.

L/R Pitch **[Normal, Up/Down]**

Determines whether or not the L/R pitch shift amount is inverted. p.882.

Pitch Shift [1/2 steps] **[-24...+24]**

Sets the pitch shift amount in steps of a semitone. p.881

Fine [cents] **[+/-100]**

Sets the pitch shift amount in steps of one cent. p.881

Source **[Off...Tempo]**

Selects the modulation source of pitch shift amount. p.881.

Pitch Shift Amount **[-24...+24]**

Sets the modulation amount of pitch shift amount. p.881.

Fine Amount **[+/-100]**

Sets the modulation amount of pitch shift amount Sets the modulation amount of pitch shift amount. p.881.

DELAY

BPM **[MIDI, 40.00...240.00]**

MIDI syncs to the system tempo; 40-240 sets the tempo manually for this individual effect. p.883.

Time Over? L > **[---, OVER!]**

Display the error message if the left channel delay time exceeds the upper limit. p.883.

Time Over? R > **[---, OVER!]**

Display the error message if the right channel delay time exceeds the upper limit. p.883.

L Base Note **[...]**

Selects the type of notes to specify the left channel delay time. p.883.

Times **[x1...x32]**

Sets the number of notes to specify the left channel delay time. p.883.

R Base Note **[...]**

Selects the type of notes to specify the right channel delay time. p.883.

Times **[x1...x32]**

Sets the number of notes to specify the right channel delay time. p.883.

Feedback Position **[Pre, Post]**

Switches the feedback connection. p.882.

Feedback **[+/-100]**

Sets the feedback amount. p.882.

High Damp [%] **[0...100]**

Sets the damping amount in the high range.

Spread **[+/-100]**

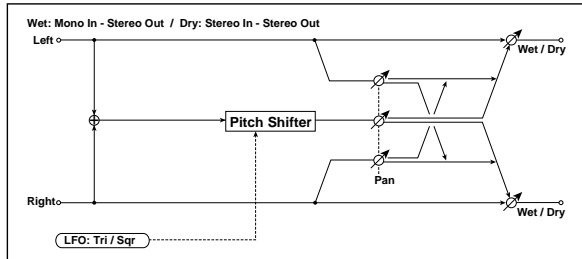
Sets the width of the stereo image of the effect sound.

OUTPUT

This is the standard effects output section, with modulatable control over wet/dry balance. For more information, see "OUTPUT" on page 820.

072: Pitch Shift Mod.

This effect uses an LFO to modulate the pitch shift amount, and lets you adjust the panning and stereo width between the effected and dry sounds.



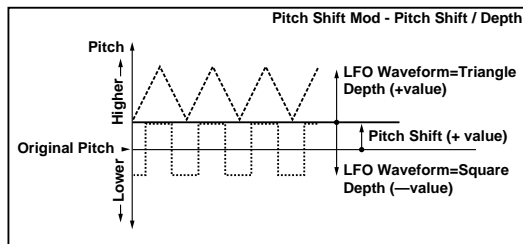
PITCH SHIFTER

Pitch Shift [cents] [+/-100]

Sets the pitch difference from the input signal.

Depth [+/-100]

Sets the LFO modulation depth for pitch shift amount.



Source [Off...Tempo]

Selects the modulation source of the depth of modulation.

Amount [+/-100]

Sets the modulation amount of the depth of modulation.

Pan [L, 1:99...99:1, R]

This simultaneously controls the panning and stereo width for the pitch-shifted and dry sounds. The value is shown for the pitch-shifted signal, and the dry signal is always at the opposite side of the stereo field.

For instance, when **Pan** is set to L, the effected sound is panned all the way to the left, and the dry sound is panned all the way to the right. When **Pan** is set to R, the panning is reversed.

Intermediate values decrease the stereo width, so that at 50:50, both sounds are centered.

LFO

Waveform [Triangle, Square]

Selects the LFO Waveform.

Frequency [Hz] [0.02...20.00]

Sets the LFO speed, in Hz.

Source [Off...Tempo]

Selects a modulation source for LFO speed.

Amount [-20.00...+20.00]

Sets the modulation amount of LFO speed.

MIDI/Tempo Sync [Check-box]

BPM [MIDI, 40.00...240.00]

Base Note [♪ ... ♭]

Times [x1...x32]

When **MIDI/Tempo Sync** is on, the LFO speed is set by **BPM**, **Base Note**, and **Times**, instead of **Frequency**. For more information, see "MIDI/Tempo Sync" on page 837.

LFO Type [Individual, Common1, Common2]

Selects either (individual) LFO, Common FX LFO1, or Common LFO2. p.837.

Common LFO Phase Offset [degrees] [+/-180]

Sets the phase offset when Type = Common 1 or Common 2. p.837.

OUTPUT

Wet/Dry [Dry, 1:99...99:1, Wet]

Sets the balance between the effect and the dry input. Unlike most effects, when this is set to Wet, the dry and effected signals will be heard at equal volume.

Source [Off...Tempo]

Selects a modulation source for Wet/Dry.

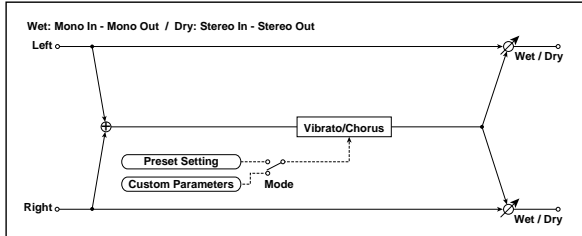
Amount [+/-100]

Sets the modulation amount for Wet/Dry.

073: Organ Vibrato/Chorus

This effect simulates the chorus and vibrato circuitry of a vintage organ. The modulation speed and depth can be customized.

This effect works the same as the Chorus/Vibrato included in the CX-3. For more information, see “7-1c: Vibrato/Chorus” on page 230.



CONTROL

Input Trim [0...100]

Sets the input level.

Mode [Preset, Custom]

Selects either preset or custom settings.

PRESET

Type [V1, C1, V2, C2, V3, C3]

Selects the effect type when Mode=Preset.

V1/V2/V3 are variations of vibrato, and C1/C2/C3 are variations of chorus.

Source [Off...Tempo]

Selects the modulation source that will change the effect type.

Amount [-5...+5]

Sets the modulation amount for changing the effect type.

CUSTOM

Mix [0...100]

Sets the mix level of the direct sound when Mode=Preset.

Source [Off...Tempo]

Selects the modulation source that will control the mix level of the direct sound.

Amount [+/-100]

Sets the modulation amount for controlling the mix level of the direct sound.

Depth [0...100]

Sets the vibrato depth.

Source [Off...Tempo]

Selects the modulation source that will control vibrato depth.

Amount [+/-100]

Sets the modulation amount for controlling the vibrato depth.

Speed [Hz] [0.02...20.00]

Sets the vibrato speed.

Source [Off...Tempo]

Selects the modulation source for controlling the vibrato speed.

Amount [-20.00...+20.00]

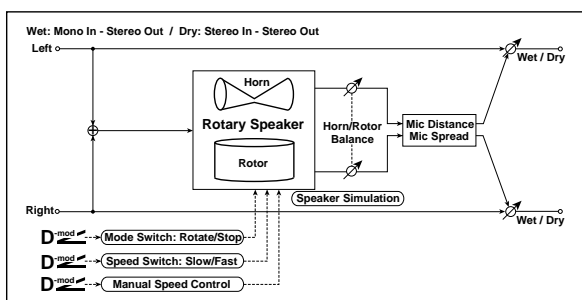
Sets the modulation amount for controlling the vibrato speed.

OUTPUT

This is the standard effects output section, with modulatable control over wet/dry balance. For more information, see “OUTPUT” on page 820.

074: Rotary Speaker

This effect simulates a rotary speaker, and obtains a more realistic sound by simulating the rotor in the low range and the horn in the high range separately. The effect also simulates the stereo microphone settings.



CONTROL

Mode Switch [Rotate, Stop]

Switches between speaker rotation and stop.

Source [Off...Tempo]

Selects a modulation source for Rotate/Stop.

Mode [Toggle, Moment]

This parameter controls how the modulation source switches between rotation and stop.

When **Mode** = **Toggle**, the speaker rotates or stops alternately each time you press the pedal or move the joystick. Via MIDI, rotation will switch between start and stop each time the modulation amount exceeds 64.

When **Mode = Moment**, the speaker rotates by default, and stops only when you press the pedal or move the joystick. Via MIDI, modulation values above 64 make the speaker rotate, and values below 64 make it stop.

Speed Switch D_{mod} [Slow, Fast]

Switches the speaker rotation speed between slow and fast.

Source [Off...Tempo]

Selects a modulation source for Slow/Fast.

Mode [Toggle, Moment]

This parameter controls how the modulation source switches the rotation speed between slow and fast.

When **Mode = Toggle**, the speed will switch between slow and fast each time you press the pedal or move the joystick. Via MIDI, the speed will switch each time the modulation amount exceeds 64.

When **Mode = Moment** (short for Momentary), the speed is usually slow. It becomes fast only when you press the pedal or move the joystick. Via MIDI, modulation values above 64 set the speed to **Fast**, and values below 64 set it to **Slow**.

Manual Speed D_{mod} [Off...Tempo]

This lets you control the rotation speed manually from a selected modulation source, instead of just switching between Slow and Fast. If you don't want to use manual control, set this to **Off**.

HORN

Ratio [Stop, 0.50...2.00]

Adjusts the horn rotation speed, which affects the high frequencies. **1.00** is the default setting. Selecting "Stop" will stop the rotation.

Acceleration [0...100]

On a real rotary speaker, the rotation accelerates or decelerates gradually when you switch between slow and fast, or stop and start. This parameter adjusts how quickly the Horn speeds up and slows down.

ROTOR

Ratio [Stop, 0.50...2.00]

Adjusts the rotor speed, which affects the low frequencies. **1.00** is the default setting. Selecting "Stop" will stop the rotation.

Acceleration [0...100]

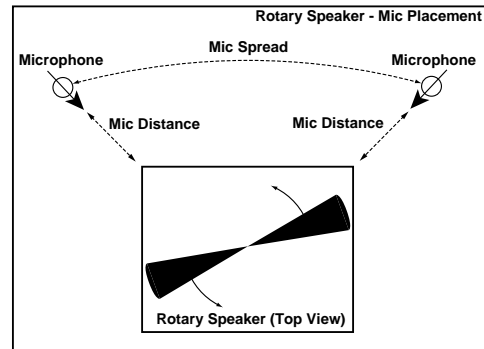
This parameter adjusts how quickly the Rotor speeds up and slows down; see "Acceleration," above.

Horn/Rotor Balance [Rotor, 1...99, Horn]

Sets the level balance between the high-frequency horn and low-frequency rotor. See "Acceleration" on page 887.

MIC

These settings model a pair of stereo microphones, recording the rotary speaker.



Distance [0...100]

This adjusts the distance between the rotary speaker and the microphones. Lower values bring the mics closer to the speaker.

Spread [0...100]

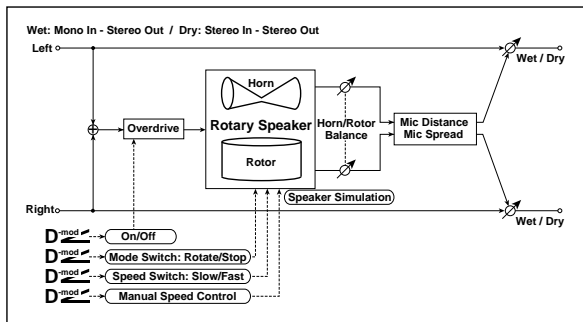
Sets the angle between the left and right microphones. Higher settings create a wider stereo effect.

OUTPUT

This is the standard effects output section, with modulatable control over wet/dry balance. For more information, see "OUTPUT" on page 820.

075: Rotary Speaker Pro OD

This is a stereo rotary speaker model, including amp overdrive and speaker simulation.



CONTROL

These parameters set up modulation to start and stop the rotary speaker, and to change its speed. This section is identical to that of the Rotary Speaker effect; for more information, see “CONTROL” on page 886.

OVERDRIVE

Switch **[Off, On]**

Switches overdrive on/off.

Source **[Off...Tempo]**

Selects a modulation source to switch overdrive on/off.

Mode **[Toggle, Moment]**

This parameter controls how the modulation source switches the overdrive on and off.

When **Mode = Toggle**, the overdrive turns on or off each time you press the pedal or move the joystick. Via MIDI, overdrive turns on or off each time the modulation amount exceeds 64.

When **Mode = Moment** (short for Momentary), the overdrive is normally off, and turns on only when you press the pedal or move the joystick. Via MIDI, modulation values above 64 turn it on, and values below 64 turn it off.

Gain **[0...100]**

Determines the degree of distortion.

Level **[0...100]**

Sets the overdrive output level.

Tone **[0...15]**

Sets the tonal quality of the overdrive.

HORN

These parameters control the speed and acceleration of the horn. They are identical to those of the Rotary Speaker effect; for more information, see “HORN” on page 887.

ROTOR

These parameters control the speed and acceleration of the rotor, the volume balance between the horn and rotor. They are identical to those of the Rotary Speaker effect; for more information, see “ROTOR” on page 887.

Speaker Simulator

Speaker Simulator **[Check-box]**

This part of the effect models the speakers themselves, creating a slightly warmer tone. Use the check-box to turn the speaker simulation on or off.

MIC

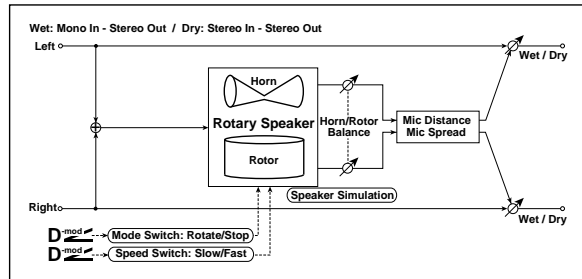
These settings model a pair of stereo microphones recording the rotary speaker. They are identical to those of the Rotary Speaker effect; for more information, see “MIC” on page 887.

OUTPUT

This is the standard effects output section, with modulatable control over wet/dry balance. For more information, see “OUTPUT” on page 820.

076: Rotary Speaker Pro CX

This effect models a vintage rotary speaker, with detailed control over both timbre and behavior. This effect provides the same performance as the Rotary Speaker included in the CX-3. For more information, see “7-2: Rotary Speaker” on page 232.



CONTROL

Mode Switch [Rotate, Stop]

This lets you stop the motion of the Rotary Speaker. Even when stopped, the speaker will still affect the timbre.

The horn and rotor can each take different amounts of time to start and stop their rotation. For more information, see the **Start Acceleration** and **Stop Deceleration** parameters under “HORN,” below.

Source [Off...Tempo]

This selects a modulation source to start and stop the Rotary Speaker.

Mode [Toggle, Moment]

This determines the behavior of the **Mode Switch**. For more information, see “Mode” on page 886.

Speed Switch [Slow, Fast]

Switches the speaker rotation speed between slow and fast

Source [Off...Tempo]

Selects a modulation source for Slow/Fast.

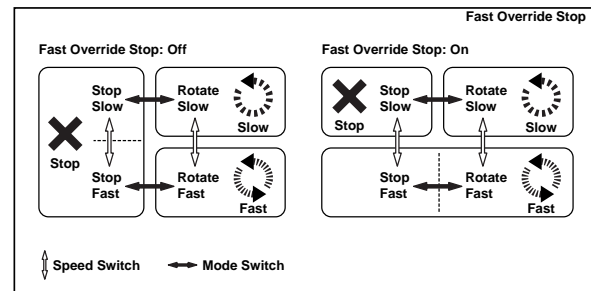
Mode [Toggle, Moment]

This determines the behavior of the **Speed Switch**. For more information, see “Mode” on page 887.

Fast Overrides Stop [Check-box]

On (checked): setting the **Speed Switch** to **Fast** will make the rotors speed up, even if the **Mode Switch** is set to **Stop**.

Off (un-checked): if the **Mode Switch** is set to **Stop**, the rotors will always stay stopped, regardless of the **Speed Switch**.



Horn Stop Phase [degrees] [Free, -180...+180]

When the **Mode Switch** is set to **Stop**, the Horn gradually comes to rest pointing one way or another. This allows you to control where it will stop.

Free lets it come to rest naturally, at a more or less random spot. The other settings, -180 to $+180$, let you force it to land in a specific position.

The speaker position has a dramatic effect on the tone, so specifying a fixed position allows you to achieve consistent timbral results.

Rotor Stop Phase [degrees] [Free, -180...+180]

This determines where the Rotor will land when the **Mode Switch** is set to **Stop**. For more details, see “Horn Stop Phase [degrees],” above.

HORN

The horn carries the effect’s high frequencies, while the rotor carries the low frequencies.

Fast Speed [0...100]

This specifies the speed of the Horn when the **Speed Switch** is set to **Fast**.

Slow Speed [0...100]

This specifies the speed of the Horn when the **Speed Switch** is set to **Slow**.

Acceleration [0...100]

This sets how long it takes the Horn to change from the **Slow** speed to the **Fast** speed.

Deceleration [0...100]

This sets how long it takes the Horn to change from the **Fast** speed to the **Slow** speed.

Start Acceleration [0...100]

This sets how long it takes the Horn to come up to speed after the **Mode Switch** has changed from **Stop** to **Rotate**.

Stop Deceleration [0...100]

This sets how long it takes the horn to come to rest after the **Mode Switch** has changed from **Rotate** to **Stop**.

ROTOR

The rotor carries the low frequencies of the Rotary Speaker. Its parameters are identical to those of the Horn, above.

Fast Speed [0...100]

Slow Speed [0...100]

Acceleration [0...100]

Deceleration [0...100]

Start Acceleration [0...100]

Stop Deceleration [0...100]

Balance and Tone

Horn/Rotor Balance [Rotor, 1...99, Horn]

Sets the volume balance between the high-frequency horn and low-frequency rotor.

Speaker Simulator [Check-box]

Switches speaker simulation on/off.

Match CX-3 Tone [Off, Amp 1, Amp 2]

When using this effect on a CX-3 Program, this setting will adjust the tone appropriately for the CX-3's Amp Type. If **AmpType = Type1** or **2**, use the corresponding **Amp1** or **2** setting. If **Amp Type = Pre Amp**, turn this parameter **Off**.

If you're layering two CX-3s together, you may wish to use 133: Rotary Speaker as an IFX (insert effect) for both Programs together, instead of using the Rotary Speakers within the individual Programs. Use this parameter to adjust the tone in such cases.

MIC

These settings model two pairs of stereo microphones recording the rotary speaker—one pair each for the horn and rotor. In the real world, this would require an elaborate setup, or even splitting the rotary speaker into two—but it's relatively easy in the software world of the OASYS, and it gives you separate control over the tone and stereo spread of the high and low frequencies.

The other rotary speaker effects have only one pair of mics, but are otherwise similar; for more information, see "MIC" on page 887.

Horn Distance [0...100]

Horn Spread [0...100]

Rotor Distance [0...100]

Rotor Spread [0...100]

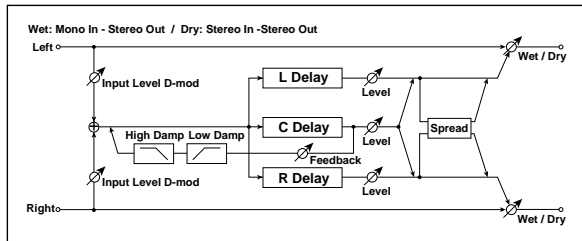
OUTPUT

This is the standard effects output section, with modulatable control over wet/dry balance. For more information, see "OUTPUT" on page 820.

Delay

077: L/C/R Delay

This multitap delay outputs three Tap signals to the left, right, and center respectively. You can also adjust the stereo width of the delays.



INPUT

Input Level Dmod [%] D_{mod} [+/-100]

Sets the modulation amount of the input level. p.881.

Source [Off...Tempo]

Selects the modulation source for the input level. p.881.

DELAY

L Delay Time [msec] [0...2730]

Sets the delay time of the Left Delay.

Level [0...50]

Sets the output level of the Left Delay.

C Delay Time [msec] [0...2730]

Sets the delay time of the Center Delay.

Level [0...50]

Sets the output level of the Center Delay.

R Delay Time [msec] [0...2730]

Sets the delay time of the Right Delay.

Level [0...50]

Sets the output level of the Right Delay.

Feedback (C Delay) D_{mod} [+/-100]

Sets the feedback amount of the Center Delay

Source [Off...Tempo]

Selects the modulation source of the Center Delay feedback amount.

Amount [+/-100]

Sets the modulation amount of the Center Delay feedback amount.

High Damp [%] [0...100]

This controls a low-pass filter in the feedback loop, which “damps” (reduces) high frequencies. Higher settings mean more damping, resulting in increasingly darker timbres as the feedback continues.

Low Damp [%] [0...100]

This controls a high-pass filter in the feedback loop, which “damps” (reduces) low frequencies. Higher settings mean more damping, resulting in increasingly highpassed, lighter timbres as the feedback continues.

Spread [0...50]

This controls the stereo width of the effect. The stereo image is widest with a value of 50, and narrows to mono with a value of 0.

OUTPUT

This is the standard effects output section, with modulatable control over wet/dry balance. For more information, see “OUTPUT” on page 820.

Source [Off...Tempo]

Selects the modulation source for the input level. p.881.

DELAY

L Delay Time [msec] [0...5460]

Sets the delay time of the Left Delay.

Level [0...50]

Sets the output level of the Left Delay.

C Delay Time [msec] [0...5460]

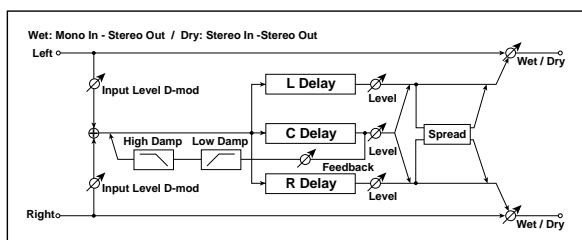
Sets the delay time of the Center Delay.

Level [0...50]

Sets the output level of the Center Delay.

078: L/C/R Long Delay

This multitap delay outputs three Tap signals to left, right and center respectively. You can set a maximum of 5,460msec for the delay time.



INPUT

Input Level Dmod [%] D_{mod} [+/-100]

Sets the modulation amount of the input level. p.881.

R Delay Time [msec] [0...5460]

Sets the delay time of the Right Delay.

Level [0...50]

Sets the output level of the Right Delay.

Feedback (C Delay) D_{mod} [+/-100]

Sets the feedback amount of the Center Delay.

Source [Off...Tempo]

Selects the modulation source for the Center Delay feedback.

Amount [+/-100]

Sets the modulation amount of the Center Delay feedback.

High Damp [%] [0...100]

This controls the high-frequency damping in the feedback loop. See "High Damp [%]" on page 891.

Low Damp [%] [0...100]

This controls the low-frequency damping in the feedback loop. See "Low Damp [%]" on page 891.

Spread [0...50]

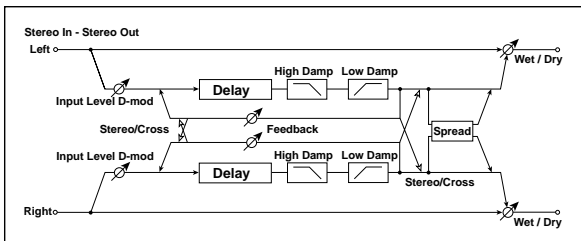
This controls the stereo width of the effect. The stereo image is widest with a value of 50, and narrows to mono with a value of 0.

OUTPUT

This is the standard effects output section, with modulatable control over wet/dry balance. For more information, see "OUTPUT" on page 820.

079: Stereo/Cross Delay

This is a stereo delay with adjustable feedback routing, high and low damping, modulatable feedback and input level, and up to 1,360msec of delay time.



INPUT

Input Level Dmod [%] D_{mod} [+/-100]

Sets the modulation amount of the input level. p.881.

Source [Off...Tempo]

Selects the modulation source for the input level. p.881.

DELAY

Stereo/Cross [Stereo, Cross]

Switches between stereo delay and cross-feedback delay.

L Delay Time [msec] [0.0...1360.0]

Sets the delay time for the left channel.

R Delay Time [msec] [0.0...1360.0]

Sets the delay time for the right channel.

L Feedback D_{mod} [+/-100]

Sets the feedback amount for the left channel.

R Feedback D_{mod} [+/-100]

Sets the feedback amount for the right channel.

Source [Off...Tempo]

Selects the modulation source of feedback amount.

L Amount [+/-100]

Sets the modulation amount of the left channel feedback.

R Amount [+/-100]

Sets the modulation amount of the right channel feedback.

High Damp [%] [0...100]

This controls the high-frequency damping in the feedback loop. See "High Damp [%]" on page 891.

Low Damp [%] [0...100]

This controls the low-frequency damping in the feedback loop. See "Low Damp [%]" on page 891.

Spread [-50...+50]

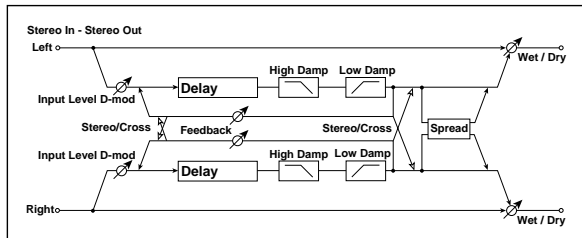
This controls the stereo width of the effect. The stereo image is widest with a value of 50, and narrows to mono with a value of 0.

OUTPUT

This is the standard effects output section, with modulatable control over wet/dry balance. For more information, see "OUTPUT" on page 820.

080: Stereo/Cross Long Delay

This is a stereo delay with adjustable feedback routing, high and low damping, modulatable feedback and input level, and up to 2,730msec of delay time.



INPUT

Input Level Dmod [%] D_{mod} [+/-100]

Sets the modulation amount for the input level. For more information, see "Input Level Dmod [%]" on page 881.

Source [Off...Tempo]

Selects the modulation source for the input level. For more information, see "Source" on page 881.

DELAY

Stereo/Cross [Stereo, Cross]

This changes the feedback routing.

Stereo means that the left and right channels feed back into themselves, preserving the stereo image.

Cross makes the left channel feeds back into the right, and vice-versa.

L Delay Time [msec] [0.0...] 2730.0

Sets the delay time for the left channel.

R Delay Time [msec] [0.0...] 2730.0

Sets the delay time for the right channel.

L Feedback D_{fb} [+/-100]

Sets the feedback amount for the left channel.

R Feedback D_{fb} [+/-100]

Sets the feedback amount for the right channel.

Source [Off...Tempo]

Selects the modulation source of feedback amount.

L Amount [+/-100]

Sets the modulation amount of the left channel feedback.

R Amount [+/-100]

Sets the modulation amount of the right channel feedback.

High Damp [%] [0...100]

This controls the high-frequency damping in the feedback loop. See "High Damp [%]" on page 891.

Low Damp [%] [0...100]

This controls the low-frequency damping in the feedback loop. See "Low Damp [%]" on page 891.

Spread [-50...+50]

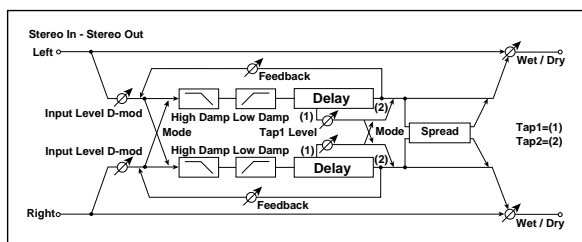
This controls the stereo width of the effect. The stereo image is widest with a value of 50, and narrows to mono with a value of 0.

OUTPUT

This is the standard effects output section, with modulatable control over wet/dry balance. For more information, see "OUTPUT" on page 820.

081: Stereo Multitap Delay

The left and right Multitap Delays have two taps respectively. Changing the routing of feedback and tap output allows you to create various patterns of complex effect sounds.



INPUT

Input Level Dmod [%] D_{mod} [+/-100]

Sets the modulation amount of the input level. p.881.

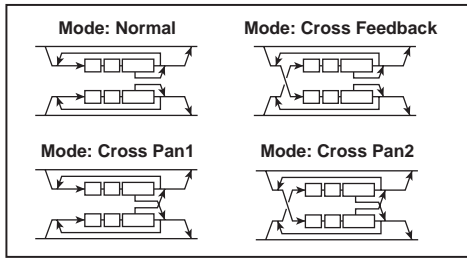
Source [Off...Tempo]

Selects the modulation source for the input level. p.881.

DELAY

Mode [Normal, Cross Feedback, Cross Pan1, Cross Pan2]

This lets you alter the stereo image by switching the inputs and feedback paths of the left and right delays, as shown in the figure below. In order for this to be effective, the input needs to be a true stereo signal.



Tap1 Time [msec] [0.0...1360.0]

Sets the Tap1 delay time.

Tap2 Time [msec] [0.0...1360.0]

Sets the Tap2 delay time.

Feedback (Tap2) D_{mod} [+/-100]

Sets the Tap2 feedback amount.

Source [Off...Tempo]

Selects the modulation source of the Tap2 feedback amount.

Amount [+/-100]

Sets the modulation amount of the Tap2 feedback amount.

Tap1 Level [0...100]

This lets you adjust the relative volume of Tap1, compared to Tap2 (which is always at the maximum volume). Setting a lower volume for Tap1 can help to create interesting accent patterns.

High Damp [%] [0...100]

This controls the high-frequency damping in the feedback loop. See "High Damp [%]" on page 891.

Low Damp [%] [0...100]

This controls the low-frequency damping in the feedback loop. See "Low Damp [%]" on page 891.

Spread D_{mod} [+/-100]

This controls the stereo width of the effect. The stereo image is widest with a value of 50, and narrows to mono with a value of 0.

Source [Off...Tempo]

Selects the modulation source for Spread.

Amount [+/-100]

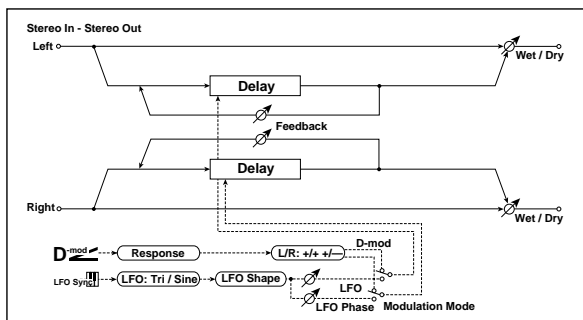
Sets the modulation amount for Spread.

OUTPUT

This is the standard effects output section, with modulatable control over wet/dry balance. For more information, see "OUTPUT" on page 820.

082: Stereo Modulation Delay

This stereo delay uses an LFO to sweep the delay time. The pitch also varies, creating a delay sound which swells and shimmers. You can also control the delay time using a modulation source.



CONTROL

Modulation Mode [LFO, Dmod]

Switches between LFO modulation control and modulation source control.

Dmod Modulation D_{mod} [L/R: +/+, L/R: +/-]

Reversed L/R control by modulation source. p.895.

Source [Off...Tempo]

Selects the modulation source that controls delay time.

Response [0...30]

Sets the rate of response to the modulation source.

LFO

Waveform [Triangle, Sine]

Selects the LFO Waveform.

Shape [-100...+100]

Changes the curvature of the LFO Waveform. p.840.

L LFO Phase [degrees] [-180...+180]

Sets the phase obtained when the left LFO is reset. p.895.

R LFO Phase [degrees] [-180...+180]

Sets the phase obtained when the right LFO is reset. p.895.

Dmod Sync D_{mod} [Check-box]

Switches LFO reset off/on. p.895.

Source [Off...Tempo]

Selects the modulation source that resets the LFO.

Frequency [Hz] D_{mod} [0.02...20.00]

This sets the LFO speed, in Hz.

MIDI/Tempo Sync D-mod [Check-box]
BPM [MIDI, 40.00...240.00]
Base Note [♪... ♪]
Times [x1...x32]

When **MIDI/Tempo Sync** is on, the LFO speed is set by **BPM**, **Base Note**, and **Times**, instead of **Frequency**. For more information, see “MIDI/Tempo Sync” on page 837.

Type [Individual, Common1, Common2]
 This controls whether the effect uses its individual LFO, or one of the Common FX LFOs. For more information, see “LFO Type” on page 837.

Common LFO Phase Offset [degrees] [+/-180]
 When **Type** is set to **Common FX LFO 1** or **2**, this lets you offset the phase from the master LFO.

MOD DELAY

L Delay Time [msec] [0.0... 1000.0]
 Sets the delay time for the left channel.

R Delay Time [msec] [0.0... 1000.0]
 Sets the delay time for the right channel.

L Depth [0...200]
 Sets the depth of the left LFO modulation.

R Depth [0...200]
 Sets the depth of the right LFO modulation.

L Feedback [+/-100]
 Sets the feedback amount of left delay.

R Feedback [+/-100]
 Sets the feedback amount of right delay.

OUTPUT

This is the standard effects output section, with modulatable control over wet/dry balance. For more information, see “OUTPUT” on page 820.

CONTROL: Dmod Modulation
 When the modulation source is used for control, this parameter reverses the left and right modulation direction.

LFO: L LFO Phase [degrees], R LFO Phase [degrees], Dmod Sync, and Source

If **Dmod Sync** is **On**, the LFO will be reset by the modulation source that is received.

The **Source** parameter sets the modulation source that resets the LFO. For example, you can assign Gate as a modulation source so that the sweep always starts from the specified point.

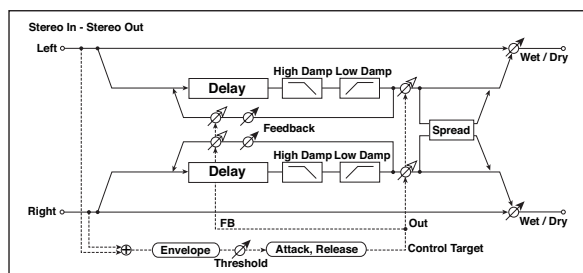
L LFO Phase and **R LFO Phase** set the phase obtained when the left and right LFOs are reset. In this way, you can create changes in pitch sweep for the left and right channels individually.

MIDI The effect is off when a value of the modulation source specified in the **Source** parameter is 63 or smaller, and the effect is on when the value is 64 or higher. The LFO is triggered and reset to the “L LFO Phase” and “R LFO Phase” settings when the value changes from 63 or smaller to 64 or higher.

083: Stereo Dynamic Delay

This stereo delay uses the input signal level to control either the wet/dry mix or the feedback level. You can use this to create:

- Ducked delays, in which the delays get softer when the input is loud (the delays “duck” to get out of the way).
- Gated delays, in which the delays are louder when the input is loud. For instance, you can create a thick, layered lead sound using delays, and then make the level or feedback of the delays reduce automatically when you stop playing.



CONTROL

Target [None, Output Level, Feedback]
 This selects the modulation target for the input signal.

Output Level modulates the **Wet/Dry** mix.

Feedback modulates the **Feedback** amount.

Polarity [+,-]
 + (**positive**): The modulation applies only when the input signal is *below* the **Threshold**. Use this to lower the effect level when the input signal is quiet.

- (**negative**): The modulation applies only when the input signal is *above* the **Threshold**. Use this to lower the effect level when the input signal is loud (for “ducking”).

Offset [0...100]
 This controls the amount of modulation for the **Target** parameter (either **Output Level** or **Feedback**), as a percentage of the parameter’s value.

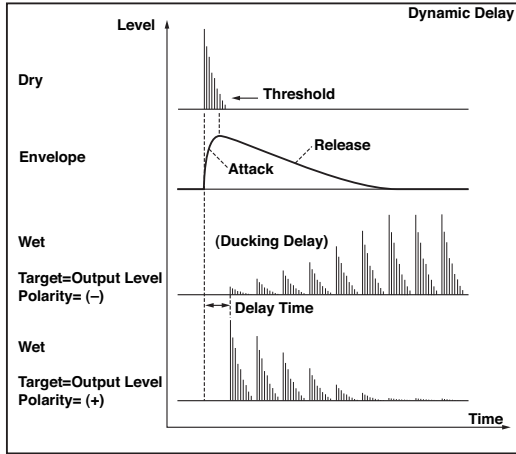
Threshold [0...100]
 This sets the input signal level at which the ducking or gating occurs, according to the **Polarity** setting.

Attack [1...100]

This controls how fast the gating or ducking starts after the **Threshold** is crossed.

Release [1...100]

This controls how fast the gating or ducking stops, after the **Threshold** is crossed in the opposite direction.



DELAY

L Delay Time [msec] [0.0...1360.0]

Sets the delay time for the left channel.

R Delay Time [msec] [0.0...1360.0]

Sets the delay time for the right channel.

Feedback [+/-100]

Sets the feedback amount.

High Damp [%] [0...100]

This controls the high-frequency damping in the feedback loop. See "High Damp [%]" on page 891.

Low Damp [%] [0...100]

This controls the low-frequency damping in the feedback loop. See "Low Damp [%]" on page 891.

Spread [+/-100]

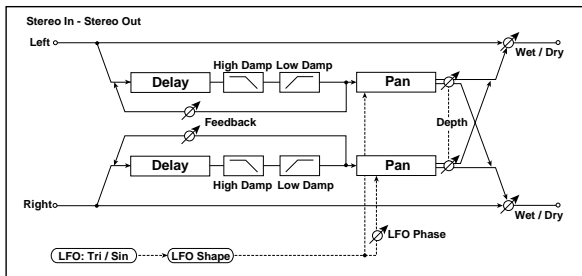
Sets the width of the stereo image of the effect sound. p.891.

OUTPUT

This is the standard effects output section, with modulatable control over wet/dry balance. For more information, see "OUTPUT" on page 820.

084: Stereo Auto Panning Delay

This stereo delay effect pans the delay sound left and right using the LFO.



DELAY

L Delay Time [msec] [0.0...1360.0]

Sets the delay time for the left channel.

R Delay Time [msec] [0.0...1360.0]

Sets the delay time for the right channel.

L Feedback [+/-100]

Sets the feedback amount for the left channel.

R Feedback [+/-100]

Sets the feedback amount for the right channel.

High Damp [%] [0...100]

This controls the high-frequency damping in the feedback loop. See "High Damp [%]" on page 891.

Low Damp [%] [0...100]

This controls the low-frequency damping in the feedback loop. See "Low Damp [%]" on page 891.

LFO

Waveform [Triangle, Sine]

Selects the LFO Waveform.

Shape [+/-100]

Changes the curvature of the LFO Waveform. See "Shape" on page 840.

Phase [degrees] [-180...+180]

Sets the LFO phase difference between the left and right. See "Phase [degrees]" on page 875.

Frequency [Hz] $D_{mod} \leq$ [0.02...20.00]

This sets the LFO speed, in Hz. It applies only when **MIDI/Tempo Sync**, below, is **Off**.

MIDI/Tempo Sync $D_{mod} \leq$ [Check-box]

BPM [MIDI, 40.00...240.00]

Base Note [♪...♩]

Times [x1...x32]

When **MIDI/Tempo Sync** is on, the LFO speed is set by **BPM**, **Base Note**, and **Times**, instead of **Frequency**. For more information, see "MIDI/Tempo Sync" on page 837.

Type [Individual, Common 1, Common 2]

This controls whether the effect uses its individual LFO, or one of the Common FX LFOs. For more information, see "LFO Type" on page 837.

Common LFO Phase Offset [degrees] [+/-180]

When Type is set to **Common FX LFO 1** or **2**, this lets you offset the phase from the master LFO.

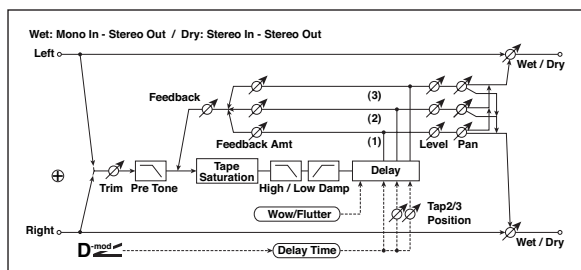
AUTO PAN

Depth  [0...100]

Sets the panning width.

085: Tape Echo

This effect models a tape echo unit with three playback heads, including the distortion and tonal changes typical of magnetic tape.



INPUT

Trim [0...100]

Sets the input gain.

Pre Tone [0...100]

This models the reduced high frequencies of an analog tape delay, before the saturation stage. Lower settings create a darker tone.

WOW & FLUTTER

This section models the instability of the tape machine's motors. As the speed of the motor fluctuates, the pitch changes slightly. This introduces a pleasant chorus-like effect.

Frequency [Hz] [0.02... 1.00]

Sets the frequency at which pitch variation occurs.

Depth [0...100]

Sets the depth of the pitch change.

TAPE ECHO

Delay Time

Delay Time(Tap1) [msec]  [0...2700]

This parameter sets the delay time of Tap 1.

Also, Taps 2 and 3 are specified as a percentage (%) of this delay time. Taps 2 and 3 always stay in proportion to Tap 1, even when the delay time is modulated.

Source [Off...Tempo]

Selects the modulation source for the panning width.

Amount [+/-100]

Set the modulation amount of the panning width.

OUTPUT

This is the standard effects output section, with modulatable control over wet/dry balance. For more information, see "OUTPUT" on page 820.

Source [Off...Tempo]

Selects the modulation source for the delay time.

Amount [-2700...+2700]

Sets the modulation amount for the delay time.

Tap2 Position [%] [0...100]

Sets the delay time of Tap 2, as a percentage of Tap 1's delay time.

Tap3 Position [%] [0...100]

Sets the delay time of Tap 3, as a percentage of Tap 1's delay time.

Level and Pan 1...3

Each tap has its own controls for level and pan.

Tap1...3 Level [0...100]

Sets the tap's output level.

Pan [L, 1...99, R]

Sets the tap's stereo position.

Feedback

Tap1...3 Feedback Amount [+/-100]

Sets the individual tap's feedback level. Negative values invert the phase. These individual levels are summed together, and then the final level is controlled by **Feedback Level**, below.

Feedback Level  [0...100]

Sets the overall level of feedback.

Source [Off...Tempo]

Selects the modulation source for the **Feedback Level**.

Amount [+/-100]

Sets the modulation amount for the **Feedback Level**.

Tone

High Damp [%] [0...100]

This cuts the high frequencies in both the main output and the feedback. Higher settings create a darker tone.

Low Damp [%] [0...100]

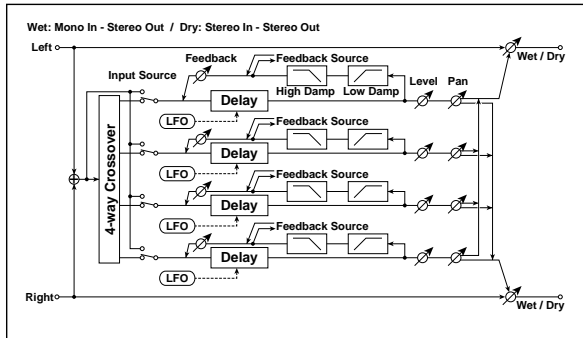
This cuts the low frequencies in both the main output and the feedback. Higher settings mean less low-end.

Saturation [0...100]

This models the distortion of an analog tape delay.

086: Multiband Mod. Delay

This effect divides the input signal into low, mid, and high-frequency bands, and applies a modulation delay to each band.



Dmod

Input Level [%] D_{mod} [+/-100]

Sets the modulation amount of the input level. p.881.

Src (Source) [Off...Tempo]

Selects the modulation source for the input level. p.881.

Feedback Src (Source) [Off...Tempo]

Selects the modulation source of feedback amount.

Output Level Src (Source) [Off...Tempo]

Selects the modulation source for the output level.

XOVER FILTER

For a description of the on-screen Crossover Filter graphic, see "004: St.Multiband Compressor" on page 824.

1-2 [Hz] [20...20.00k]

Sets the frequency at which bands 1 and 2 are divided.

2-3 [Hz] [20...20.00k]

Sets the frequency at which bands 2 and 3 are divided.

3-4 [Hz] [20...20.00k]

Sets the frequency at which bands 3 and 4 are divided.

BAND1 DELAY

Input [Xover, Direct]

Selects the input for band 1: either the signal from the crossover, or the direct signal.

OUTPUT

This is the standard effects output section, with modulatable control over wet/dry balance. For more information, see "OUTPUT" on page 820.

Feedback Src (Source) [Band1, Band2, Band3, Band4]

Selects the feedback source for band 1. This lets you connect the feedback of each band to other bands.

Time [msec] [0.0...1200.0]

Sets the delay time for the band 1.

Pan [L, 1...99, R]

Sets the panning for band 1.

Feedback D_{mod} [+/-100]

Sets the feedback amount for band 1.

Amt (Feedback Amount) [+/-100]

Sets the amount of modulation for the band 1 feedback.

Low Damp [%] [0...100]

Sets the amount of low-frequency attenuation for band 1.

High Damp [%] [0...100]

Sets the amount of high-frequency attenuation for band 1.

Output Level D_{mod} [0...100]

Sets the output level for band 1.

Amt (Output Level Amount) [+/-100]

Sets the amount of modulation for band 1's output level.

BAND2 DELAY

Band 2 has the same parameters as the "BAND1 DELAY," above.

BAND3 DELAY

Band 3 has the same parameters as the "BAND1 DELAY," above.

BAND4 DELAY

Band 4 has the same parameters as the "BAND1 DELAY," above.

BAND1 LFO

Frequency [Hz] [0.02...20.00]

Sets the LFO speed for band 1.

Depth [0...187]

Sets the LFO modulation depth for band 1.

Type [Indiv., Cmn1, Cmn2]

Selects LFO, Common FX LFO1, or Common LFO2 for band 1. p.837.

Cmn LFO [deg] (Common LFO Phase Offset [degrees]) [-180...+180]

Sets the phase offset when Type = Common 1 or Common 2. p.837.

BAND2 LFO

Band 2's LFO has the same parameters as the "BAND1 LFO," above.

BAND3 LFO

Band 3's LFO has the same parameters as the "BAND1 LFO," above.

BAND4 LFO

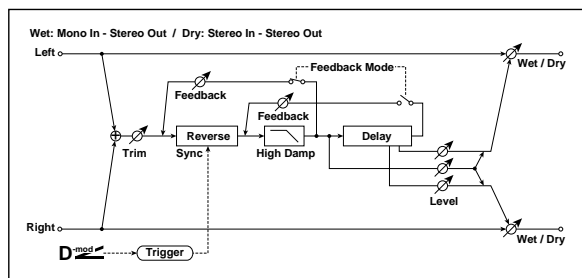
Band 4's LFO has the same parameters as the "BAND1 LFO," above.

OUTPUT

This is the standard effects output section, with modulatable control over wet/dry balance. For more information, see "OUTPUT" on page 820.

087: Reverse Delay

This is a delay that plays back the input signal in reverse. You can also continue feedback while alternating playing the signal in reverse and forward directions.



INPUT

Input Level Dmod [%] [+/-100]

Sets the modulation amount of the input level.

Source [Off...Tempo]

Selects the modulation source for the input level.

REVERSE DELAY

Reverse Time [msec] [0...900]

Sets the length of reverse playback (= delay time). p.900.

Level [0...100]

Sets the output level of the reverse playback.

L Post-Delay Time [msec] [0...900]

Sets the delay time of the Left Tap.

Level [0...100]

Sets the output level of the Left Tap.

R Post-Delay Time [msec] [0...900]

Sets the delay time of the Right Tap.

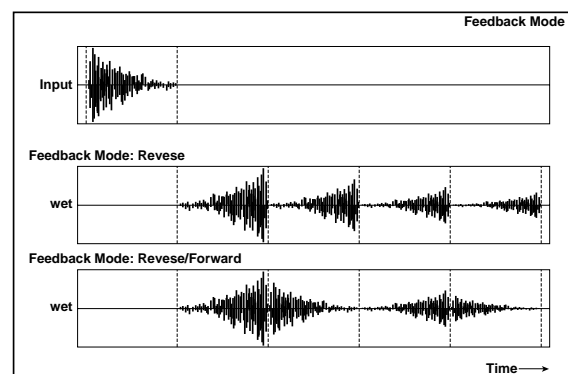
Level [0...100]

Sets the output level of the Right Tap.

Feedback Mode [Reverse, Reverse/Forward]

Reverse: the feedback plays in reverse.

Reverse/Forward: the feedback alternates between playing backwards and forwards, as shown below.



Feedback [+/-100]

Sets the feedback amount.

Source [Off...Tempo]

Selects the modulation source of feedback amount.

Amount [+/-100]

Sets the feedback amount.

High Damp [%] [0...100]

Sets the damping amount in the high range.

Sync Source [Off...Tempo]

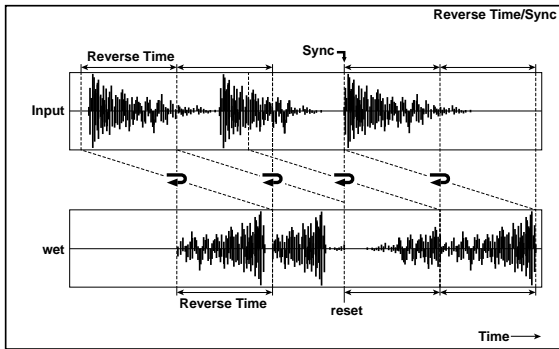
Selects the modulation source that will reset the point at which the sound is captured for reverse playback. p.900.

OUTPUT

This is the standard effects output section, with modulatable control over wet/dry balance. For more information, see "OUTPUT" on page 820.

REVERSE DELAY: Reverse Time and Sync Source

The sound will be played in reverse for the duration specified by **Reverse Time**. You can reset the dividing point for reverse playback by specifying a modulation source for **Sync Source**.



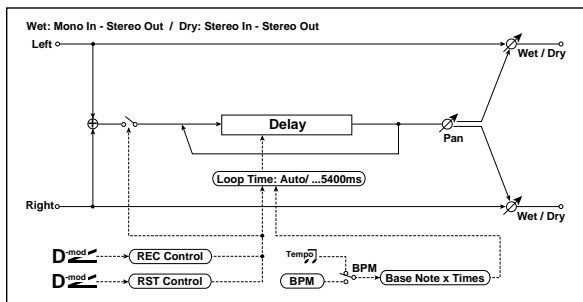
If you set **Sync Source** to Gate1, the delay will be reset at each note-on. This means that you will always hear the reverse playback of the sound that occurs between the note-on and the specified **Reverse Time**.

If you don't specify a **Sync Source**, the location at which reverse playback starts will be indeterminate.

Note: resetting the delay (using **Sync Source**) while reverse playback is still being heard may cause noise artifacts.

For drums or short phrases, you'll need to adjust **Reverse Time** appropriately in order to use this effectively.

088: Hold Delay



This effect records the input signal and plays it back as a loop, with overdub recording for creating multiple layers. You can use modulation sources to record and clear the loop, for simple real-time performance. The delay can sync to the system tempo, and is long enough for 2 measures of 4/4 at 90 bpm.

REC CONTROL

You can start recording by using a Dmod source, or by manually pressing the on-screen **Manual Rec Control** check-box. Recording always overdubs with the existing loop; to clear the loop, use "RESET CONTROL," below.

Source D_{mod} [Off...Tempo]

This selects a modulation source to enable and disable recording. Modulation values of 64 or higher turn recording on; values of 63 or lower turn it off.

Manual Rec Control [Check-box]

This check-box lets you turn on recording manually, without using a controller. Just check the box to start recording, and un-check it to stop.

RESET CONTROL

Resetting erases the audio from the loop, making it silent and letting you start again from scratch. As with recording, you can reset using a Dmod source or an on-screen check-box.

If the **Loop Time** is set to Auto, it will be reset as well.

Source D_{mod} [Off...Tempo]

This selects a modulation source for Reset. Modulation values of 64 or higher will start the Reset; values of 63 or lower have no effect. You don't have to hold the modulation for the entire duration of the loop, but do make sure to hold it for about half a second, to ensure that the loop is completely cleared.

Manual Reset Control [Check-box]

This check-box manually resets the loop.

HOLD DELAY

Loop Time [msec] [Auto, 1...5400]

This applies only when **MIDI/Tempo Sync** is off.

With **Auto**, the loop time is automatically set to the length of the recorded phrase, up to a maximum of 5,400msec.

1...5400 sets a specific time in milliseconds.

MIDI/Tempo Sync ↔ [Check-box]

This specifies whether delay time is set in milliseconds, or as a note value relative to tempo.

BPM [MIDI, 40.00...240.00]

MIDI syncs to the system tempo; 40-240 sets the tempo manually for this individual effect.

Time Over? > [---, OVER!]

The maximum delay time is 5,400msec. If the combination of **BPM**, **Base Note**, and **Times** exceeds this limit, the error message "OVER!" will appear. If this occurs, change the delay time parameters so that this message no longer appears.

Base Note ↔ [♪...♩]

This sets the basic length of the loop, relative to the BPM setting. The values range from a 32nd note to a whole note, including triplets.

Times [x1...x32]

This multiplies the length of the Base Note. For instance, if the Base Note is set to a whole note, and Times is set to 32 the loop will last for two measures.

Pan  [L100...L1, C, R1...R100]

Sets the stereo position of the effect output.

Source [Off...Tempo]

Selects the modulation source for **Pan**.

Amount [+/-100]

Sets the modulation amount for **Pan**.

OUTPUT

This is the standard effects output section, with modulatable control over wet/dry balance. For more information, see "OUTPUT" on page 820.

Using the Hold Delay

Recording layered loops with the Hold Delay is easy. To do so:

1. On the IFX Insert FX page, select the Hold Delay effect.

This is an easy way to get to the default effects settings, which we'll be using:

- **REC Source:** JS +Y: CC#01

- **Reset Source:** JS -Y: CC#02
- **Manual Rec Control:** Off
- **Manual Reset Control:** Off
- **Loop Time [msec]:** Auto
- **MIDI/Tempo Sync:** Off

2. Push the main joystick (not the Vector Joystick) in the +Y direction (away from you).

This starts the recording.

3. Play a phrase.

4. Release the joystick to its original position.

This stops the recording. The phrase will now start to loop. Since **Loop Time** is set to **Auto**, the loop's duration will match that of the recording.

5. Push the main joystick in the +Y direction again.

6. Play another phrase, over the loop.

7. Release the joystick to its original position.

Now, you should hear what you just played layered over the first loop. You can overdub as many passes as you like.

To clear the loop and start over:

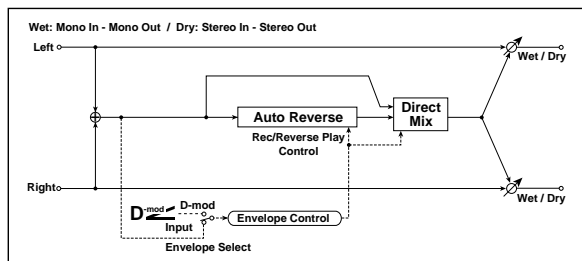
8. Pull the joystick in the -Y direction (towards you).

Hold Delay is mono

The Hold Delay uses a single, long, mono delay line (although you can control the pan of the delay). For best results with stereo effects, such as chorus and reverb, use the stereo effects after the Hold Delay.

089: Auto Reverse

This effect records the input signal and automatically plays it in reverse (the effect is similar to a tape reverse sound).



CONTROL

Envelope Select  [Dmod, Input]

This selects whether the start and end of recording is controlled via the modulation source or the input signal level. After recording is completed, the reverse playback starts immediately.

Dmod: the input signal will be recorded only when the value of the specified modulation **Source** is 64 or higher.

Input: the input signal will be recorded only when its level exceeds the Threshold level.

Source [Off...Tempo]

Selects the modulation source that controls recording when Envelope Select is set to Dmod.

Threshold [0...100]

Sets the recording start level when Envelope Select is set to Input.

Response [0...100]

This sets the speed of the response to the end of recording. Set a smaller value when you are recording a phrase or rhythm pattern, and set a higher value if you are recording only one note.

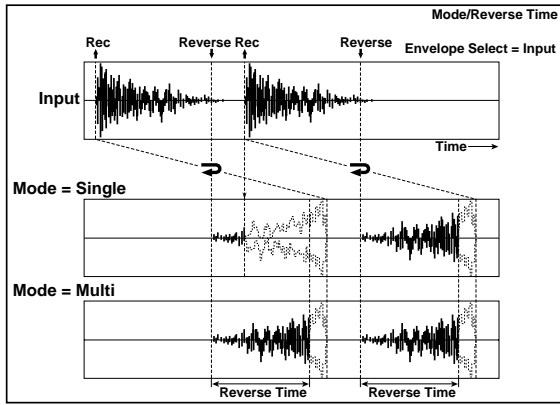
REVERSE

Mode [Single, Multi]

When **Mode** is set to **Single**, you can set up to 2,640msec for **Reverse Time**. If recording starts during the reverse playback, the playback will be interrupted.

When **Mode** is set to **Multi**, you can make another recording during the reverse playback. However, the maximum **Reverse Time** is limited to 1,320msec.

If you wish to use this with longer phrases or rhythm patterns, set **Mode** to **Single**. If you don't need a long playback time, and want playback and record to overlap, set **Mode** to **Multi**.



Reverse Time [msec] [20...2640]

This specifies the maximum time of the reverse playback. For short, single-note slapback effects, set the **Reverse Time** to a low value.

Direct Mix [Always On, Always Off, Cross Fade]

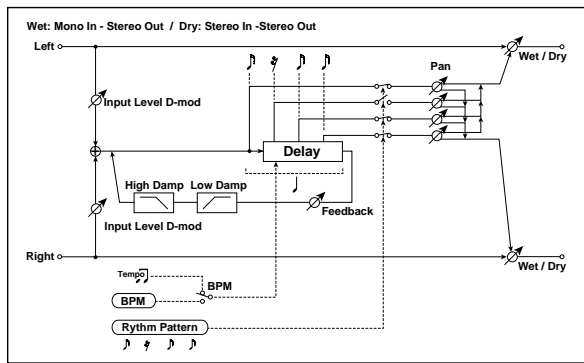
Selects how the dry sound is mixed. For more information, see "Direct Mix" on page 874.

OUTPUT

This is the standard effects output section, with modulatable control over wet/dry balance. For more information, see "OUTPUT" on page 820.

090: Sequence BPM Delay

This four-tap delay enables you to select a tempo and rhythm pattern to set up each tap.



Feedback D_{mod} [+/-100]

Sets the feedback amount

Source [Off...Tempo]

Selects the modulation source of feedback amount.

Amount [+/-100]

Sets the feedback amount.

High Damp [%] [0...100]

Sets the damping amount in the high range. p.891.

Low Damp [%] [0...100]

Sets the damping amount in the low range. p.891.

INPUT

Input Level Dmod [%] D_{mod} [+/-100]

Sets the modulation amount of the input level. p.881.

Source [Off...Tempo]

Selects the modulation source for the input level. p.881.

DELAY

BPM [MIDI, 40.00...240.00]

MIDI syncs to the system tempo; 40-240 sets the tempo manually for this individual effect. p.902.

When BPM is set to MIDI, the minimum tempo is 44BPM.

Rhythm Pattern [♪...♪♪♪♪3]

Selects a rhythm pattern. p.902.

Tap1 Pan [L, 1...99, R]

Sets the panning of Tap1.

Tap2 Pan [L, 1...99, R]

Sets the panning of Tap2.

Tap3 Pan [L, 1...99, R]

Sets the panning of Tap3.

Tap4 Pan [L, 1...99, R]

Sets the panning of Tap4.

OUTPUT

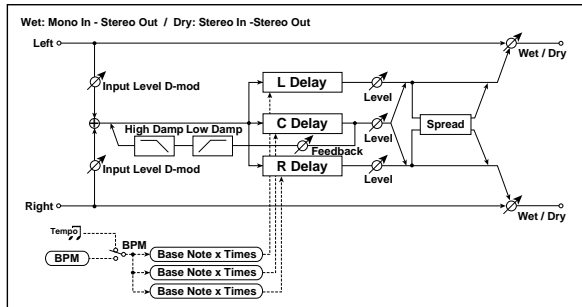
This is the standard effects output section, with modulatable control over wet/dry balance. For more information, see "OUTPUT" on page 820.

DELAY: BPM and Rhythm Pattern

With the tempo specified by the **BPM** parameter (or the MIDI Clock tempo if **BPM** is set to MIDI), the length of one beat equals the feedback delay time, and the interval between taps becomes equal. Selecting a rhythm pattern will automatically turn the tap outputs on and off.

091: L/C/R BPM Delay

The L/C/R delay enables you to match the delay time with the song tempo. You can also synchronize the delay time with the arpeggiator or sequencer. If you program the tempo before performance, you can achieve a delay effect that synchronizes with the song in real-time. Delay time is set by notes.



INPUT

Input Level Dmod [%] D_{mod} [+/-100]

Sets the modulation amount of the input level. p.881.

Source [Off...Tempo]

Selects the modulation source for the input level. p.881.

DELAY

BPM BPM [MIDI, 40.00...240.00]

MIDI syncs to the system tempo; 40-240 sets the tempo manually for this individual effect.

Time Over?> [---, OVER!]

The maximum delay time is 2,730msec. If the combination of **BPM**, **Base Note**, and **Times** exceeds this limit, the error message "OVER!" appears in the display. If this occurs, change the delay time parameters so that this message no longer appears.

L Delay Base Note B_{sync} [$\text{♪} \dots \text{♩}$]

This sets the basic length of the Left Delay, relative to the BPM setting. The values range from a 32nd note to a whole note, including triplets.

Times [x1...x32]

This multiplies the length of the Base Note. For instance, if the Base Note is set to a sixteenth note, and Times is set to 3, the delay length will be a dotted eighth note.

Level [0...50]

Sets the output level of the Left Delay.

C Delay Base Note B_{sync} [$\text{♪} \dots \text{♩}$]

This sets the basic length of the Center Delay, relative to the BPM setting.

Times [x1...x32]

This multiplies the length of the Center Delay's Base Note.

Level [0...50]

Sets the output level of the Center Delay.

R Delay Base Note B_{sync} [$\text{♪} \dots \text{♩}$]

This sets the basic length of the Right Delay, relative to the BPM setting.

Times [x1...x32]

This multiplies the length of the Right Delay's Base Note.

Level [0...50]

Sets the output level of the Right Delay.

Feedback (C Delay) D_{mod} [+/-100]

Sets the amount of feedback from the Center Delay.

Source [Off...Tempo]

Selects the modulation source for the Center Delay feedback.

Amount [+/-100]

Sets the modulation amount of the Center Delay feedback.

High Damp [%] [0...100]

Sets the damping amount in the high range. p.891.

Low Damp [%] [0...100]

Sets the damping amount in the low range. p.891.

Spread [0...50]

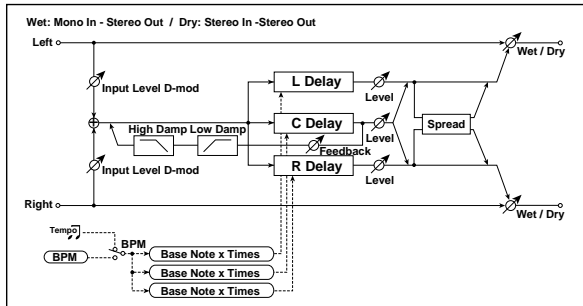
Sets the width of the stereo image of the effect sound. p.891.

OUTPUT

This is the standard effects output section, with modulatable control over wet/dry balance. For more information, see "OUTPUT" on page 820.

092: L/C/R BPM Long Delay

The L/C/R delay enables you to match the delay time with the song tempo. You can set the delay time up to 5,460msec



INPUT

Input Level Dmod [%] **[+/-100]**

Sets the modulation amount of the input level. p.881.

Source **[Off...Tempo]**

Selects the modulation source for the input level. p.881.

DELAY

BPM **[MIDI, 40.00...240.00]**

MIDI syncs to the system tempo; 40-240 sets the tempo manually for this individual effect.

Time Over?> **[---, OVER!]**

The maximum delay time is 5,460msec. If the combination of **BPM**, **Base Note**, and **Times** exceeds this limit, the error message "OVER!" appears in the display. If this occurs, change the delay time parameters so that this message no longer appears.

L Delay Base Note **[♪...]**

This sets the basic length of the Left Delay, relative to the BPM setting. The values range from a 32nd note to a whole note, including triplets.

Times **[x1...x32]**

This multiplies the length of the Base Note. For instance, if the Base Note is set to a sixteenth note, and Times is set to 3, the delay length will be a dotted eighth note.

Level **[0...50]**

Sets the output level of the Left Tap.

C Delay Base Note **[♪...]**

This sets the basic length of the Center Delay, relative to the BPM setting.

Times **[x1...x32]**

This multiplies the length of the Center Delay's Base Note.

Level **[0...50]**

Sets the output level of the Center Delay.

R Delay Base Note **[♪...]**

This sets the basic length of the Right Delay, relative to the BPM setting.

Times **[x1...x32]**

This multiplies the length of the Right Delay's Base Note.

Level **[0...50]**

Sets the output level of the Right Delay.

Feedback (C Delay) **[+/-100]**

Sets the feedback amount of the Center Delay.

Source **[Off...Tempo]**

Selects a source to modulate the Center Delay feedback.

Amount **[+/-100]**

Sets the Center Delay feedback modulation amount.

High Damp [%] **[0...100]**

Sets the damping amount in the high range. p.891.

Low Damp [%] **[0...100]**

Sets the damping amount in the low range. p.891.

Spread **[0...50]**

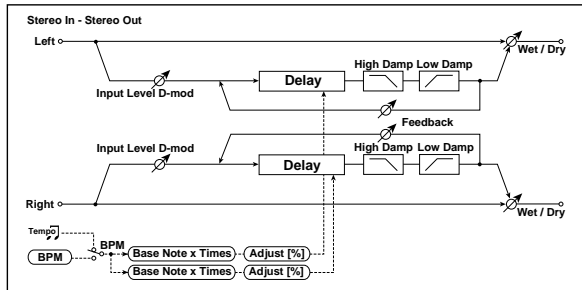
Sets the width of the stereo image of the effect sound. p.891.

OUTPUT

This is the standard effects output section, with modulatable control over wet/dry balance. For more information, see "OUTPUT" on page 820.

093: Stereo BPM Delay

This stereo delay enables you to set the delay time to match the song tempo. Fine adjustment lets you change the rhythmic feel of the delays.



INPUT

Input Level Dmod [%] **[+/-100]**

Sets the modulation amount of the input level. p.881.

Source **[Off...Tempo]**

Selects the modulation source for the input level. p.881.

DELAY

BPM **[MIDI, 40.00...240.00]**

MIDI syncs to the system tempo; 40-240 sets the tempo manually for this individual effect.

Time Over? L > **[---, OVER!]**

Time Over? R > **[---, OVER!]**

The maximum delay time is 1,360msec per channel (left and right). If the channel's combination of **BPM**, **Base Note**, and **Times** exceeds this limit, the error message "OVER!" will appear. If this occurs, change the delay time parameters so that this message no longer appears.

L Delay Base Note **[♪... ♩]**

This sets the basic length of the Left Delay, relative to the BPM setting. The values range from a 32nd note to a whole note, including triplets.

Times **[x1...x32]**

This multiplies the length of the Base Note. For instance, if the Base Note is set to a sixteenth note, and Times is set to 3, the delay length will be a dotted eighth note.

Adjust [%] **[-2.50...+2.50]**

This adjusts the left channel delay time by up to 2.5% in either direction, for subtle control over the feel of the delay.

R Delay Base Note **[♪... ♩]**

This sets the basic length of the Right Delay, relative to the BPM setting.

Times **[x1...x32]**

This multiplies the length of the Right Delay's Base Note.

Adjust [%] **[-2.50...+2.50]**

Fine-adjust the right channel delay time.

L Feedback **[+/-100]**

Sets the feedback amount for the left channel.

R Feedback **[+/-100]**

Sets the feedback amount for the right channel.

Source **[Off...Tempo]**

Selects the modulation source of feedback amount.

L Amount **[+/-100]**

Sets the modulation amount of the left channel feedback.

R Amount **[+/-100]**

Sets the modulation amount of the right channel feedback.

High Damp [%] **[0...100]**

Sets the damping amount in the high range. p.891.

Low Damp [%] **[0...100]**

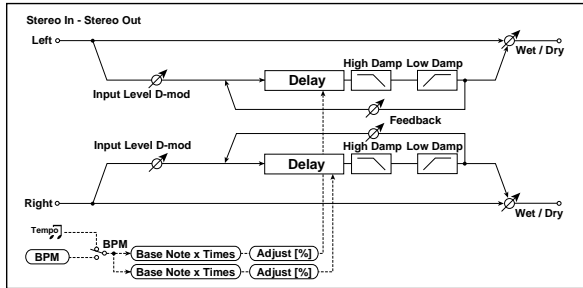
Sets the damping amount in the low range. p.891.

OUTPUT

This is the standard effects output section, with modulatable control over wet/dry balance. For more information, see "OUTPUT" on page 820.

094: Stereo BPM Long Delay

The stereo delay enables you to match the delay time with the song tempo. You can set the delay time up to 2,730msec.



INPUT

Input Level Dmod [%] **[+/-100]**

Sets the modulation amount of the input level. p.881.

Source **[Off...Tempo]**

Selects the modulation source for the input level. p.881.

DELAY

BPM **[MIDI, 40.00...240.00]**

MIDI syncs to the system tempo; 40-240 sets the tempo manually for this individual effect. p.883.

Time Over? L > **[---, OVER!]**

Time Over? R> **[---, OVER!]**

The maximum delay time is 2,730msec per channel (left and right). If the channel's combination of **BPM**, **Base Note**, and **Times** exceeds this limit, the error message "OVER!" will appear. If this occurs, change the delay time parameters so that this message no longer appears.

L Delay Base Note **[♪ ...]**

This sets the basic length of the Left Delay, relative to the BPM setting. The values range from a 32nd note to a whole note, including triplets.

Times **[x1...x32]**

This multiplies the length of the Base Note. For instance, if the Base Note is set to a sixteenth note, and Times is set to 3, the delay length will be a dotted eighth note.

Adjust [%] **[-2.50...+2.50]**

This adjusts the left channel delay time by up to 2.5% in either direction, for subtle control over the feel of the delay.

R Delay Base Note **[♪ ...]**

This sets the basic length of the Right Delay, relative to the BPM setting.

Times **[x1...x32]**

This multiplies the length of the Right Delay's Base Note.

Adjust [%] **[-2.50...+2.50]**

Fine-adjust the right channel delay time.

L Feedback **[+/-100]**

Sets the feedback amount for the left channel.

R Feedback **[+/-100]**

Sets the feedback amount for the right channel.

Source **[Off...Tempo]**

Selects the modulation source of feedback amount.

L Amount **[+/-100]**

Sets the modulation amount of the left channel feedback.

R Amount **[+/-100]**

Sets the modulation amount of the right channel feedback.

High Damp [%] **[0...100]**

Sets the damping amount in the high range. p.891.

Low Damp [%] **[0...100]**

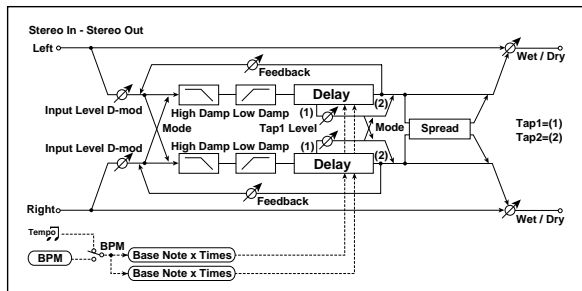
Sets the damping amount in the low range. p.891.

OUTPUT

This is the standard effects output section, with modulatable control over wet/dry balance. For more information, see "OUTPUT" on page 820.

095: Stereo BPM Multitap Delay

This four-tap delay enables you to select a tempo and rhythm pattern to set up each tap.



INPUT

Input Level Dmod [%] D_{mod} [+/-100]

Sets the modulation amount of the input level. p.881.

Source [Off...Tempo]

Selects the modulation source for the input level. p.881.

DELAY

BPM BPM [MIDI, 40.00...240.00]

MIDI syncs to the system tempo; 40-240 sets the tempo manually for this individual effect. p.883.

Time Over?> [---, OVER!]

The maximum delay time is 1,360msec. If the combination of **BPM**, **Base Note**, and **Times** exceeds this limit, the error message "OVER!" will appear. If this occurs, change the delay time parameters so that this message no longer appears.

Mode [Normal, Cross Feedback, Cross Pan1, Cross Pan2]

Switches the left and right delay routing. p.893.

Tap 1 Base Note $Base\ Note$ [♪... ♩]

This sets the basic length of the Tap 1, relative to the BPM setting. The values range from a 32nd note to a whole note, including triplets.

Times [x1...x32]

This multiplies the length of the Base Note. For instance, if the Base Note is set to a sixteenth note, and Times is set to 3, the delay length will be a dotted eighth note.

Tap 2 Base Note $Base\ Note$ [♪... ♩]

This sets the basic length of Tap 2, relative to the BPM setting.

Times [x1...x32]

This multiplies the length of Tap 2's Base Note.

Feedback (Tap2) D_{mod} [+/-100]

Sets the Tap 2 feedback amount.

Source [Off...Tempo]

Selects the modulation source of the Tap 2 feedback amount.

Amount [+/-100]

Sets the modulation amount of the Tap 2 feedback amount.

Tap1 Level [0...100]

Sets the Tap1 output level. p.894.

High Damp [%] [0...100]

Sets the damping amount in the high range. p.891.

Low Damp [%] [0...100]

Sets the damping amount in the low range. p.891.

Spread D_{mod} [+/-100]

Sets the width of the stereo image of the effect sound. p.891.

Source [Off...Tempo]

Selects the modulation source of the effect sound's stereo image width.

Amount [+/-100]

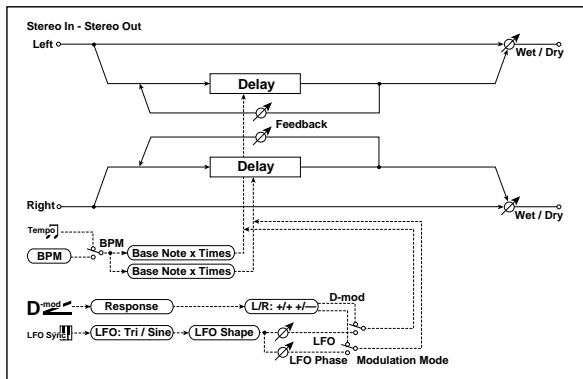
Sets the modulation amount of the effect sound's stereo image width.

OUTPUT

This is the standard effects output section, with modulatable control over wet/dry balance. For more information, see "OUTPUT" on page 820.

096: Stereo BPM Mod. Delay

This is a stereo modulation delay that lets you synchronize the delay time to the tempo of the song.



CONTROL

Modulation Mode [LFO, Dmod]

Switches between LFO modulation control and modulation source control.

Dmod Modulation [L/R: +/+, L/R: +/-]

Reversed L/R control by modulation source. p.895.

Source [Off...Tempo]

Selects the modulation source that controls delay time.

Response [0...30]

Sets the rate of response to the modulation source.

LFO

Waveform [Triangle, Sine]

Selects the LFO Waveform.

Shape [+/-100]

Changes the curvature of the LFO Waveform. p.840.

L LFO Phase [degrees] [-180...+180]

Sets the phase obtained when the left LFO is reset. p.895.

R LFO Phase [degrees] [-180...+180]

Sets the phase obtained when the right LFO is reset. p.895.

Dmod Sync [Check-box]

Switches LFO reset off/on. p.895.

Source [Off...Tempo]

Selects the modulation source that resets the LFO.

Frequency [Hz] [0.02...20.00]

This sets the LFO speed, in Hz. It applies only when MIDI/Tempo Sync, below, is Off.

MIDI/Tempo Sync [Check-box]

BPM [MIDI, 40.00...240.00]

Base Note [Musical Note Icon]

Times [x1...x32]

When MIDI/Tempo Sync is on, the LFO speed is set by BPM, Base Note, and Times, instead of Frequency. For more information, see "MIDI/Tempo Sync" on page 837.

Type [Individual, Common1, Common2]

This controls whether the effect uses its individual LFO, or one of the Common FX LFOs. For more information, see "LFO Type" on page 837.

Common LFO Phase Offset [degrees] [+/-180]

When Type is set to Common FX LFO 1 or 2, this lets you offset the phase from the master LFO.

MOD DELAY

BPM [MIDI, 40.00...240.00]

MIDI syncs to the system tempo; 40-240 sets the tempo manually for this individual effect. p.883.

Time Over? L > [---, OVER!]

Time Over? R > [---, OVER!]

The maximum delay time is 1,000msec per channel (left and right). If the channel's combination of BPM, Base Note, and Times exceeds this limit, the error message "OVER!" will appear. If this occurs, change the delay time parameters so that this message no longer appears.

L Delay Base Note [Musical Note Icon]

This sets the basic length of the Left Delay, relative to the BPM setting. The values range from a 32nd note to a whole note, including triplets.

Times [x1...x32]

This multiplies the length of the Base Note. For instance, if the Base Note is set to a sixteenth note, and Times is set to 3, the delay length will be a dotted eighth note.

R Delay Base Note [Musical Note Icon]

This sets the basic length of the Right Delay, relative to the BPM setting.

Times [x1...x32]

This multiplies the length of the Right Delay's Base Note.

L Depth [0...200]

Sets the depth of the left LFO modulation.

R Depth [0...200]

Sets the depth of the right LFO modulation.

L Feedback [+/-100]

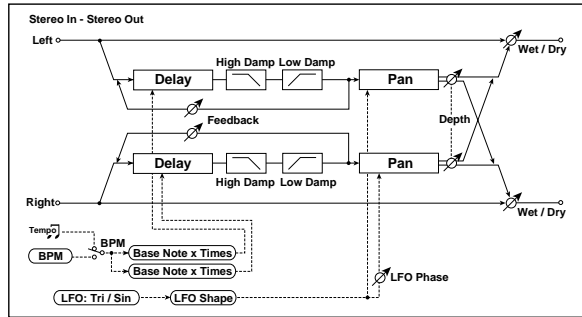
Sets the feedback amount of left delay.

R Feedback [+/-100]

Sets the feedback amount of right delay.

097: St. BPM Auto Panning Dly

This stereo auto panning delay enables you to set the delay time to match the song tempo.



DELAY

BPM [MIDI, 40.00...240.00]

MIDI syncs to the system tempo; 40-240 sets the tempo manually for this individual effect. p.883.

Time Over? L > [---, OVER!]

Time Over? R > [---, OVER!]

The maximum delay time is 1,360msec per channel (left and right). If the channel's combination of **BPM**, **Base Note**, and **Times** exceeds this limit, the error message "OVER!" will appear. If this occurs, change the delay time parameters so that this message no longer appears.

L Delay Base Note [♪ ... ♩]

This sets the basic length of the Left Delay, relative to the BPM setting. The values range from a 32nd note to a whole note, including triplets.

Times [x1...x32]

This multiplies the length of the Base Note. For instance, if the Base Note is set to a sixteenth note, and Times is set to 3, the delay length will be a dotted eighth note.

R Delay Base Note [♪ ... ♩]

This sets the basic length of the Right Delay, relative to the BPM setting.

Times [x1...x32]

This multiplies the length of the Right Delay's Base Note.

L Feedback [+/-100]

Sets the feedback amount for the left channel.

R Feedback [+/-100]

Sets the feedback amount for the right channel.

OUTPUT

This is the standard effects output section, with modulatable control over wet/dry balance. For more information, see "OUTPUT" on page 820.

High Damp [%] [0...100]

Sets the damping amount in the high range. p.891.

Low Damp [%] [0...100]

Sets the damping amount in the low range. p.891.

LFO

Waveform [Triangle, Sine]

Selects the LFO Waveform.

Shape [+/-100]

Changes the curvature of the LFO Waveform. p.840.

Phase [degrees] [-180...+180]

Sets the LFO phase difference between the left and right. p.875.

Frequency [Hz] [0.02...20.00]

This sets the LFO speed, in Hz. It applies only when MIDI/Tempo Sync, below, is Off.

MIDI/Tempo Sync [Check-box]

BPM [MIDI, 40.00...240.00]

Base Note [♪ ... ♩]

Times [x1...x32]

When MIDI/Tempo Sync is on, the LFO speed is set by **BPM**, **Base Note**, and **Times**, instead of **Frequency**. For more information, see "MIDI/Tempo Sync" on page 837.

Type [Individual, Common 1, Common 2]

This controls whether the effect uses its individual LFO, or one of the Common FX LFOs. For more information, see "LFO Type" on page 837.

Common LFO Phase Offset [degrees] [+/-180]

When Type is set to **Common FX LFO 1** or **2**, this lets you offset the phase from the master LFO.

AUTO PAN

Depth [0...100]

Sets the panning width.

Source [Off...Tempo]

Selects the modulation source for the panning width.

Amount [+/-100]

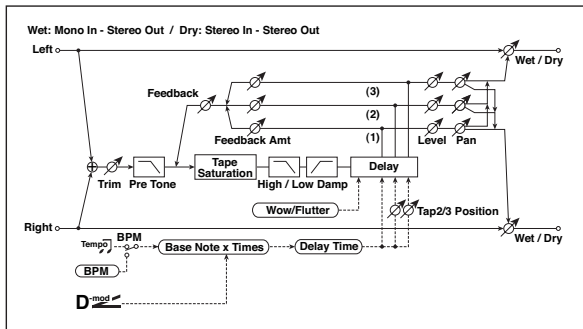
Set the modulation amount of the panning width.

OUTPUT

This is the standard effects output section, with modulatable control over wet/dry balance. For more information, see "OUTPUT" on page 820.

098: Tape BPM Echo

This models a tape echo unit with three playback heads—but with the ability to sync to tempo. The distortion and tonal changes typical of magnetic tape are also reproduced.



INPUT

Trim [0...100]

Sets the input gain.

Pre Tone [0...100]

This models the reduced high frequencies of an analog tape delay, before the saturation stage. Lower settings create a darker tone.

WOW & FLUTTER

This section models the instability of the tape machine's motors. As the speed of the motor fluctuates, the pitch changes slightly. This introduces a pleasant chorus-like effect.

Frequency [Hz] [0.02...1.00]

Sets the frequency at which pitch variation occurs.

Depth [0...100]

Sets the depth of the pitch change.

TAPE ECHO

Delay Time

BPM [MIDI, 40.00...240.00]

MIDI syncs to the system tempo; 40-240 sets the tempo manually for this individual effect. p.883.

Time Over? > [---, OVER!]

The maximum delay time is 2,700msec. If the combination of **BPM**, **Base Note**, and **Times** exceeds this limit, the error message "OVER!" will appear. If this occurs, change the delay time parameters so that this message no longer appears.

Delay(Tap 1) Note [Mod Sync] [Musical Note]

This sets the basic delay time of Tap 1, relative to the system tempo. The values range from a 32nd note to a whole note, including triplets.

Also, Taps 2 and 3 are specified as a percentage (%) of this delay time. Taps 2 and 3 always stay in proportion to Tap 1, even when the delay time is modulated.

Times [x1...x32]

This multiplies the length of the Base Note. For instance, if the Base Note is set to a sixteenth note, and Times is set to 3, the delay time will be a dotted eighth note.

Source [Off...Tempo]

Selects the modulation source for the delay **Note** and **Times**.

Dmod Max Note [Mod Sync] [Musical Note]

Instead of specifying a modulation intensity, you can specify a note (and multiplier) to map to the maximum modulation value. Note that these can each be either longer or shorter than the original **Note** and **Times**.

Times [x1...x32]

This sets the multiplier for the **Dmod Max Note**.

Tap2 Position [%] [0...100]

Sets the delay time of Tap 2, as a percentage of Tap 1's delay time.

Tap3 Position [%] [0...100]

Sets the delay time of Tap 3, as a percentage of Tap 1's delay time.

Level and Pan 1...3

Each tap has its own controls for level and pan.

Tap1...3 Level [0...100]

Sets the tap's output level.

Pan [L, 1...99, R]

Sets the tap's stereo position.

Feedback

Tap1...3 Feedback Amount [+/-100]

Sets the individual tap's feedback level. Negative values invert the phase. These individual levels are summed together, and then the final level is controlled by **Feedback Level**, below.

Feedback Level [Mod Sync] [0...100]

Sets the overall level of feedback.

Source [Off...Tempo]

Selects the modulation source for the **Feedback Level**.

Amount [+/-100]

Sets the modulation amount for the **Feedback Level**.

Tone

High Damp [%] [0...100]

This cuts the high frequencies in both the main output and the feedback. Higher settings create a darker tone.

Low Damp [%] [0...100]

This cuts the low frequencies in both the main output and the feedback. Higher settings mean less low-end.

Saturation [0...100]

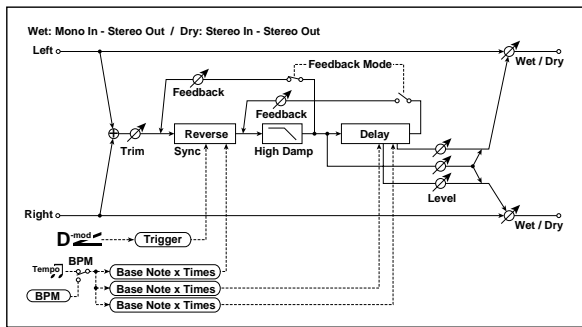
This models the distortion of an analog tape delay.

OUTPUT

This is the standard effects output section, with modulatable control over wet/dry balance. For more information, see "OUTPUT" on page 820.

099: Reverse BPM Delay

This is a reverse-playback delay that lets you synchronize the delay time to the tempo of the song.



INPUT

Input Level Dmod [%] [+/-100]

Sets the modulation amount of the input level.

Source [Off...Tempo]

Selects the modulation source for the input level.

REVERSE DELAY

BPM [MIDI, 40.00...240.00]

MIDI syncs to the system tempo; 40-240 sets the tempo manually for this individual effect. p.883.

Time Over? > [---, OVER!]

The maximum delay time is 900msec. If the combination of **BPM**, **Base Note**, and **Times** exceeds this limit, the error message "OVER!" will appear. If this occurs, change the delay time parameters so that this message no longer appears.

Reverse Base Note [Musical Note]

This sets the basic length of the Reverse Delay, relative to the BPM setting. The values range from a 32nd note to a whole note, including triplets.

Times [x1...x32]

This multiplies the length of the Base Note. For instance, if the Base Note is set to a sixteenth note, and Times is set to 3, the delay length will be a dotted eighth note.

Level [0...100]

Sets the output level of the reverse playback.

R Delay Base Note [Musical Note]

This sets the basic length of the Right Delay, relative to the BPM setting.

Times [x1...x32]

This multiplies the length of the Right Delay's Base Note.

L Post-Delay Base Note [Musical Note]

This sets the basic length of the Left Post-Delay, relative to the BPM setting.

Times [x1...x32]

This multiplies the length of the Left Post-Delay's Base Note.

Level [0...100]

Sets the output level of the Left Post-Delay.

R Post-Delay Base Note [Musical Note]

This sets the basic length of the Right Post-Delay, relative to the BPM setting.

Times [x1...x32]

This multiplies the length of the Right Post-Delay's Base Note.

Level [0...100]

Sets the output level of the Right Post-Delay.

Feedback Mode [Reverse, Reverse/Forward]

Selects the feedback mode: reverse playback, or alternating reverse and forward playback. p.899.

Feedback [+/-100]

Sets the feedback amount.

Source [Off...Tempo]

Selects the modulation source of feedback amount.

Amount [+/-100]

Sets the feedback amount.

High Damp [%] [0...100]

Sets the damping amount in the high range.

Sync Source

[Off...Tempo]

Selects the modulation source that will reset the point at which the sound is captured for reverse playback.
p.900.

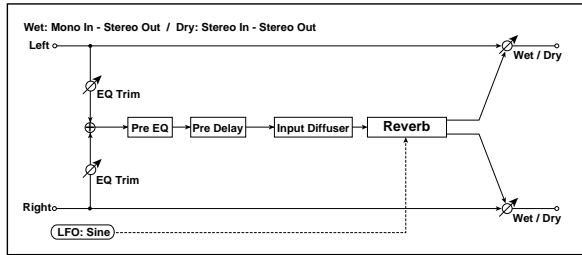
OUTPUT

This is the standard effects output section, with modulatable control over wet/dry balance. For more information, see "OUTPUT" on page 820.

Reverb and Early Reflections

100: Overb

The O-Verb features a high-quality, diffusion-based reverb core. In addition to setting the size of the room, you can model its shape and materials by adjusting the diffusion characteristics of both the initial reflections and the main reverberant wash, and via separate controls for the high, mid, and low decay times. The O-Verb also includes randomization, for richer and smoother reverb timbres.



Pre EQ

There are two fully parametric bands of peaking EQ, for adjusting the reverb timbre. These affect only the reverb, and not the dry signal. Both bands have identical parameters.

Trim [0...100]

Sets the EQ input level.

Band 1

Band 1 [Check-box]

Switches the first band of EQ band on and off.

Fc [Hz] [200...20.00k]

Sets the center frequency of Band 1.

Q [0.5...10.0]

Sets the bandwidth of Band 1.

Gain [dB] [-18.0...+18.0]

Sets the gain of Band 1.

Band 2

Band 2 has the same parameters as Band 1, above.

Rolloff

Rolloff [0...100]

This controls a lowpass filter on the output of the effect. Settings around 6-8kHz are good for producing a warm, smooth sound.

REVERB

Pre Delay [msec] [0...1360]

Sets the delay time from the dry sound.

Diffusion 1 [0...100]

Diffusion 1 and **2** soften the sound before it enters the reverb core, shaping the timbre of the initial reflections. Setting both diffusers to around 50 generally produces sufficient diffusion for smooth reverbs; extremely high levels may cause ringing.

Some source material, such as vocals, may also benefit from lower settings of diffusion, allowing for more discrete echoes.

Diffusion1 and **Diffusion2** differ in how the reflections are spaced, and the balance between these two parameters will vary the character of the reverb.

Diffusion2 [0...100]

This is the second diffuser for the initial reflections. For more information, see "Diffusion1," above.

Size [5...100]

Sets the size of the space.

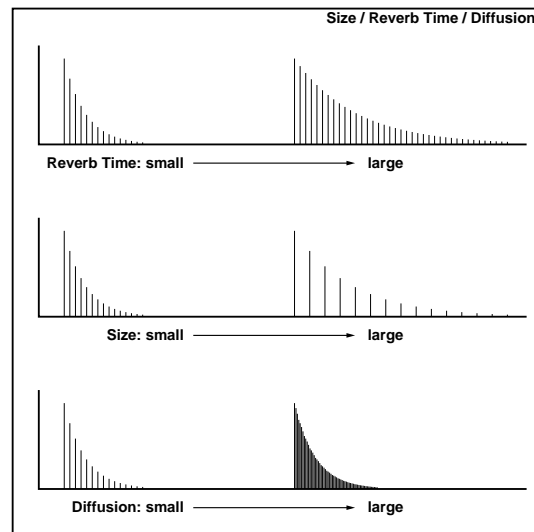
Time [0...100]

This sets the main reverberation time. The **Damping** and (bass) **Gain** parameters, below, let you adjust the decay times separately for the high and low frequencies, respectively.

Diffusion [0...100]

This sets the density of reflections within the main reverb. Low settings will produce more discrete echoes, and high settings will produce a smoother reverb. Extremely high settings may cause ringing.

Reverb Size, Time, and Diffusion



Damping [0...100]

This sets the cutoff of the high-frequency damping filter. If **Damping** is set to 100, the high frequencies will decay at the same rate as the low frequencies; at 0, the high frequencies will decay almost instantly.

In real acoustic spaces, high frequencies generally delay somewhat faster than low frequencies, so moderate amounts of damping will create a more realistic sound.

Bass Crossover [Hz] [20...24.00k]

Sets the crossover frequency for the Bass Gain.

Gain [dB] [-12.0...+6.0]

This lets you tailor the decay time of the reverb's low frequencies, using the frequency set by the Bass Crossover. Negative settings make the low frequencies decay faster than the main reverb; positive settings make them decay more slowly.

MODULATION

Rate [0.02...5.00]

The O-Verb includes randomization in the reverberant wash, to diminish resonant peaks and add a rich character to the sound. The **Rate** determines the speed of the randomization.

Depth [0...100]

This determines the intensity of the randomization.

OUTPUT

This is the standard effects output section, with modulatable control over wet/dry balance. For more information, see "OUTPUT" on page 820.

101: Reverb Hall

This hall-type reverb simulates the reverberation of mid-size concert halls or ensemble halls. For detailed explanations of the parameters, see "104: Reverb Dry Plate" on page 914.

102: Reverb Smooth Hall

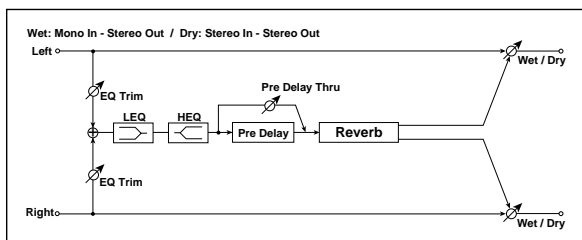
This hall-type reverb simulates the reverberation of larger halls and stadiums, and creates a smooth release. For detailed explanations of the parameters, see "104: Reverb Dry Plate" on page 914.

103: Reverb Wet Plate

This plate reverb simulates warm (dense) reverberation. For detailed explanations of the parameters, see "104: Reverb Dry Plate" on page 914.

104: Reverb Dry Plate

This plate reverb simulates dry, light reverberation.



Pre EQ

Trim [0...100]

Sets the EQ input level.

LEQ Fc [Low, Mid-Low]

Selects the cutoff frequency (low or mid-low) of the low-range equalizer.

LEQ Gain [dB] [-15.0...+15.0]

Sets the gain of the Low EQ.

HEQ Fc [High, Mid-High]

Selects the cutoff frequency (high or mid-high) of the high-range equalizer.

HEQ Gain [dB] [-15.0...+15.0]

Sets the gain of the High EQ.

REVERB

Reverb Time [sec] [0.1...10.0]

Sets the reverberation time.

High Damp [%] [0...100]

Sets the damping amount in the high range.

Pre Delay [msec] [0...200]

Sets the delay time from the dry sound. p.915.

Pre Delay Thru [%] [0...100]

Sets the mix ratio of non-delay sound. p.915.

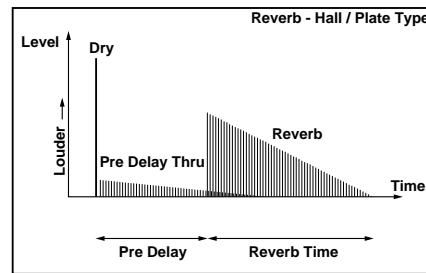
OUTPUT

This is the standard effects output section, with modulatable control over wet/dry balance. For more information, see "OUTPUT" on page 820.

Pre Delay [msec] and Pre Delay Thru [%]

The **Pre Delay** sets the delay time to the reverb input, allowing you to control spaciousness.

Using the **Pre Delay Thru** parameter, you can mix the dry sound without delay, emphasizing the attack of the sound.



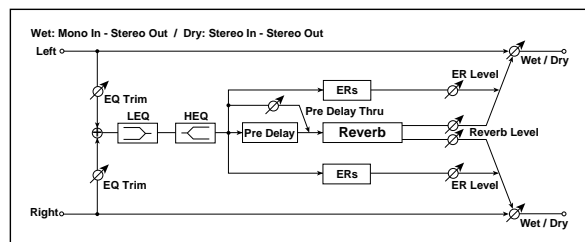
105: Reverb Room

This room-type reverb emphasizes the early reflections that make the sound tighter. Changing the balance between the early reflections and reverb sound allows

you to simulate nuances, such as the type of walls of a room. For detailed explanations of the parameters, see "106: Reverb Bright Room" on page 915.

106: Reverb Bright Room

This room-type reverb emphasizes the early reflections that make the sound brighter. See 056: Reverb Room.



Pre Delay [msec] [0...200]

Sets the delay time from the dry sound. p.915.

Pre Delay Thru [%] [0...100]

Sets the mix ratio of non-delay sound. p.915.

ER Level [0...100]

Sets the level of early reflections. p.915.

Reverb Level [0...100]

Sets the reverberation level. p.915.

Pre EQ

Trim [0...100]

Sets the EQ input level.

LEQ Fc [Low, Mid-Low]

Selects the cutoff frequency (low or mid-low) of the low-range equalizer.

LEQ Gain [dB] [-15.0...+15.0]

Sets the gain of the Low EQ.

HEQ Fc [High, Mid-High]

Selects the cutoff frequency (high or mid-high) of the high-range equalizer.

HEQ Gain [dB] [-15.0...+15.0]

Sets the gain of the High EQ.

REVERB

Reverb Time [sec] [0.1...3.0]

Sets the reverberation time.

High Damp [%] [0...100]

Sets the damping amount in the high range.

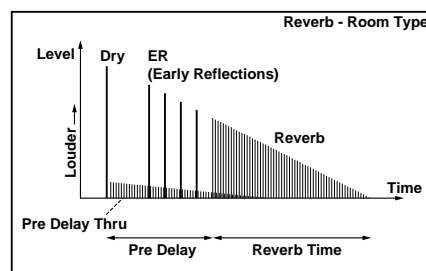
OUTPUT

This is the standard effects output section, with modulatable control over wet/dry balance. For more information, see "OUTPUT" on page 820.

ER Level and Reverb Level

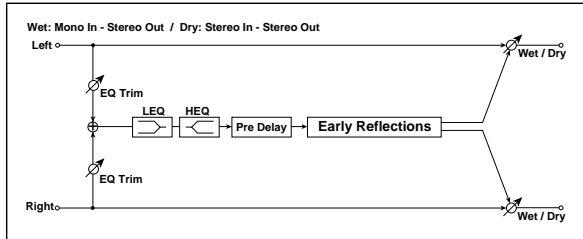
These parameters set the early reflection level and reverb level.

Changing these parameter values allows you to simulate the type of walls in the room. That is, a larger "ER Level" simulates a hard wall, and a larger "Reverb Level" simulates a soft wall.



107: Early Reflections

This effect is only the early reflection part of a reverberation sound, and adds presence to the sound. You can select one of the four decay curves.



Pre EQ

Trim [0...100]

Sets the input level of EQ applied to the effect sound.

LEQ Fc [Low, Mid-Low]

Selects the cutoff frequency (low or mid-low) of the low-range equalizer.

LEQ Gain [dB] [-15.0...+15.0]

Sets the gain of the Low EQ.

HEQ Fc [High, Mid-High]

Selects the cutoff frequency (high or mid-high) of the high-range equalizer.

HEQ Gain [dB] [-15.0...+15.0]

Sets the gain of the High EQ.

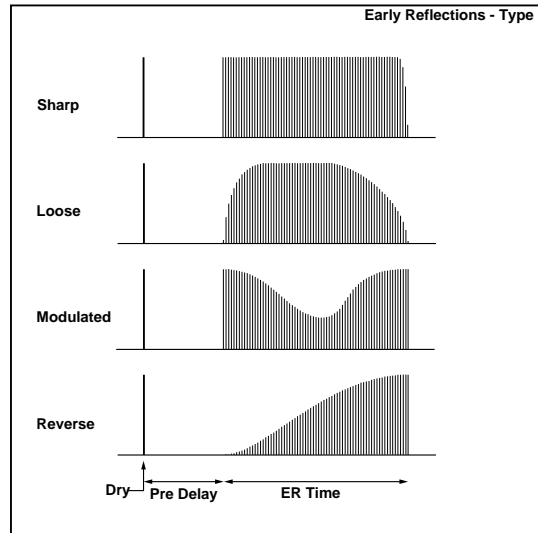
EARLY REFLECTIONS

Pre Delay [msec] [0...200]

Sets the time taken from the original sound to the first early reflection.

Type [Sharp, Loose, Modulated, Reverse]

This parameter selects the decay curve for the early reflections.



ER Time [msec] [10...800]

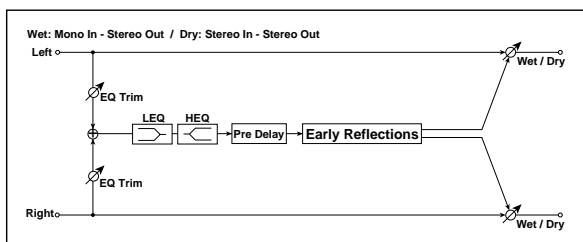
Sets the time length of early reflection.

OUTPUT

This is the standard effects output section, with modulatable control over wet/dry balance. For more information, see "OUTPUT" on page 820.

108: Early Reflections Hi Dens

This early reflection effect has more precise early reflections with twice the maximum length of 107: Early Reflections. You can create a very smooth and dense sound.



Pre EQ

Trim [0...100]

Sets the input level of EQ applied to the effect sound.

LEQ Fc [Low, Mid-Low]

Selects the cutoff frequency (low or mid-low) of the low-range equalizer.

LEQ Gain [dB] [-15.0...+15.0]

Sets the gain of the Low EQ.

HEQ Fc [High, Mid-High]

Selects the cutoff frequency (high or mid-high) of the high-range equalizer.

HEQ Gain [dB] [-15.0...+15.0]

Sets the gain of the High EQ.

EARLY REFLECTIONS

Pre Delay [msec] [0...200]

Sets the time taken from the original sound to the first early reflection.

Type [Sharp, Loose, Modulated, Reverse]

Selects the decay curve for the early reflections. For more information, see "Type" on page 916.

ER Time [msec] [10...1600]

Sets the time length of early reflection.

OUTPUT

This is the standard effects output section, with modulatable control over wet/dry balance. For more information, see "OUTPUT" on page 820.

Mono-Mono Serial

109: P4EQ - Exciter through 140: Reverb - Gate provide serial chains of mono effects. These include various combinations of EQ, Compressor, Limiter, Exciter, Overdrive, Wah, Chorus/Flanger, Phaser, Multitap Delay, Gate, and Reverb, as described below.

PARAMETRIC EQ

For a description of the on-screen EQ graphic, see “011: Stereo Parametric 4EQ” on page 832.

Trim [0...100]

Sets the parametric EQ input level.

Band1 Fc [Hz] [20...1.00k]

Sets the center frequency of Band 1.

Q [0.5...10.0]

Sets the bandwidth of Band 1. For more information, please see “Q” on page 832.

Gain [dB] [-18...+18]

Sets the gain of Band 1.

Band2 Fc [Hz] [50...5.00k]

Sets the center frequency of Band 2.

Q [0.5...10.0]

Sets the bandwidth of Band 2.

Gain [dB] [-18...+18]

Sets the gain of Band 2.

Band3 Fc [Hz] [300...10.00k]

Sets the center frequency of Band 3.

Q [0.5...10.0]

Sets the bandwidth of Band 3.

Gain [dB] [-18...+18]

Sets the gain of Band 3.

Band4 Fc [Hz] [500...20.00k]

Sets the center frequency of Band 4.

Q [0.5...10.0]

Sets the bandwidth of Band 4.

Gain [dB] [-18...+18]

Sets the gain of Band 4.

EXCITER

Emphasis Frequency [0...70]

Sets the frequency range to be emphasized. For more information, see “Emphasis Frequency” on page 835.

Exciter Blend [+/-100]

Sets the intensity (depth) of the Exciter effect. For more information, see “Blend” on page 835.

MULTITAP DELAY

Tap1 Time [msec] [0.0...1360.0]

Sets the Tap1 delay time.

Tap2 Time [msec] [0.0...1360.0]

Sets the Tap2 delay time.

Tap1 Level [0...100]

Sets the Tap1 output level. For more information, see “Tap1 Level” on page 894.

Feedback (Tap2) [+/-100]

Sets the Tap2 feedback amount.

High Damp [%] [0...100]

Sets the damping amount in the high range.

Wet/Dry  [Dry, 1:99...99:1, Wet]

Sets the multitap delay effect balance. For more information, see “Pan” on page 885.

Source [Off...Tempo]

Selects the Wet/Dry modulation source for the multitap delay.

Amount [+/-100]

Sets the Wet/Dry modulation amount for the multitap delay.

COMPRESSOR

For details on the Compressor graphics, see “001: Stereo Dyna Compressor” on page 819.

Sensitivity [1...100]

Sets the sensitivity. For more information, see “Sensitivity” on page 819.

Attack [1...100]

Sets the attack level. For more information, see “Attack” on page 820.

Output Level [0...100]

Sets the compressor output level. For more information, see “OUTPUT” on page 820.

LIMITER

For details on the Limiter graphics, see “005: Stereo Limiter” on page 826.

Ratio [1.0:1...50.0:1, Inf:1]

Sets the signal compression ratio. For more information, see “Ratio” on page 821.

Threshold [dB] [-40...0]

Sets the level above which the compressor is applied. For more information, see “Threshold [dB]” on page 822.

Attack [1...100]

Sets the attack time. For more information, see “Attack [msec]” on page 822.

Release [1...100]

Sets the release time. For more information, see “Release [msec]” on page 822.

Gain Adjust [dB] [-Inf, -38...+24]

Sets the limiter output gain. For more information, see “Gain Adjust [dB]” on page 822.

Pre EQ**Trim** [0...100]

Sets the EQ input level.

Pre LEQ Gain [dB] [-15...+15]

Sets the gain of the Low EQ.

Pre HEQ Gain [dB] [-15...+15]

Sets the gain of the High EQ

OD/HI-GAIN**DRIVE**

For more information on these parameters, see “DRIVE” on page 848.

Drive Mode [Overdrive, Hi-Gain]

Switches between overdrive and high-gain distortion.

Drive [1...100]

Sets the degree of distortion.

Output Level  [0...50]

Sets the overdrive output level.

Source [Off...Tempo]

Selects the modulation source for the overdrive output level.

Amount [-50...+50]

Sets the modulation amount of the overdrive output level.

EQ**Low Fc [Hz]** [20...1.00k]

Sets the center frequency for low-frequency shelving EQ.

Gain [dB] [-18...+18]

Sets the gain of the Low EQ.

Mid1 Fc [Hz] [300...10.00k]

Sets the center frequency for Mid/High EQ 1 (peaking type).

Q [0.5...10.0]

Sets the band width of Mid/High EQ 1. For more information, see “Q” on page 832.

Gain [dB] [-18...+18]

Sets the gain of Mid/High EQ 1.

Mid2 Fc [Hz] [500...20.00k]

Sets the center frequency for Mid/High EQ 2 (peaking type).

Q [0.5...10.0]

Sets the band width of Mid/High EQ 2. For more information, see “Q” on page 832.

Gain [dB] [-18...+18]

Sets the gain of Mid/High EQ 2.

WAH**CONTROL****Sweep Mode** [Auto, Dmod, LFO]

Selects the control from auto-wah, modulation source, and LFO. See “Sweep Mode” on page 836.

Source  [Off...Tempo]

Selects the modulation source for the wah when Sweep Mode=Dmod.

LFO**Frequency [Hz]** [0.02...20.00]

Sets the LFO speed.

WAH**Frequency Bottom** [0...100]

Sets the lower limit of the wah center frequency. p.837.

Frequency Top [0...100]

Sets the upper limit of the wah center frequency. p.837.

Resonance [0...100]

Sets the resonance amount.

LPF [Check-box]

Switches the wah low pass filter on and off.

Wet/Dry  [Dry, 1:99...99:1, Wet]

Sets the wah effect balance.

Source [Off...Tempo]

Selects the Wet/Dry modulation source for the wah.

Amount [+/-100]

Sets the Wet/Dry modulation amount for the wah.

CHORUS/FLANGER

This effect can produce either chorusing or flanging, depending on the settings.

The default settings create flanging.

To produce a chorus effect instead, change the settings as follows:

- **Frequency [Hz]:** 0.80
- **Delay Time [msec]:** 20.0

- Depth: 70
- Feedback: +0

LFO

Waveform [Triangle, Sine]

Selects the LFO Waveform.

Frequency [Hz] [0.02...20.00]

Sets the LFO speed.

FLANGER

Delay Time [msec] [0.0...1350.0]

Sets the delay time.

Depth [0...100]

Sets the depth of LFO modulation.

Feedback [+/-100]

This controls the intensity of the flanger effect. Positive and negative values create different timbres. To produce a chorus effect instead of flanging, set this to +0.

Mixing the processed and dry signals via **Wet/Dry** will enhance the effect. For maximum intensity, set **Feedback** and **Wet/Dry** so that they are either both positive or both negative; this emphasizes the flanger's harmonic peaks.


Output Mode [Normal, Wet Invert]

Normal sends the output of the chorus/flanger to both outputs with the same phase.

Wet Invert flips the phase of the chorus/flanger's right channel. This creates a pseudo-stereo effect, adding depth to the sound.

However, if a mono-input effect is connected after this effect, the left and right sounds may cancel each other, eliminating the chorus/flanger effect.

Some of the Mono-Mono Serial effects include a **Routing** parameter, which allows you to swap the order of the effects. When the **Routing** is set so that the Chorus/Flanger comes first (such as **Flanger > Comp** or **Flanger > OD/HG**), the Output Mode will be grayed out; internally, it will act as if set to **Normal**.

Wet/Dry  [-Wet...-1:99, Dry, 1: 99...Wet]

Sets the balance between the "wet" processed sound and the dry input. Negative values invert the phase of the wet signal. This interacts with **Feedback**, as described above.

Note: 138: Cho/Flanger - Multitap Dly does not include Wet/Dry modulation for the Chorus/Flanger section.

Source [Off...Tempo]

Selects the Wet/Dry modulation source for the chorus/flanger.

Amount [+/-100]

Sets the Wet/Dry modulation amount for the chorus/flanger.

PHASER

LFO

Waveform [Triangle, Sine]

Selects the LFO Waveform.

Frequency [Hz] [0.02...20.00]

Sets the LFO speed.

PHASER

Manual [0...100]

Sets the phaser's center frequency.

Depth [0...100]

Sets the depth of LFO modulation.


Resonance [+/-100]

This controls the intensity of the phaser effect. Positive and negative values create different timbres.

Mixing the processed and dry signals via **Wet/Dry** will enhance the effect. For maximum intensity, set **Resonance** and **Wet/Dry** so that they are either both positive or both negative; this emphasizes the phaser's harmonic peaks.

Output Mode [Normal, Wet Invert]

Selects whether the phaser output is mono or pseudo-stereo. For more information, see the Chorus/Flanger "Output Mode," above.

Wet/Dry  [-Wet...-1:99, Dry, 1: 99...Wet]

Sets the balance between the "wet" processed sound and the dry input. Negative values invert the phase of the wet signal. This interacts with **Resonance**, as described above.

Note: 139: Phaser - Chorus/Flanger does not include Wet/Dry modulation for the Phaser section.

Source [Off...Tempo]

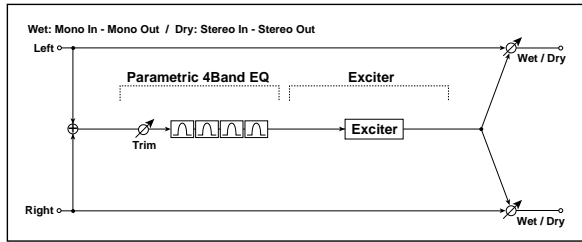
Selects the Wet/Dry modulation source for the phaser.

Amount [+/-100]

Sets the Wet/Dry modulation amount for the phaser.

109: P4EQ - Exciter

This effect combines a mono four-band parametric equalizer and an exciter.



PARAMETRIC EQ

This is a 4-band parametric EQ. For detailed information, see "PARAMETRIC EQ" on page 918.

EXCITER

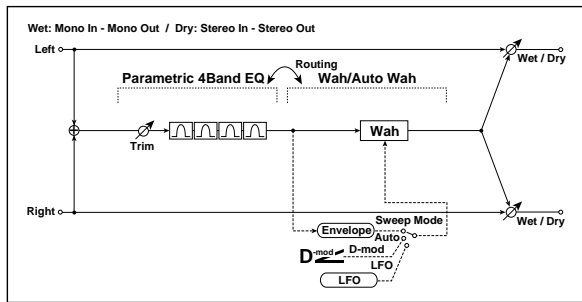
For detailed information on the effects parameters, see "EXCITER" on page 918.

OUTPUT

This is the standard effects output section, with modulatable control over wet/dry balance. For more information, see "OUTPUT" on page 820.

110: P4EQ - Wah

This effect combines a mono four-band parametric equalizer and a wah. You can change the order of the connection.



PARAMETRIC EQ

This is a 4-band parametric EQ. For detailed information, see "PARAMETRIC EQ" on page 918.

WAH

For detailed information, see "WAH" on page 919.

OUTPUT

This is the standard effects output section, with modulatable control over wet/dry balance. For more information, see "OUTPUT" on page 820.

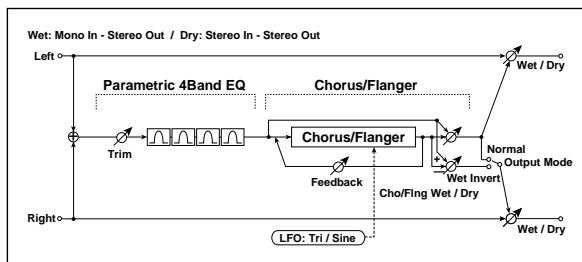
Routing

Routing [P4EQ > Wah, Wah > P4EQ]

Changes the order of the parametric equalizer and wah connection.

111: P4EQ - Chorus/Flanger

This effect combines a mono four-band parametric equalizer and a chorus/flanger.



CHORUS/FLANGER

This effect can produce either chorusing or flanging, depending on the settings. For detailed information, see "CHORUS/FLANGER" on page 919.

OUTPUT

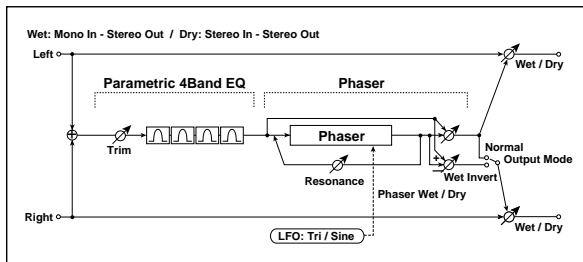
This is the standard effects output section, with modulatable control over wet/dry balance. For more information, see "OUTPUT" on page 820.

PARAMETRIC EQ

This is a 4-band parametric EQ. For detailed information, see "PARAMETRIC EQ" on page 918.

112: P4EQ - Phaser

This effect combines a mono four-band parametric equalizer and a phaser.



PARAMETRIC EQ

This is a 4-band parametric EQ. For detailed information, see "PARAMETRIC EQ" on page 918.

PHASER

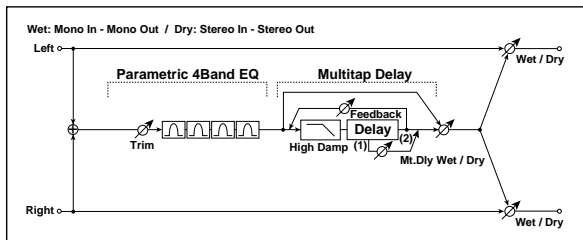
This is a mono phaser effect. For detailed information, see "PHASER" on page 920.

OUTPUT

This is the standard effects output section, with modulatable control over wet/dry balance. For more information, see "OUTPUT" on page 820.

113: P4EQ - Multitap Delay

This effect combines a mono four-band parametric equalizer and a multitap delay.



PARAMETRIC EQ

This is a 4-band parametric EQ. For detailed information, see "PARAMETRIC EQ" on page 918.

MULTITAP DELAY

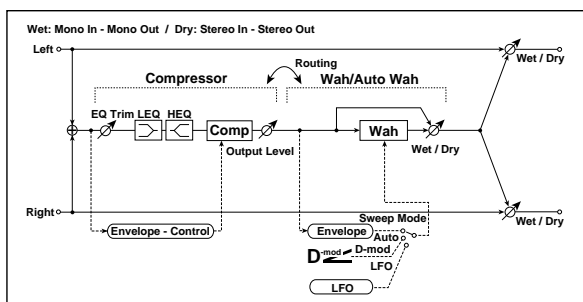
This is a 2-tap delay. For detailed information, see "MULTITAP DELAY" on page 918.

OUTPUT

This is the standard effects output section, with modulatable control over wet/dry balance. For more information, see "OUTPUT" on page 820.

114: Comp - Wah

This effect combines a mono compressor and a wah. You can change the order of the connection.



COMPRESSOR

For detailed information, see "COMPRESSOR" on page 918.

WAH

For detailed information, see "WAH" on page 919.

OUTPUT

This is the standard effects output section, with modulatable control over wet/dry balance. For more information, see "OUTPUT" on page 820.

Routing

Routing [Comp > Wah, Wah > Comp]

Switches the order of the compressor and wah.

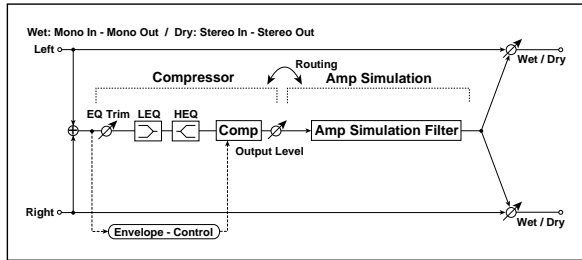
COMPRESSOR

Pre EQ

For detailed information, see "Pre EQ" on page 919.

115: Comp - Amp Sim

This effect combines a mono compressor and an amp simulation. You can change the order of the effects.



Routing

Routing [Comp > Amp, Amp > Comp]

Switches the order of the compressor and amp simulation.

COMPRESSOR

Pre EQ

For detailed information, see "Pre EQ" on page 919.

COMPRESSOR

For detailed information, see "COMPRESSOR" on page 918.

AMP SIM

Amplifier Type [SS, EL84, 6L6]

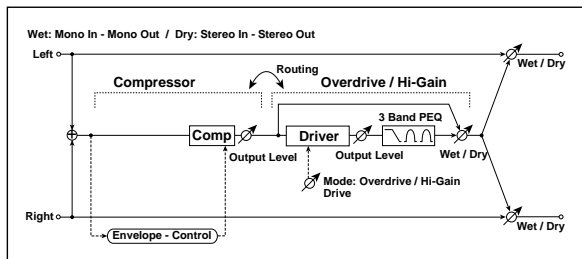
Selects the type of guitar amplifier.

OUTPUT

This is the standard effects output section, with modulatable control over wet/dry balance. For more information, see "OUTPUT" on page 820.

116: Comp - OD/HiGain

This effect combines a mono compressor and an overdrive/high-gain distortion. You can change the order of the effects.



Routing

Routing [Comp > OD/HG, OD/HG > Comp]

Switches the order of the compressor and overdrive.

COMPRESSOR

For detailed information, see "COMPRESSOR" on page 918.

OD/HI-GAIN

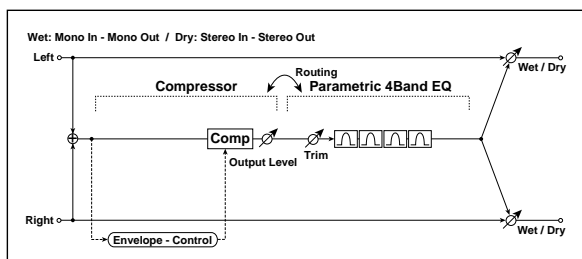
For detailed information, see "OD/HI-GAIN" on page 919.

OUTPUT

This is the standard effects output section, with modulatable control over wet/dry balance. For more information, see "OUTPUT" on page 820.

117: Comp - P4EQ

This effect combines a mono compressor and a four-band parametric equalizer. You can change the order of the effects.



Routing

Routing [Comp > P4EQ, P4EQ > Comp]

Switches the order of the compressor and parametric EQ.

COMPRESSOR

For detailed information, see "COMPRESSOR" on page 918.

PARAMETRIC EQ

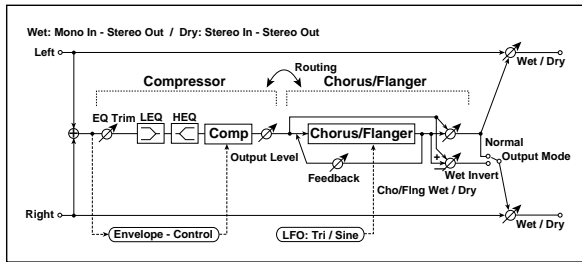
This is a 4-band parametric EQ. For detailed information, see "PARAMETRIC EQ" on page 918.

OUTPUT

This is the standard effects output section, with modulatable control over wet/dry balance. For more information, see “OUTPUT” on page 820.

118: Comp - Chorus/Flanger

This effect combines a mono compressor and a chorus/flanger. You can change the order of the effects.



Routing

Routing [Comp > Flanger, Flanger > Comp]

Switches the order of the compressor and chorus/flanger.

When **Routing** is set to **Flanger > Comp**, the Chorus/Flanger’s **Output Mode** will be grayed out and internally set to **Normal**.

COMPRESSOR

Pre EQ

For detailed information, see “Pre EQ” on page 919.

COMPRESSOR

For detailed information, see “COMPRESSOR” on page 918.

CHORUS/FLANGER

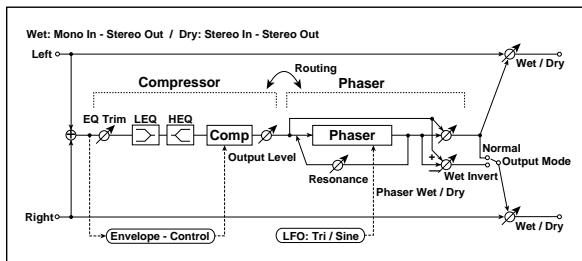
This effect can produce either chorusing or flanging, depending on the settings. For detailed information, see “CHORUS/FLANGER” on page 919.

OUTPUT

This is the standard effects output section, with modulatable control over wet/dry balance. For more information, see “OUTPUT” on page 820.

119: Comp - Phaser

This effect combines a mono compressor and a phaser. You can change the order of the effects.



Routing

Routing [Comp > Phaser, Phaser > Comp]

Switches the order of the compressor and phaser.

When **Routing** is set to **Phaser > Comp**, the Phaser’s **Output Mode** will be grayed out and internally set to **Normal**.

PHASER

Pre EQ

For detailed information, see “Pre EQ” on page 919.

LFO and PHASER

This is a mono phaser effect. For detailed information, see “PHASER” on page 920.

OUTPUT

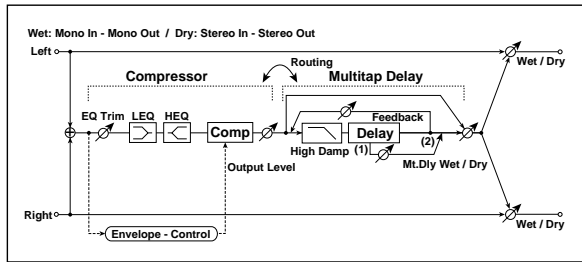
This is the standard effects output section, with modulatable control over wet/dry balance. For more information, see “OUTPUT” on page 820.

COMPRESSOR

For detailed information, see “COMPRESSOR” on page 918.

120: Comp - Multitap Delay

This effect combines a mono compressor and a multitap delay. You can change the order of the effects.



Routing

Routing [Comp > Mt.Delay, Mt.Delay > Comp]

Switches the order of the compressor and multitap delay.

Pre EQ

For detailed information, see "Pre EQ" on page 919.

COMPRESSOR

For detailed information, see "COMPRESSOR" on page 918.

MULTITAP DELAY

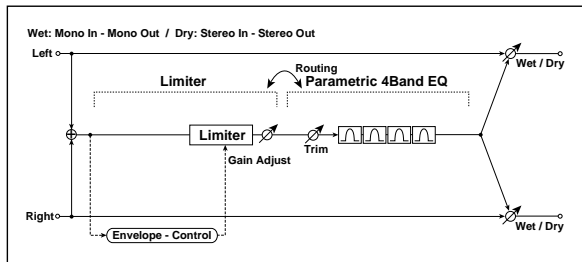
This is a 2-tap delay. For detailed information, see "MULTITAP DELAY" on page 918.

OUTPUT

This is the standard effects output section, with modulatable control over wet/dry balance. For more information, see "OUTPUT" on page 820.

121: Limiter - P4EQ

This effect combines a mono limiter and a four-band parametric equalizer. You can change the order of the effects.



Routing

Routing [Limiter > P4EQ, P4EQ > Limiter]

Switches the order of the limiter and parametric EQ.

LIMITER

For detailed information, see "LIMITER" on page 918.

PARAMETRIC EQ

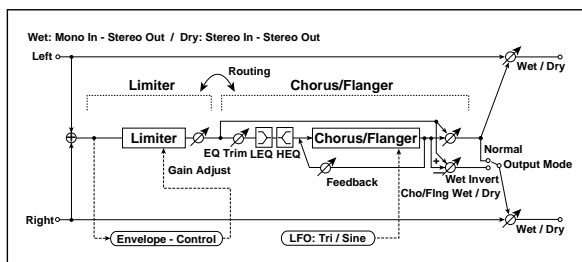
This is a 4-band parametric EQ. For detailed information, see "PARAMETRIC EQ" on page 918.

OUTPUT

This is the standard effects output section, with modulatable control over wet/dry balance. For more information, see "OUTPUT" on page 820.

122: Limiter - Chorus/Flanger

This effect combines a mono limiter and a chorus/flanger. You can change the order of the effects.



Routing

Routing [Limiter > Flanger, Flanger > Limiter]

Switches the order of the limiter and chorus/flanger.

When **Routing** is set to **Flanger > Limiter**, the Chorus/Flanger's **Output Mode** will be grayed out and internally set to **Normal**.

LIMITER

For detailed information, see "LIMITER" on page 918.

CHORUS/FLANGER

Pre EQ

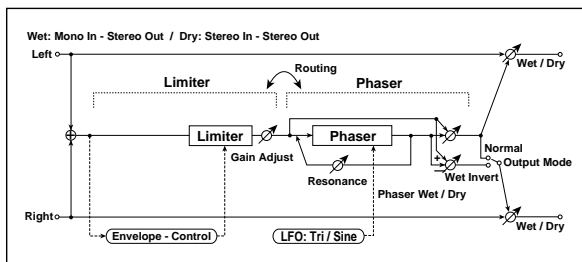
For detailed information, see “Pre EQ” on page 919.

LFO and FLANGER

This effect can produce either chorusing or flanging, depending on the settings. For detailed information, see “CHORUS/FLANGER” on page 919.

123: Limiter - Phaser

This effect combines a mono limiter and a phaser. You can change the order of the effects.



Routing

Routing [Limiter > Phaser, Phaser > Limiter]

Switches the order of the limiter and phaser.

OUTPUT

This is the standard effects output section, with modulatable control over wet/dry balance. For more information, see “OUTPUT” on page 820.

When **Routing** is set to **Phaser > Limiter**, the Phaser’s **Output Mode** will be grayed out and internally set to **Normal**.

LIMITER

For detailed information, see “LIMITER” on page 918.

PHASER

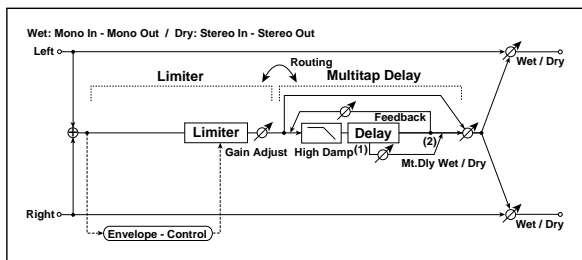
This is a mono phaser effect. For detailed information, see “PHASER” on page 920.

OUTPUT

This is the standard effects output section, with modulatable control over wet/dry balance. For more information, see “OUTPUT” on page 820.

124: Limiter - Multitap Delay

This effect combines a mono limiter and a multitap delay. You can change the order of the effect s.



Routing

Routing [Limiter > Mt.Delay, Mt.Delay > Limiter]

Switches the order of the limiter and multitap delay.

LIMITER

For detailed information, see “LIMITER” on page 918.

MULTITAP DELAY

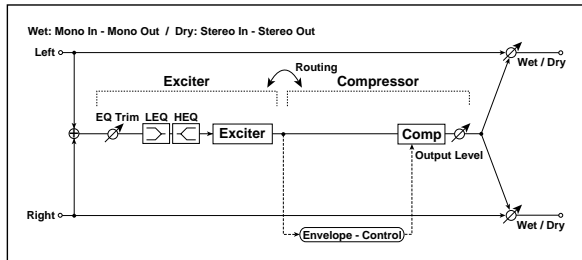
This is a 2-tap delay. For detailed information, see “MULTITAP DELAY” on page 918.

OUTPUT

This is the standard effects output section, with modulatable control over wet/dry balance. For more information, see “OUTPUT” on page 820.

125: Exciter - Comp

This effect combines a mono exciter and a compressor. You can change the order of the effects.



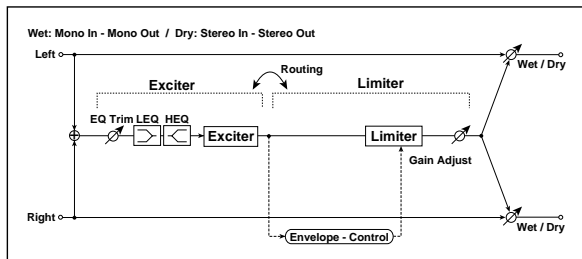
Routing

Routing [Exciter > Comp, Comp > Exciter]

Switches the order of the exciter and compressor.

126: Exciter - Limiter

This effect combines a mono exciter and a limiter. You can change the order of the effects.



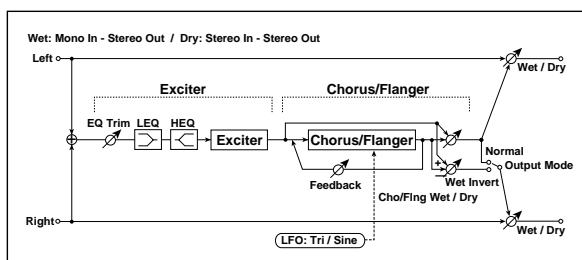
Routing

Routing [Exciter > Limiter, Limiter > Exciter]

Switches the order of the exciter and limiter.

127: Exciter - Chorus/Flanger

This effect combines a mono limiter and a chorus/flanger.



EXCITER

Pre EQ

For detailed information, see "Pre EQ" on page 919.

EXCITER

For detailed information, see "EXCITER" on page 918.

COMPRESSOR

For detailed information, see "COMPRESSOR" on page 918.

OUTPUT

This is the standard effects output section, with modulatable control over wet/dry balance. For more information, see "OUTPUT" on page 820.

EXCITER

Pre EQ

For detailed information, see "Pre EQ" on page 919.

EXCITER

For detailed information, see "EXCITER" on page 918.

LIMITER

For detailed information, see "LIMITER" on page 918.

OUTPUT

This is the standard effects output section, with modulatable control over wet/dry balance. For more information, see "OUTPUT" on page 820.

EXCITER

Pre EQ

For detailed information, see "Pre EQ" on page 919.

EXCITER

For detailed information, see "EXCITER" on page 918.

CHORUS/FLANGER

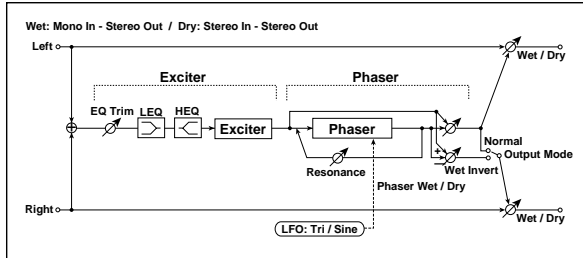
This effect can produce either chorusing or flanging, depending on the settings. For detailed information, see "CHORUS/FLANGER" on page 919.

OUTPUT

This is the standard effects output section, with modulatable control over wet/dry balance. For more information, see “OUTPUT” on page 820.

128: Exciter - Phaser

This effect combines a mono limiter and a phaser.



EXCITER

Pre EQ

For detailed information, see “Pre EQ” on page 919.

EXCITER

For detailed information, see “EXCITER” on page 918.

PHASER

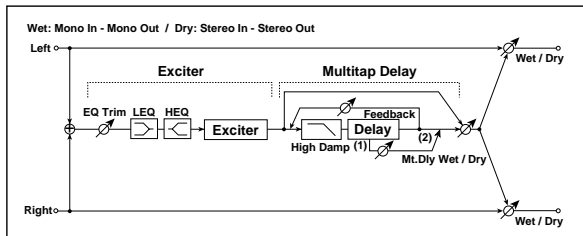
This is a mono phaser effect. For detailed information, see “PHASER” on page 920.

OUTPUT

This is the standard effects output section, with modulatable control over wet/dry balance. For more information, see “OUTPUT” on page 820.

129: Exciter - Multitap Delay

This effect combines a mono exciter and a multitap delay.



EXCITER

Pre EQ

For detailed information, see “Pre EQ” on page 919.

EXCITER

For detailed information, see “EXCITER” on page 918.

MULTITAP DELAY

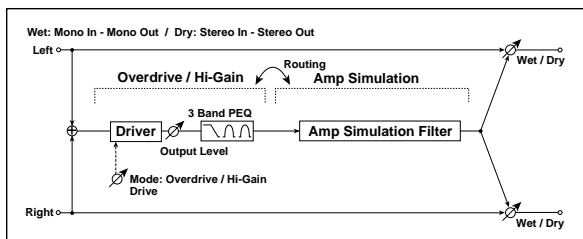
This is a 2-tap delay. For detailed information, see “MULTITAP DELAY” on page 918.

OUTPUT

This is the standard effects output section, with modulatable control over wet/dry balance. For more information, see “OUTPUT” on page 820.

130: OD/Hi Gain - Amp Sim

This effect combines a mono overdrive/high-gain distortion and an amp simulation. You can change the order of the effects.



Routing

Routing [OD/HG > Amp, Amp > OD/HG]

Switches the order of the overdrive and amp.

OD/HI-GAIN

For detailed information, see “OD/HI-GAIN” on page 919.

AMP SIM

Amplifier Type

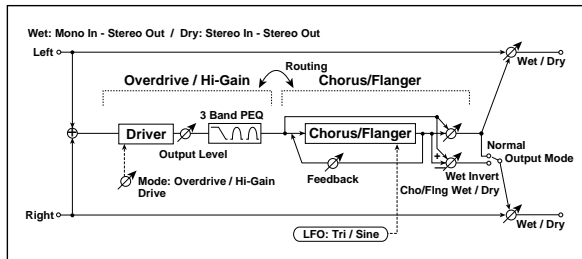
[SS, EL84, 6L6]

Selects the type of guitar amplifier.

OUTPUT

This is the standard effects output section, with modulatable control over wet/dry balance. For more information, see “OUTPUT” on page 820.

131: OD/Hi Gain - Cho/Flanger



This effect combines a mono overdrive/high-gain distortion and a chorus/flanger. You can change the order of the effects.

Routing

Routing [OD/HG > Flanger, Flanger > OD/HG]

Switches the order of the overdrive and chorus / flanger.

When **Routing** is set to **Flanger > OD/HG**, the Chorus/Flanger’s **Output Mode** will be grayed out and internally set to **Normal**.

OD/HI-GAIN

For detailed information, see “OD/HI-GAIN” on page 919.

CHORUS/FLANGER

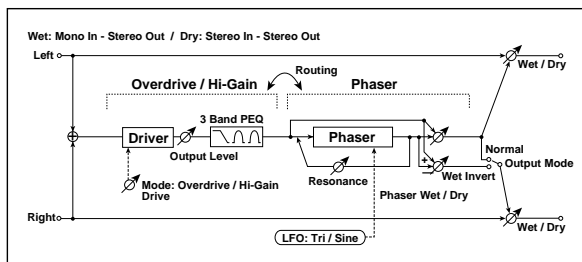
This effect can produce either chorusing or flanging, depending on the settings. For detailed information, see “CHORUS/FLANGER” on page 919.

OUTPUT

This is the standard effects output section, with modulatable control over wet/dry balance. For more information, see “OUTPUT” on page 820.

132: OD/Hi Gain - Phaser

This effect combines a mono overdrive/high-gain distortion and a phaser. You can change the order of the effects.



Routing

Routing [OD/HG > Phaser, Phaser > OD/HG]

Switches the order of the overdrive and phaser.

When **Routing** is set to **Phaser > OD/HG**, the Phaser’s **Output Mode** will be grayed out and internally set to **Normal**.

OD/HI-GAIN

For detailed information, see “OD/HI-GAIN” on page 919.

PHASER

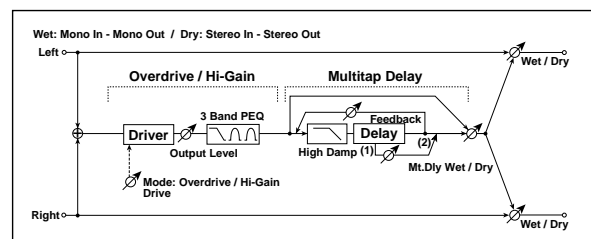
This is a mono phaser effect. For detailed information, see “PHASER” on page 920.

OUTPUT

This is the standard effects output section, with modulatable control over wet/dry balance. For more information, see “OUTPUT” on page 820.

133: OD/Hi Gain - Multitap Dly

This effect combines a mono overdrive/high-gain distortion and a multitap delay



OD/HI-GAIN

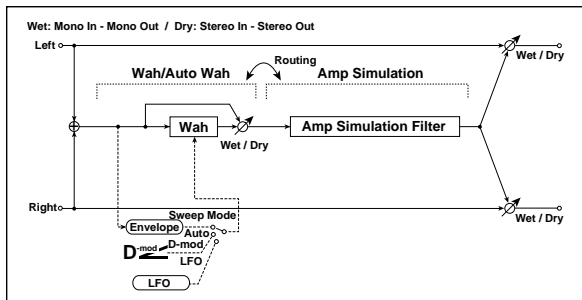
For detailed information, see “OD/HI-GAIN” on page 919.

MULTITAP DELAY

For detailed information, see “MULTITAP DELAY” on page 918.

134: Wah - Amp Sim

This effect combines a mono wah and an amp simulation. You can change the order of the effects.



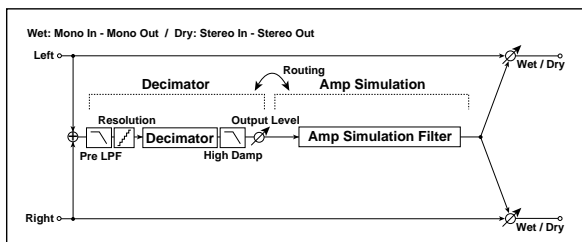
Routing

Routing [Wah > Amp, Amp > Wah]

Switches the order of the wah and amp simulation.

135: Decimator - Amp Sim

This effect combines a mono decimator and an amp simulation. You can change the order of the effects.



Routing

Routing [Decimator > Amp, Amp > Decimator]

Switches the order of the decimator and amp simulation.

DECIMATOR

Pre LPF [Check-box]

Turn the harmonic noise caused by lowered sampling on and off. See “Pre LPF” on page 843.

Sampling Frequency [Hz] [1.00k...48.00k]

Sets the sampling frequency.

High Damp [%] [0...100]

Sets the ratio of high-range damping.

OUTPUT

This is the standard effects output section, with modulatable control over wet/dry balance. For more information, see “OUTPUT” on page 820.

WAH

For detailed information, see “WAH” on page 919.

AMP SIM

Amplifier Type [SS, EL84, 6L6]

Selects the type of guitar amplifier.

OUTPUT

This is the standard effects output section, with modulatable control over wet/dry balance. For more information, see “OUTPUT” on page 820.

BIT SHAPE

For more information on these parameters, see “Resolution [bits]” on page 843.

Resolution [bits] [4...24]

Sets the data bit length.

Output Level [0...100]

Sets the decimator output level.

AMP SIM

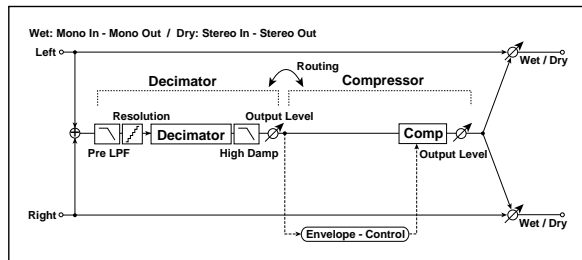
Amplifier Type [SS, EL84, 6L6]

Selects the type of guitar amplifier.

OUTPUT

This is the standard effects output section, with modulatable control over wet/dry balance. For more information, see “OUTPUT” on page 820.

136: Decimator - Comp



This effect combines a mono decimator and a compressor. You can change the order of the effects.

Routing

Routing [Decimator > Comp, Comp > Decimator]

Switches the order of the decimator and compressor.

DECIMATOR

Pre LPF [Check-box]

Enables and disables a filter which prevents aliasing noise. See "Pre LPF" on page 843.

Sampling Frequency [Hz] [1.00k...48.00k]

Sets the sampling frequency.

High Damp [%] [0...100]

Sets the ratio of high-range damping.

BIT SHAPE

For more information on these parameters, see "Resolution [bits]" on page 843.

Resolution [bits] [4...24]

Sets the data bit length.

Output Level [0...100]

Sets the decimator output level.

COMPRESSOR

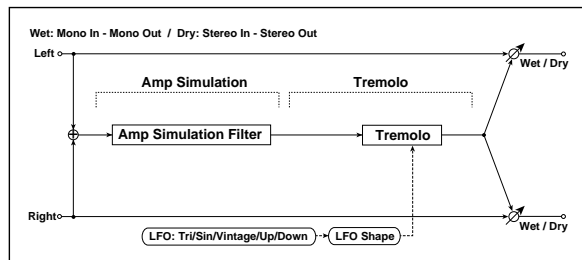
For detailed information, see "COMPRESSOR" on page 918.

OUTPUT

This is the standard effects output section, with modulatable control over wet/dry balance. For more information, see "OUTPUT" on page 820.

137: Amp Sim - Tremolo

This effect combines a mono amp simulation and a tremolo.



AMP SIM

Amplifier Type [SS, EL84, 6L6]

Selects the type of guitar amplifier.

TREMOLO

LFO

Waveform [Triangle, Sine, Vintage, Up, Down]

Selects the LFO Waveform. See "Waveform" on page 875.

Shape [+/-100]

Changes the curvature of the LFO Waveform. See "Shape" on page 840.

Frequency [Hz] [0.02...20.00]

Sets the LFO speed.

TREMOLO

Depth [0...100]

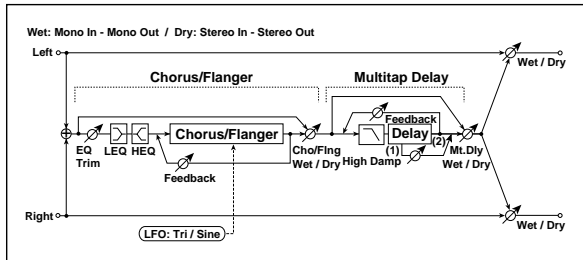
Sets the depth of LFO modulation.

OUTPUT

This is the standard effects output section, with modulatable control over wet/dry balance. For more information, see "OUTPUT" on page 820.

138: Cho/Flanger - Multitap Dly

This effect combines a mono chorus/flanger and a multitap delay.



CHORUS/FLANGER

Pre EQ

For detailed information, see “Pre EQ” on page 919.

LFO and FLANGER

This effect can produce either chorusing or flanging, depending on the settings. For detailed information, see “CHORUS/FLANGER” on page 919.

Note: Unlike the other Mono-Mono Serial effects, this Chorus/Flanger does not include modulation of Wet/Dry.

MULTITAP DELAY

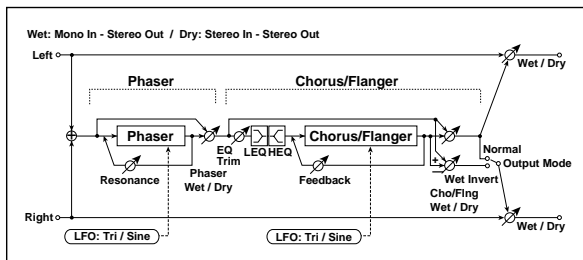
For detailed information, see “MULTITAP DELAY” on page 918.

OUTPUT

This is the standard effects output section, with modulatable control over wet/dry balance. For more information, see “OUTPUT” on page 820.

139: Phaser - Chorus/Flanger

This effect combines a mono phaser and a chorus/flanger.



PHASER

This is a mono phaser effect. For detailed information, see “PHASER” on page 920.

CHORUS/FLANGER

Pre EQ

For detailed information, see “Pre EQ” on page 919.

LFO and FLANGER

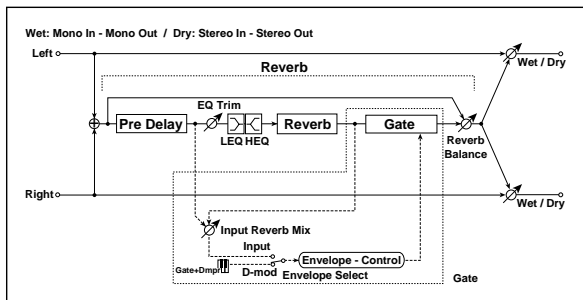
This effect can produce either chorusing or flanging, depending on the settings. For detailed information, see “CHORUS/FLANGER” on page 919.

OUTPUT

This is the standard effects output section, with modulatable control over wet/dry balance. For more information, see “OUTPUT” on page 820.

140: Reverb - Gate

This effect combines a mono reverb and a gate.



REVERB

Pre EQ

Trim [0... 100]

Sets the EQ input level.

LEQ Fc [Low, Mid-Low]

Selects the cutoff frequency (low or mid-low) of the low-range equalizer.

LEQ Gain [dB] [-15.0...+15.0]

Sets the gain of the Low EQ.

HEQ Fc [High, Mid-High]

Selects the cutoff frequency (high or mid-high) of the high-range equalizer.

HEQ Gain [dB] [-15.0...+15.0]

Sets the gain of the High EQ.

REVERB**Pre Delay [msec]** [0...200]

Sets the delay time of the reverb sound and gate control signal.

High Damp [%] [0...100]

Sets the damping amount in the high range.

Reverb Time [sec] [0.1...10.0]

Sets the reverberation time.

Wet/Dry [Dry, 1:99...99:1, Wet]

Sets the reverb effect balance.

GATE

For details on the Gate graphics, see “009: Stereo Gate” on page 830.

CONTROL**Envelope Select** [Dmod, Input]This chooses whether the gate is triggered by the signal level, or controlled directly by the selected Dmod **Source**.When **Envelope Select** is set to **Input**, the gate is controlled by a blend of the dry audio input and the reverb output, as set by the **Input Reverb Mix**.**Source**  [Off...Tempo]Selects the modulation source that controls the gate when **Envelope Select** is set to **Dmod**.**Input Reverb Mix** [Dry, 1:99...99:1, Wet]

This mixes the dry input and reverb output signals, for controlling the gate.

Normally, set **Input Reverb Mix** to **Dry**, so that the gate is controlled only by the dry input. If you wish to extend the gate time, increase the **Input Reverb Mix** value to include some of the wet mix as well, and adjust the **Threshold**.**GATE****Threshold** [0...100]

Sets the gate threshold level. When the signal level exceeds the threshold, the gate opens and the reverb sound is heard.

Note that this applies only when **Envelope Select** is set to **Input**. When the gate is controlled via Dmod, it opens when the Dmod value is 64 or higher, and closes when the value is 63 or lower.**Attack** [1...100]

Sets the attack time. See “Attack” on page 830.

Release [1...100]

Sets the release time. See “Release” on page 830.

Polarity [+,-]

This lets you invert the gate on/off state. See “Polarity” on page 831.

OUTPUT

This is the standard effects output section, with modulatable control over wet/dry balance. For more information, see “OUTPUT” on page 820.

Mono/Mono Parallel

141: P4EQ // P4EQ through 185: Mt.BPM Dly//Mt.BPM Dly are parallel effects, with the left input going through one effect, and the right going through the other. These provide various combinations of 4-band EQ, Compressor, Limiter, Exciter, Overdrive, Wah, Chorus/Flanger, Phaser, and Multitap Delay, as described below.

4 band EQ

For a description of the on-screen EQ graphic, see “011: Stereo Parametric 4EQ” on page 832.

PARAMETRIC EQ

Trim [0...100]

Sets the input level.

Band1 Fc [Hz] [20...1.00k]

Sets the center frequency of Band 1.

Q [0.5...10.0]

Sets the bandwidth of Band 1. See “Q” on page 832.

Gain [dB] [-18.0...+18.0]

Sets the gain of Band 1.

Band2 Fc [Hz] [50...5.00k]

Sets the center frequency of Band 2.

Q [0.5...10.0]

Sets the bandwidth of Band 2. See “Q” on page 832.

Gain [dB] [-18.0...+18.0]

Sets the gain of Band 2.

Band3 Fc [Hz] [300...10.00k]

Sets the center frequency of Band 3.

Q [0.5...10.0]

Sets the bandwidth of Band3. See “Q” on page 832.

Gain [dB] [-18.0...+18.0]

Sets the gain of Band 3.

Band4 Fc [Hz] [500...20.00k]

Sets the center frequency of Band 4.

Q [0.5...10.0]

Sets the bandwidth of Band 4. See “Q” on page 832.

Gain [dB] [-18.0...+18.0]

Sets the gain of Band 4.

OUTPUT

Pan [L000...C064...R127]

Sets the stereo image.

Wet/Dry  [Dry, 1:99...99:1, Wet]

Sets the balance between the effect and the dry input.

Source [Off...Tempo]

Selects a modulation source for Wet/Dry.

Amount [+/-100]

Sets the modulation amount for Wet/Dry.

Compressor

For details on the Compressor graphics, see “001: Stereo Dyna Compressor” on page 819.

Pre EQ

Trim [0...100]

Sets the EQ input level.

LEQ Gain [dB] [-15...+15]

Sets the gain of the Low EQ.

HEQ Gain [dB] [-15...+15]

Sets the gain of the High EQ.

COMPRESSOR

Sensitivity [1...100]

Sets the sensitivity. See “Sensitivity” on page 819.

Attack [1...100]

Sets the attack level. See “Attack” on page 820.

Output Level [0...100]

Sets the output level.

OUTPUT

Pan [L000...C064...R127]

Sets the stereo image.

Wet/Dry  [Dry, 1:99...99:1, Wet]

Sets the balance between the effect and the dry input.

Source [Off...Tempo]

Selects a modulation source for Wet/Dry.

Amount [+/-100]

Sets the modulation amount for Wet/Dry.

Limiter

For details on the Limiter graphics, see “005: Stereo Limiter” on page 826.

LIMITER

Ratio [1.0:1...50.0:1, Inf:1]

Sets the signal compression ratio. See “Ratio” on page 821.

Threshold [dB] [-40...0]

Sets the level above which the compressor is applied. See “Threshold [dB]” on page 822.

Attack [1...100]

Sets the attack time. See “Attack [msec]” on page 822.

Release [1...100]

Sets the release time. See "Release [msec]" on page 822.

Gain Adjust [dB] [-Inf, -38...+24]

Sets the output gain. See "Gain Adjust [dB]" on page 822.

OUTPUT**Pan** [L000...C064...R127]

Sets the stereo image.

Wet/Dry D_{mod} [Dry, 1:99...99:1, Wet]

Sets the balance between the effect and the dry input.

Source [Off...Tempo]

Selects a modulation source for Wet/Dry.

Amount [+/-100]

Sets the modulation amount for Wet/Dry.

Exciter**Pre EQ****Trim** [0...100]

Sets the EQ input level.

LEQ Gain [dB] [-15...+15]

Sets the gain of the Low EQ.

HEQ Gain [dB] [-15...+15]

Sets the gain of the High EQ.

EXCITER**Emphasis Frequency** [0...70]

Sets the frequency range to be emphasized. See "Emphasis Frequency" on page 835.

Exciter Blend [+/-100]

Sets the intensity (depth) of the Exciter effect. See "Blend" on page 835.

OUTPUT**Pan** [L000...C064...R127]

Sets the stereo image.

Wet/Dry D_{mod} [Dry, 1:99...99:1, Wet]

Sets the balance between the effect and the dry input.

Source [Off...Tempo]

Selects a modulation source for Wet/Dry.

Amount [+/-100]

Sets the modulation amount for Wet/Dry.

OD/HI-GAIN**DRIVE**

For more information on these parameters, see "DRIVE" on page 848.

Drive Mode [Overdrive, Hi-Gain]

Switches between overdrive and high-gain distortion.

Drive [1...100]

Sets the degree of distortion.

Output Level D_{mod} [0...50]

Sets the output level.

Source [Off...Tempo]

Selects the modulation source for the output level.

Amount [-50...+50]

Sets the modulation amount of the output level.

EQ**Low Fc [Hz]** [20...1.00k]

Sets the center frequency for Low EQ (shelving type).

Gain [dB] [-18...+18]

Sets the gain of the Low EQ.

Mid1 Fc [Hz] [300...10.00k]

Sets the center frequency for Mid/High EQ 1 (peaking type).

Q [0.5...10.0]

Sets the band width of Mid/High EQ 1. See "Q" on page 832.

Gain [dB] [-18...+18]

Sets the gain of Mid/High EQ 1.

Mid2 Fc [Hz] [500...20.00k]

Sets the center frequency for Mid/High EQ 2 (peaking type).

Q [0.5...10.0]

Sets the band width of Mid/High EQ 2. See "Q" on page 832.

Gain [dB] [-18...+18]

Sets the gain of Mid/High EQ 2.

OUTPUT**Pan** [L000...C064...R127]

Sets the stereo image.

Wet/Dry D_{mod} [Dry, 1:99...99:1, Wet]

Sets the balance between the effect and the dry input.

Source [Off...Tempo]

Selects a modulation source for Wet/Dry.

Amount [+/-100]

Sets the modulation amount for Wet/Dry.

WAH

CONTROL

Sweep Mode [Auto, Dmod, LFO]

Selects the control from auto-wah, modulation source, and LFO. See "Sweep Mode" on page 836.

Source  [Off...Tempo]

Selects the modulation source for the wah when Sweep Mode=Dmod.

LFO

LFO Frequency [Hz] [0.02...20.00]

Sets the LFO speed.

WAH

Frequency Bottom [0...100]

Sets the lower limit of the wah center frequency. See "Frequency Bottom" on page 837.

Frequency Top [0...100]

Sets the upper limit of the wah center frequency. See "Frequency Bottom" on page 837.

Resonance [+0...+100]

Sets the resonance amount.


Low Pass Filter [Check-box]

Switches the wah low pass filter on and off.

OUTPUT

Pan [L000...C064...R127]

Sets the stereo image.

Wet/Dry  [Dry, 1:99...99:1, Wet]

Sets the balance between the effect and the dry input.

Source [Off...Tempo]

Selects a modulation source for Wet/Dry.

Amount [+/-100]

Sets the modulation amount for Wet/Dry.

Chorus/Flanger

Pre EQ

Trim [0...100]

Sets the EQ input level.

LEQ Gain [dB] [-15...+15]

Sets the gain of the Low EQ.

HEQ Gain [dB] [-15...+15]

Sets the gain of the High EQ.

LFO

Waveform [Triangle, Sine]

Selects the LFO Waveform.

Frequency [Hz] [0.02...20.00]

Sets the LFO speed.

FLANGER

Delay Time [msec] [0.0...1350.0]

Sets the delay time.

Depth [0...100]

Sets the depth of LFO modulation.

Feedback [+/-100]

Sets the feedback amount. See "Feedback" on page 864.

OUTPUT

Pan [L000...C064...R127]

Sets the stereo image.

Wet/Dry  [Dry, 1:99...99:1, Wet]

Sets the balance between the effect and the dry input.

Source [Off...Tempo]

Selects a modulation source for Wet/Dry.

Amount [+/-100]

Sets the modulation amount for Wet/Dry.

Phaser

LFO

Waveform [Triangle, Sine]

Selects the LFO Waveform.

Frequency [Hz] [0.02...20.00]

Sets the LFO speed.

PHASER

Manual [0...100]

Sets the frequency to which the effect is applied.

Depth [0...100]

Sets the depth of LFO modulation.

Resonance [+/-100]

Sets the resonance amount. See "Resonance" on page 866.

OUTPUT

Pan [L000...C064...R127]

Sets the stereo image.

Wet/Dry  [Dry, 1:99...99:1, Wet]

Sets the balance between the effect and the dry input.

Source [Off...Tempo]

Selects a modulation source for Wet/Dry.

Amount [+/-100]

Sets the modulation amount for Wet/Dry.

Multi-tap BPM Delay

MT DELAY

BPM  [MIDI, 40.00...240.00]

MIDI syncs to the system tempo; 40-240 sets the tempo manually for this individual effect. See "BPM" on page 883.

Time Over? > [---, OVER!]

Displays an error message when the delay time exceeds the upper limit. See "Time Over? R >" on page 905.

Tap1 Base Note  [♪... ♩]

Selects the type of notes to specify the delay time for Tap1. See "Base Note" on page 883.

Times [x1...x32]

Sets the number of notes to specify the delay time for Tap1. See "Times" on page 883.

Tap2 Base Note  [♪... ♩]

Selects the type of notes to specify the delay time for Tap2. See "Base Note" on page 883.

Times [x1...x32]

Sets the number of notes to specify the delay time for Tap2. See "Times" on page 883.

Tap1 Level [0...100]

Sets the Tap1 output level.

Feedback [+/-100]

Sets the Tap2 feedback amount.


High Damp [%] [0...100]

Sets the damping amount in the high range. See "High Damp [%]" on page 891.

OUTPUT

Pan [L000...C064...R127]

Sets the stereo image.

Wet/Dry  [Dry, 1:99...99:1, Wet]

Sets the balance between the effect and the dry input.

Source [Off...Tempo]

Selects a modulation source for Wet/Dry.

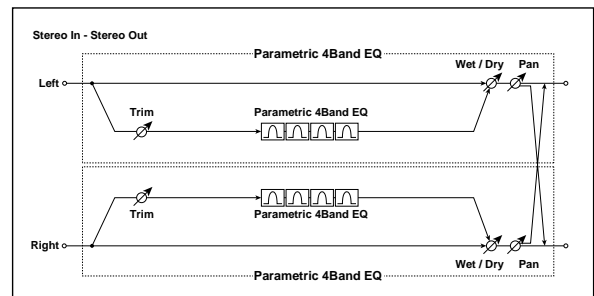
Amount [+/-100]

Sets the modulation amount for Wet/Dry.

141: P4EQ // P4EQ

This effect connects two four-band EQ units in parallel. The pan and effect balance can be adjusted independently for each.

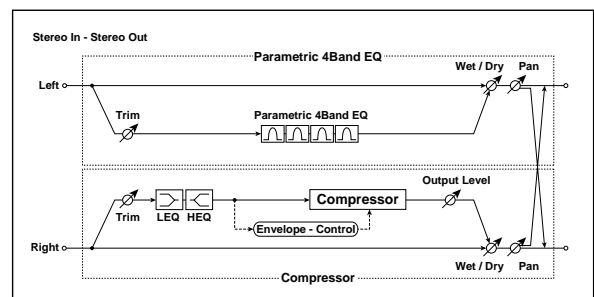
For detailed information on the effects parameters, see "4 band EQ" on page 934.



142: P4EQ // Comp

This effect connects a four-band EQ and a compressor in parallel. The pan and effect balance can be adjusted independently for each.

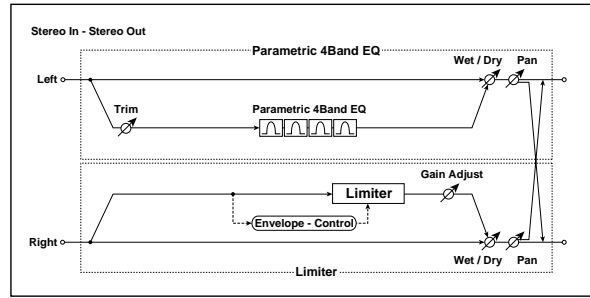
For detailed information on the effects parameters, see "4 band EQ" on page 934 and "Compressor" on page 934.



143: P4EQ // Limiter

This effect connects a four-band EQ (p.934) and a limiter (p.934) in parallel. The pan and effect balance can be adjusted independently for each.

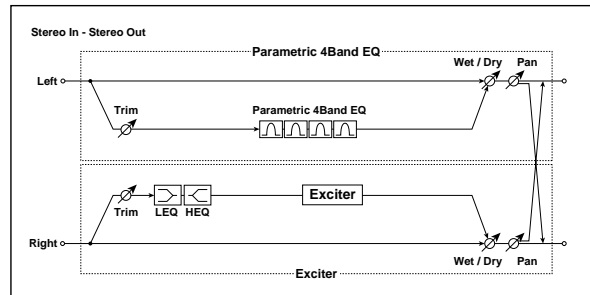
For detailed information on the effects parameters, see "4 band EQ" on page 934 and "Limiter" on page 934.



144: P4EQ // Exciter

This effect connects a four-band EQ and an exciter in parallel. The pan and effect balance can be adjusted independently for each.

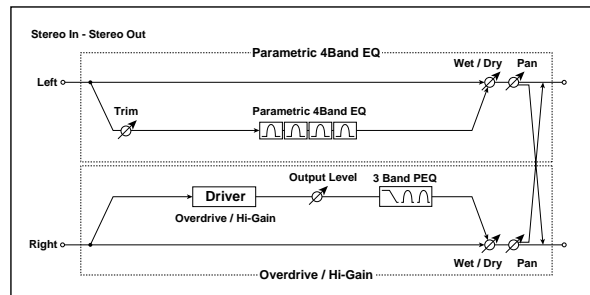
For detailed information on the effects parameters, see "4 band EQ" on page 934 and "Exciter" on page 935.



145: P4EQ // OD/Hi Gain

This effect connects a four-band EQ and an overdrive in parallel. The pan and effect balance can be adjusted independently for each.

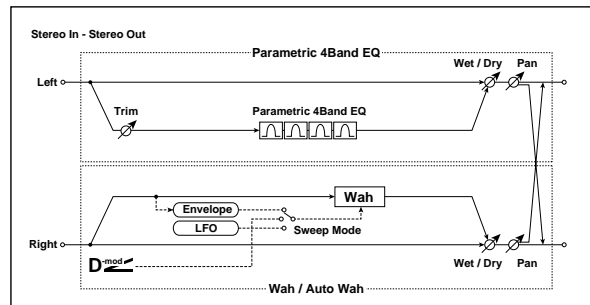
For detailed information on the effects parameters, see "4 band EQ" on page 934 and "OD/HI-GAIN" on page 935.



146: P4EQ // Wah

This effect connects a four-band EQ and a wah in parallel. The pan and effect balance can be adjusted independently for each.

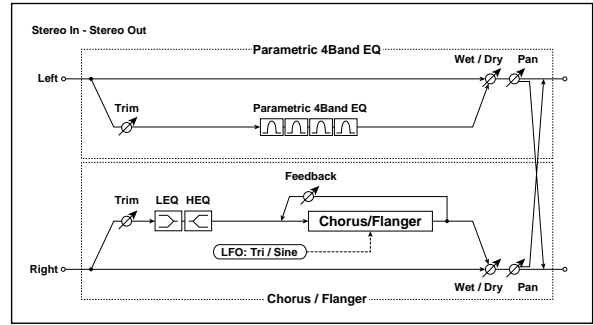
For detailed information on the effects parameters, see "4 band EQ" on page 934 and "WAH" on page 936.



147: P4EQ // Chorus/Flanger

This effect connects a four-band EQ and a chorus / flanger in parallel. The pan and effect balance can be adjusted independently for each.

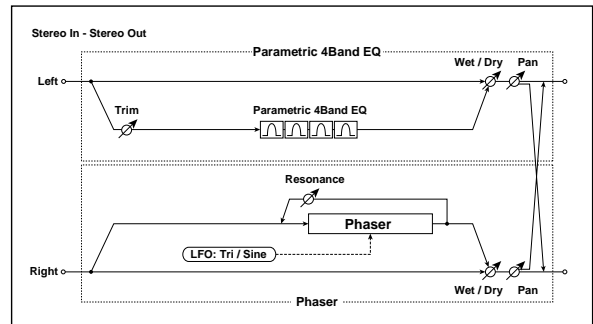
For detailed information on the effects parameters, see "4 band EQ" on page 934 and "Chorus/Flanger" on page 936.



148: P4EQ // Phaser

This effect connects a four-band EQ and a phaser in parallel. The pan and effect balance can be adjusted independently for each.

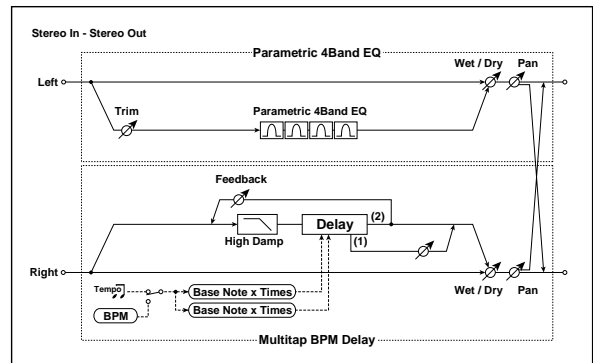
For detailed information on the effects parameters, see "4 band EQ" on page 934 and "Phaser" on page 936.



149: P4EQ // Multitap BPM Dly

This effect connects a four-band EQ and a multitap BPM delay in parallel. The pan and effect balance can be adjusted independently for each.

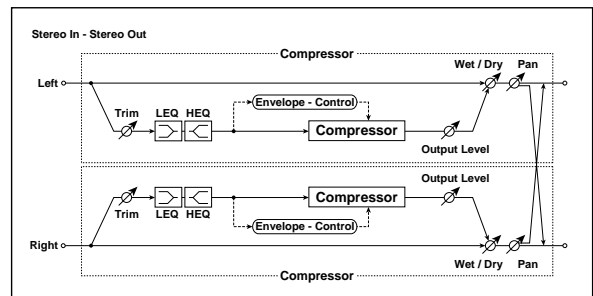
For detailed information on the effects parameters, see "4 band EQ" on page 934 and "Multi-tap BPM Delay" on page 937.



150: Comp // Comp

This effect connects two compressors in parallel. The pan and effect balance can be adjusted independently for each.

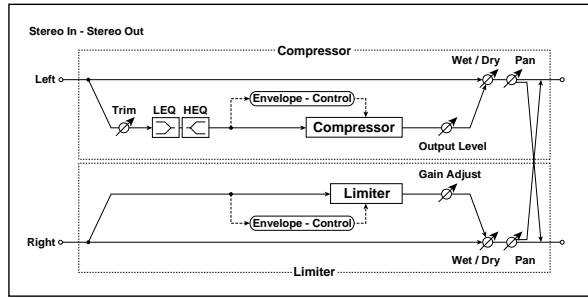
For detailed information on the effects parameters, see "Compressor" on page 934.



151: Comp // Limiter

This effect connects a compressor and a limiter in parallel. The pan and effect balance can be adjusted independently for each.

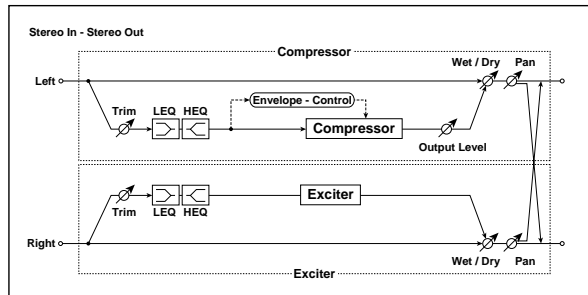
For detailed information on the effects parameters, see “Compressor” on page 934 and “Limiter” on page 934.



152: Comp // Exciter

This effect connects a compressor and an exciter in parallel. The pan and effect balance can be adjusted independently for each.

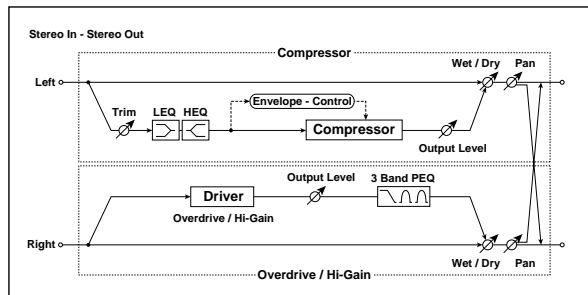
For detailed information on the effects parameters, see “Compressor” on page 934 and “Exciter” on page 935.



153: Comp // OD/Hi Gain

This effect connects a compressor and an overdrive in parallel. The pan and effect balance can be adjusted independently for each.

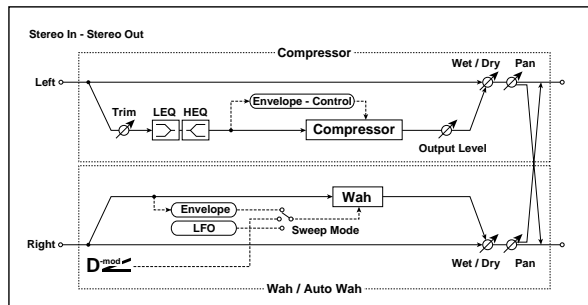
For detailed information on the effects parameters, see “Compressor” on page 934 and “OD/HI-GAIN” on page 935.



154: Comp // Wah

This effect connects a compressor and a wah in parallel. The pan and effect balance can be adjusted independently for each.

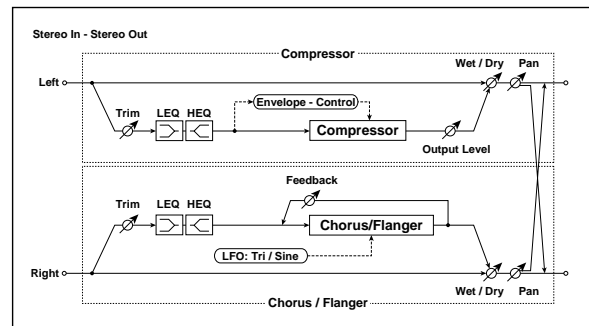
For detailed information on the effects parameters, see “Compressor” on page 934 and “WAH” on page 936.



155: Comp // Chorus/Flanger

This effect connects a compressor and a chorus / flanger in parallel. The pan and effect balance can be adjusted independently for each.

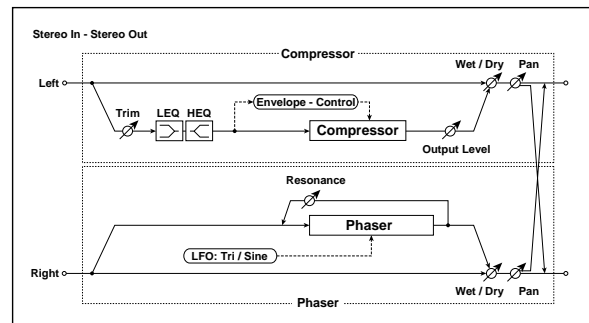
For detailed information on the effects parameters, see “Compressor” on page 934 and “Chorus/Flanger” on page 936.



156: Comp // Phaser

This effect connects a compressor and a phaser in parallel. The pan and effect balance can be adjusted independently for each.

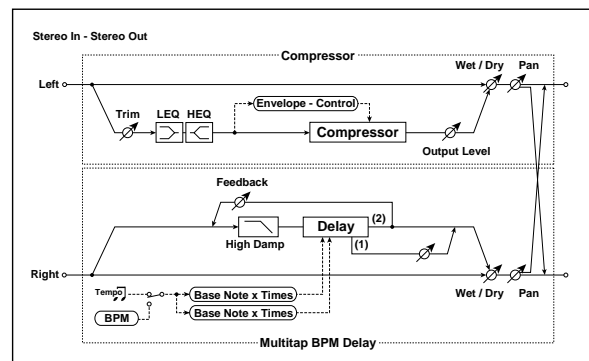
For detailed information on the effects parameters, see “Compressor” on page 934 and “Phaser” on page 936.



157: Comp // Multitap BPM Dly

This effect connects a compressor and a multitap BPM delay in parallel. The pan and effect balance can be adjusted independently for each.

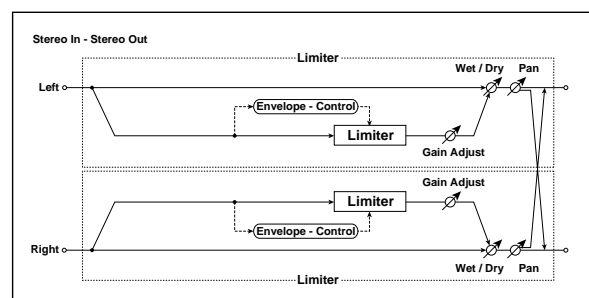
For detailed information on the effects parameters, see “Compressor” on page 934 and “Multi-tap BPM Delay” on page 937.



158: Limiter // Limiter

This effect connects two limiters units in parallel. The pan and effect balance can be adjusted independently for each.

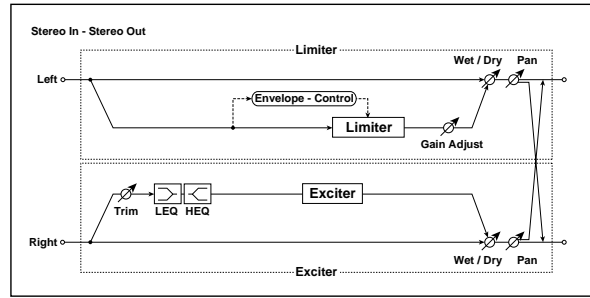
For detailed information on the effects parameters, see “Limiter” on page 934.



159: Limiter // Exciter

This effect connects a limiter and an exciter in parallel. The pan and effect balance can be adjusted independently for each.

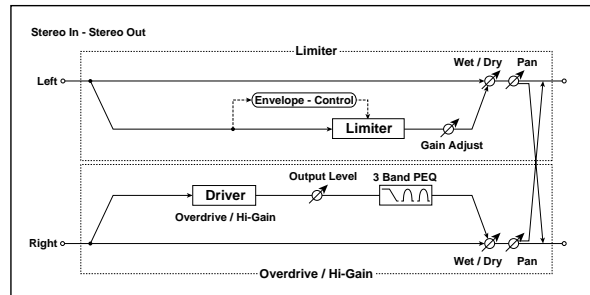
For detailed information on the effects parameters, see "Limiter" on page 934 and "Exciter" on page 935.



160: Limiter // OD/Hi Gain

This effect connects a limiter and an overdrive in parallel. The pan and effect balance can be adjusted independently for each.

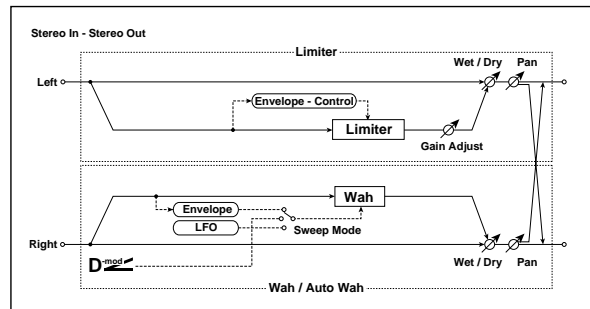
For detailed information on the effects parameters, see "Limiter" on page 934 and "OD/HI-GAIN" on page 935.



161: Limiter // Wah

This effect connects a limiter and a wah in parallel. The pan and effect balance can be adjusted independently for each.

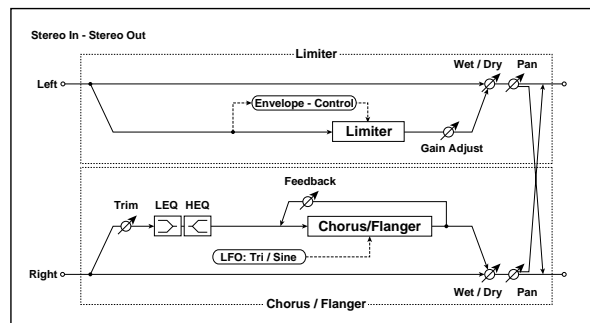
For detailed information on the effects parameters, see "Limiter" on page 934 and "WAH" on page 936.



162: Limiter // Chorus/Flanger

This effect connects a limiter and a chorus/flanger in parallel. The pan and effect balance can be adjusted independently for each.

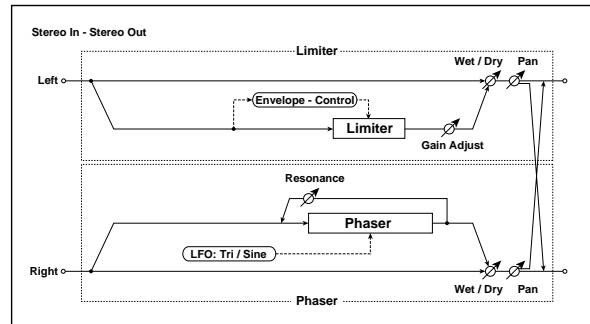
For detailed information on the effects parameters, see "Limiter" on page 934 and "Chorus/Flanger" on page 936.



163: Limiter // Phaser

This effect connects a limiter and a phaser in parallel. The pan and effect balance can be adjusted independently for each.

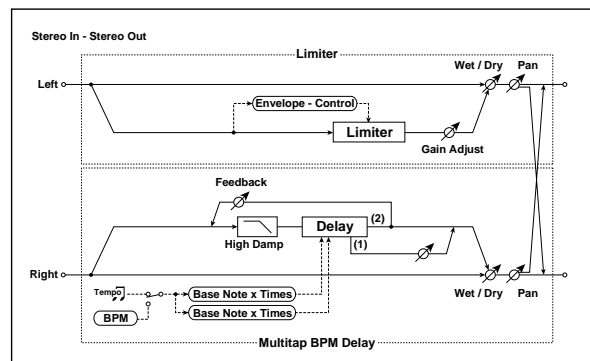
For detailed information on the effects parameters, see "Limiter" on page 934 and "Phaser" on page 936.



164: Limiter // Mtap BPM Dly

This effect connects a limiter and a multitap BPM delay in parallel. The pan and effect balance can be adjusted independently for each.

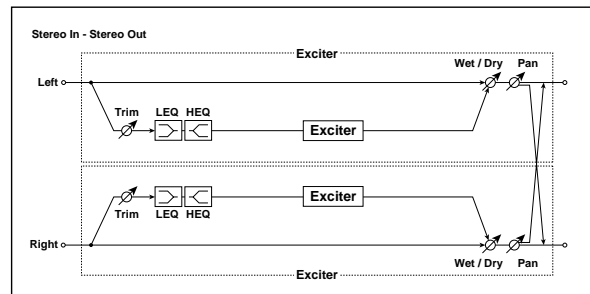
For detailed information on the effects parameters, see "Limiter" on page 934 and "Multi-tap BPM Delay" on page 937.



165: Exciter // Exciter

This effect connects two exciters in parallel. The pan and effect balance can be adjusted independently for each.

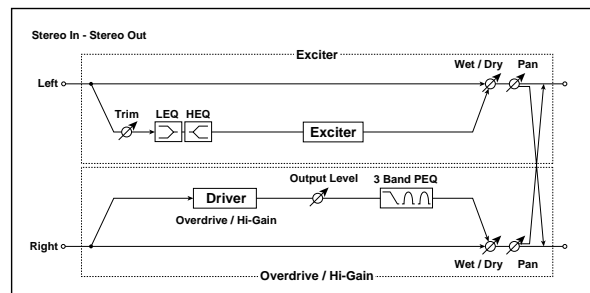
For detailed information on the effects parameters, see "Exciter" on page 935.



166: Exciter // OD/Hi Gain

This effect connects an exciter and an overdrive in parallel. The pan and effect balance can be adjusted independently for each.

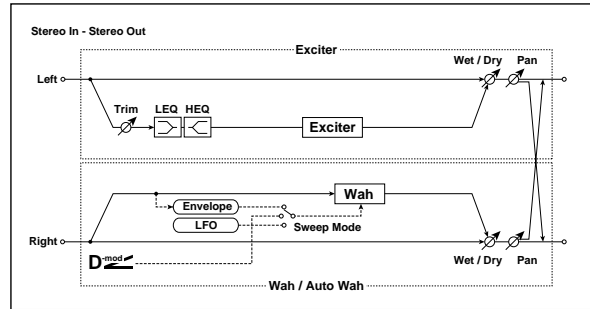
For detailed information on the effects parameters, see "Exciter" on page 935 and "OD/HI-GAIN" on page 935.



167: Exciter // Wah

This effect connects an exciter and a wah in parallel. The pan and effect balance can be adjusted independently for each.

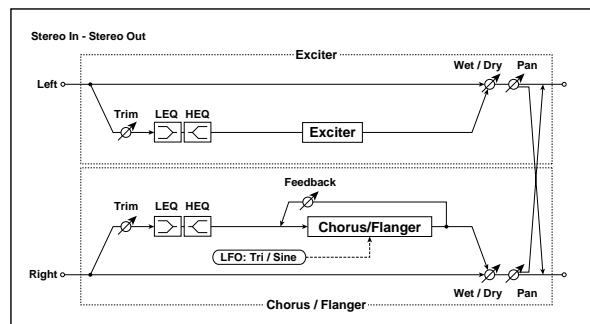
For detailed information on the effects parameters, see “Exciter” on page 935 and “WAH” on page 936.



168: Exciter // Chorus/Flanger

This effect connects an exciter and a chorus/flanger in parallel. The pan and effect balance can be adjusted independently for each.

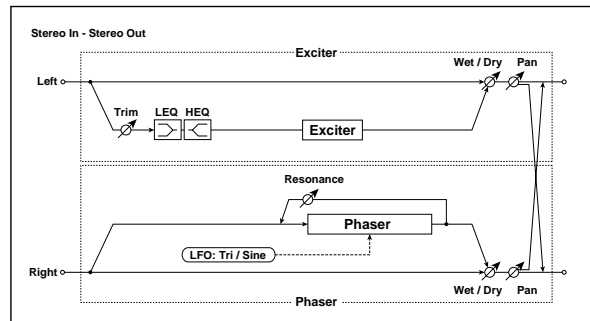
For detailed information on the effects parameters, see “Exciter” on page 935 and “Chorus/Flanger” on page 936.



169: Exciter // Phaser

This effect connects an exciter and a phaser in parallel. The pan and effect balance can be adjusted independently for each.

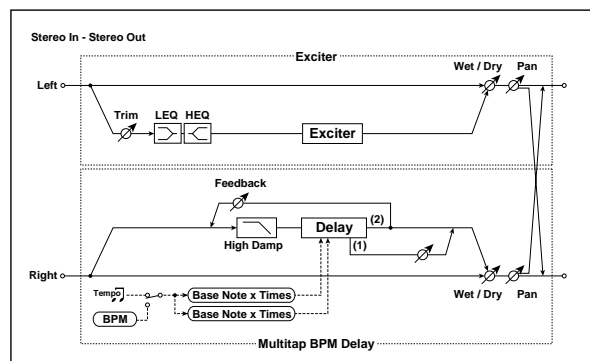
For detailed information on the effects parameters, see “Exciter” on page 935 and “Phaser” on page 936.



170: Exciter // Mtap BPM Dly

This effect connects an exciter and a multitap BPM delay in parallel. The pan and effect balance can be adjusted independently for each.

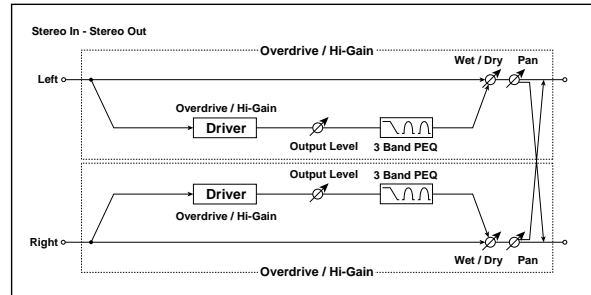
For detailed information on the effects parameters, see “Exciter” on page 935 and “Multi-tap BPM Delay” on page 937.



171: OD/Hi Gain // OD/Hi Gain

This effect connects two overdrives in parallel. The pan and effect balance can be adjusted independently for each.

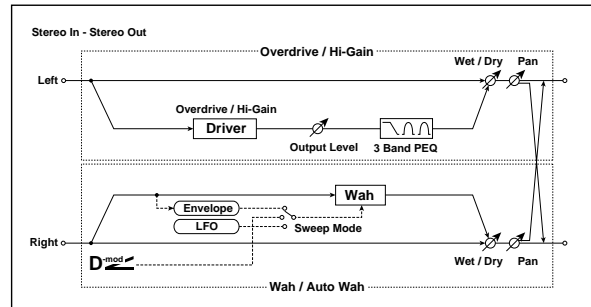
For detailed information on the effects parameters, see "OD/HI-GAIN" on page 935.



172: OD/Hi Gain // Wah

This effect connects an overdrive and a wah in parallel. The pan and effect balance can be adjusted independently for each.

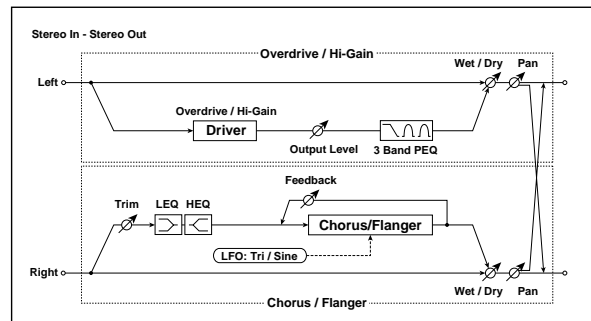
For detailed information on the effects parameters, see "OD/HI-GAIN" on page 935 and "WAH" on page 936.



173: OD/Hi Gain // Cho/Flanger

This effect connects an overdrive and a chorus / flanger in parallel. The pan and effect balance can be adjusted independently for each.

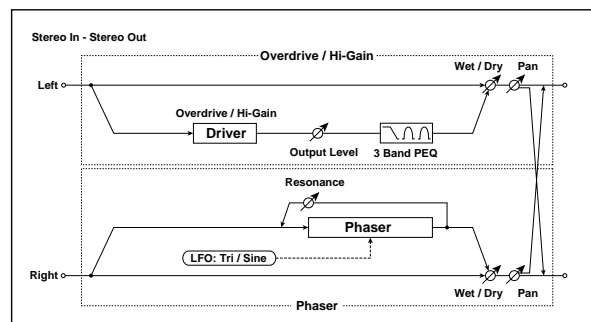
For detailed information on the effects parameters, see "OD/HI-GAIN" on page 935 and "Chorus/Flanger" on page 936.



174: OD/Hi Gain // Phaser

This effect connects an overdrive and a phaser in parallel. The pan and effect balance can be adjusted independently for each.

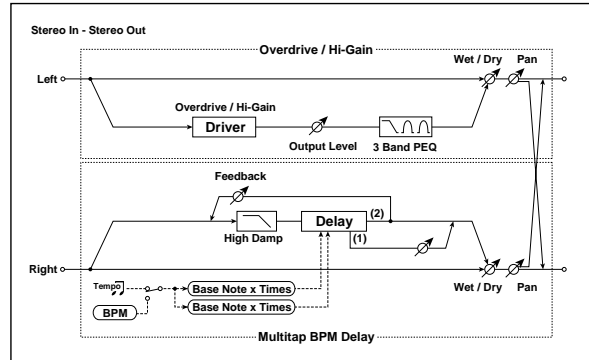
For detailed information on the effects parameters, see "OD/HI-GAIN" on page 935 and "Phaser" on page 936.



175: OD/Hi Gain // Mt BPM Dly

This effect connects an overdrive and a multitap BPM delay in parallel. The pan and effect balance can be adjusted independently for each.

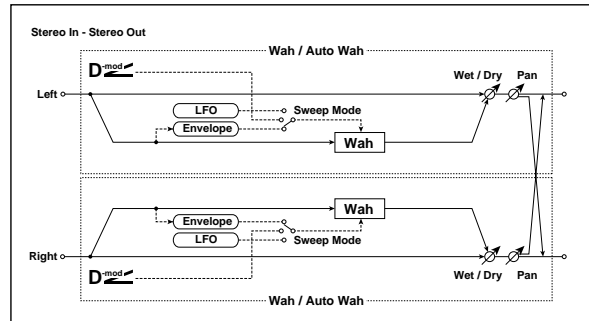
For detailed information on the effects parameters, see “OD/HI-GAIN” on page 935 and “Multi-tap BPM Delay” on page 937.



176: Wah // Wah

This effect connects two wahs in parallel. The pan and effect balance can be adjusted independently for each.

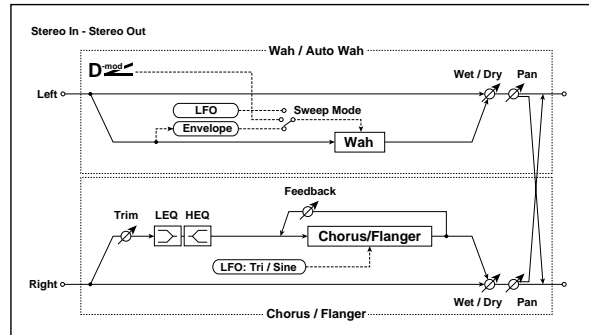
For detailed information on the effects parameters, see “WAH” on page 936.



177: Wah // Chorus/Flanger

This effect connects a wah and a chorus/flanger in parallel. The pan and effect balance can be adjusted independently for each.

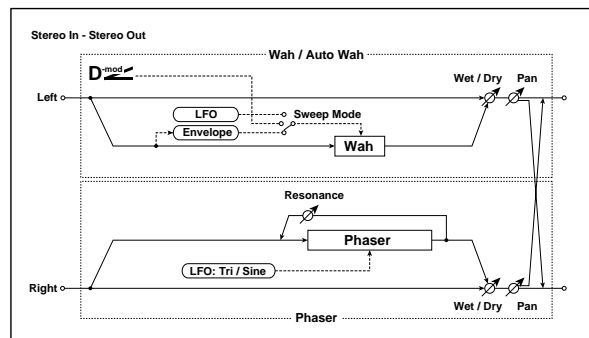
For detailed information on the effects parameters, see “WAH” on page 936 and “Chorus/Flanger” on page 936.



178: Wah // Phaser

This effect connects a wah and a phaser in parallel. The pan and effect balance can be adjusted independently for each.

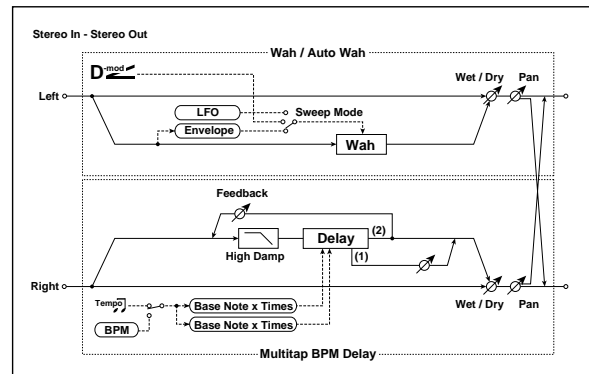
For detailed information on the effects parameters, see “WAH” on page 936 and “Phaser” on page 936.



179: Wah // Multitap BPM Dly

This effect connects a wah and a multitap BPM delay in parallel. The pan and effect balance can be adjusted independently for each.

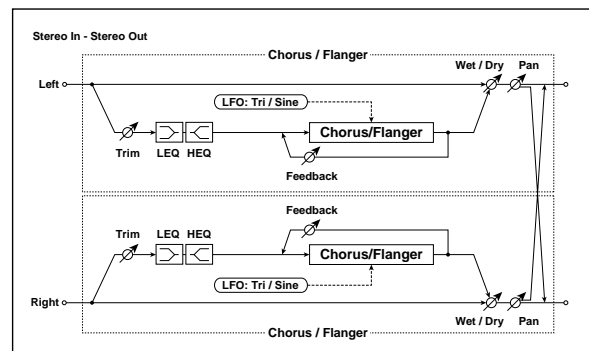
For detailed information on the effects parameters, see “WAH” on page 936 and “Multi-tap BPM Delay” on page 937.



180: Cho/Flange // Cho/Flanger

This effect connects two chorus/flangers in parallel. The pan and effect balance can be adjusted independently for each.

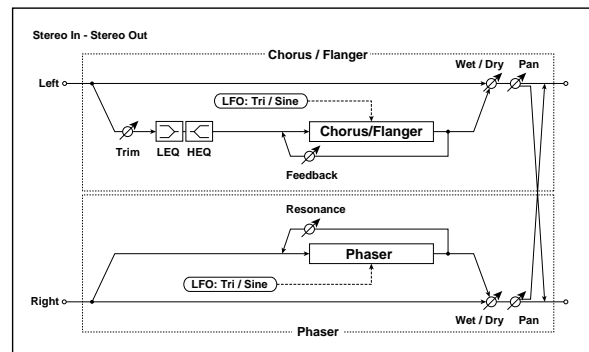
For detailed information on the effects parameters, see “Chorus/Flanger” on page 936.



181: Cho/Flange // Phaser

This effect connects a chorus/flanger and a phaser in parallel. The pan and effect balance can be adjusted independently for each.

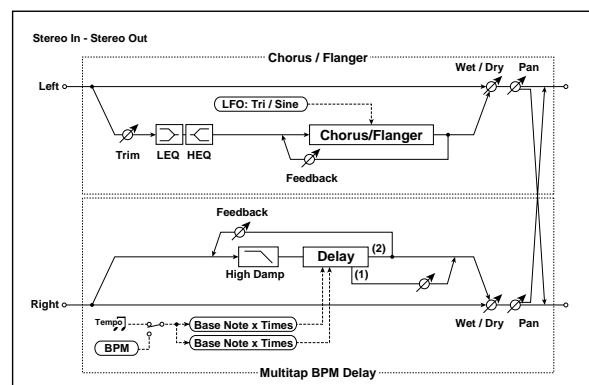
For detailed information on the effects parameters, see “Chorus/Flanger” on page 936 and “Phaser” on page 936.



182: Cho/Flange // Mt BPM Dly

This effect connects a chorus / flanger and a multitap BPM delay in parallel. The pan and effect balance can be adjusted independently for each.

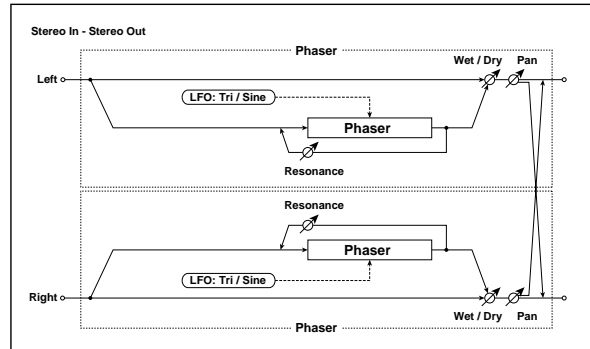
For detailed information on the effects parameters, see “Chorus/Flanger” on page 936 and “Multi-tap BPM Delay” on page 937.



183: Phaser // Phaser

This effect connects two phasers in parallel. The pan and effect balance can be adjusted independently for each.

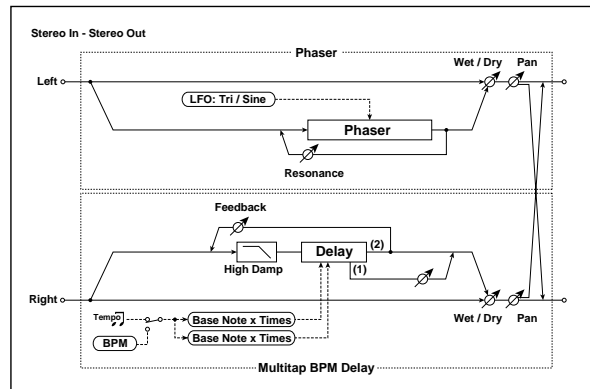
For detailed information on the effects parameters, see “Phaser” on page 936.



184: Phaser // Mtap BPM Dly

This effect connects a phaser and a multitap BPM delay in parallel. The pan and effect balance can be adjusted independently for each.

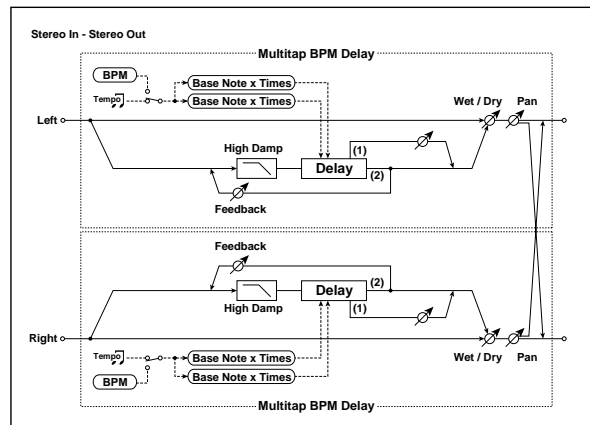
For detailed information on the effects parameters, see “Phaser” on page 936 and “Multi-tap BPM Delay” on page 937.



185: Mt.BPM Dly // Mt.BPM Dly

This effect connects two multitap BPM delays in parallel. The pan and effect balance can be adjusted independently for each.

For detailed information on the effects parameters, see “Multi-tap BPM Delay” on page 937.



KARMA GE guide

About the KARMA GE guide

This section of the manual explains the GE parameters of the KARMA function built into the OASYS, organized according to the groups that make up the Generated Effects.

The OASYS provides **more than two thousand preset GEs (Generated Effects)**. For each GE, up to thirty-two of the more than four hundred internal GE parameters have been selected for optimal control from the OASYS.

The GE parameters and ranges that can be controlled will differ for each GE.

Some GE parameters are related to other parameters, and are affected by them. In this case, the parameters that are producing the effect may not always be displayed, since they may already be preset for that GE.

Furthermore, the KARMA-related parameters in pages 7-0 – 7-9 of each mode may also function differently, or not at all, depending on the settings of these GE parameters.

Some of the internal parameters of each GE are displayed in the Voice Name List.

In order to explain the GEs, some of the examples in this document mention these internal parameters, even though they cannot be viewed or changed on the OASYS.

Illustrations in the GE guide

Some of the illustrations in this document include displays of data, such as pattern grids, which are not shown on the OASYS LCD screen.

How to read the “GE Guide”

The GEs (Generated Effects) are organized into fifteen groups. Each group has GE parameters. For more information, see “KARMA Architecture (Diagram)” on page 952.

The 7-5: GE Real-Time Parameters page shows the group name, parameter name, and parameter value of the GE parameters.

You can use the 7-5: GE Real-Time Parameters page to check the group name and parameter name of the GE parameter you wish to look up, and then find it in the GE Guide.

Here’s an example from Program mode.

Access the Program 7-5: GE Real-Time parameters page, and display the GE parameters in the LCD screen. For more information, see “7-5: GE Real-Time Parameters” on page 113.

The GE parameters displayed in the LCD screen show the group name and parameter name.

For example in the case of 01. Rhythm: Swing %, the group is Rhythm Group and the parameter is “Swing %.”

The explanation for “Swing %” is given on p.13 “Rhythm Group “Swing %.”

The parameter value is displayed by “Value” at the right of the parameter name.

The “Real-Time Control Range” (minimum and maximum values that the parameter can be varied between by real-time control or direct editing) is displayed by “Min” and “Max” next to the “Value” field.

When loading a GE, the default value and editing range of the parameter is preset for each GE. Depending on the selected GE, the same GE parameter may have a different default value and a different editing range.

How GE parameter names are displayed

For some GE parameters, the following information is shown in addition to the parameter name.

Parameter name [Phase]

This is shown for most GE parameters within the following groups (some that are not related to phases will not show this information):

Phase Group

Rhythm Group

Duration Group

Index Group

Cluster Group

Velocity Group

CCs Group

WaveSeq Group

Display example

Rhythm: Template **[B]**
[Phase]

[1]: Phase 1 is controlled

[2]: Phase 2 is controlled

[B]: Both phases 1 and 2 are controlled

CCs: parameter name #No. #No.

Parameters of the CCs Group also indicate the MIDI message that are controlled by CC-A and CC-B.

Display example

CCs: Fixed/On [B] 010 074
[Phase] #No. #No.

000...125: CC#000...CC#125

PB: Pitch Bend

Env: parameter name [Env] #No. #No. #No.

Parameters of the Env (Envelope) Group also indicate the being controlled by that GE parameter, and indicate the parameter or MIDI message that is controlled by the Envelope.

Display example

Env: Env On/Off [3] 010
[Env] #No.

[Env]:

[1]: Envelope 1 is controlled

[2]: Envelope 2 is controlled

[3]: Envelope 3 is controlled

[1, 2]: Envelopes 1 and 2 are controlled

[2, 3]: Envelopes 2 and 3 are controlled

[1, 3]: Envelopes 1 and 3 are controlled

[A]: Envelopes 1, 2 and 3 are controlled

#No.:

VE: Velocity

TA: Tempo-Absolute

TR: Tempo-Relative

PB: Pitch Bend

DU: Duration

RT: Repeat Time

000...121: CC#000...121

Drum: parameter name [Pat]

Parameters of the Drum Group also indicate the drum pattern being controlled by that GE parameter. (Some parameters in the Drum Group that are not related to the individual Drum Patterns will not display this information.)

Display example

Drum: Row 1 Note [1]
[Pat]

[1]: Pattern 1 is controlled

[2]: Pattern 2 is controlled

[3]: Pattern 3 is controlled

[1, 2]: Patterns 1 and 2 are controlled

[2, 3]: Patterns 2 and 3 are controlled

[1, 3]: Patterns 1 and 3 are controlled

[A]: All patterns are controlled

[B]: Patterns 1 and 2 (displayed only for Link to Next) are controlled

About KARMA

Overview

KARMA stands for **K**ay **A**lgorithmic **R**ealtime **M**usic **A**rchitecture, named after its inventor, Stephen Kay.

The **KARMA** function generates MIDI data, using many different complex algorithms seamlessly integrated to provide a powerful “music generation engine”. Based on the notes and chords you play, **KARMA** generates phrases and patterns in real-time, generating not just notes but MIDI control data as well. The **KARMA** architecture allows the various algorithms to be reconfigured and varied in realtime, as you play them.

For example, you can create spectacular cascades of complex interweaving notes, techno arpeggios and effects, dense rhythmic and melodic textures, natural sounding glissandos for acoustic instrument programs, guitar strumming and finger-picking simulations, random effects, auto-accompaniment effects, gliding and swooping portamento and pitch bend effects, and new sound design possibilities. **KARMA** lets you produce phrases and patterns far beyond the level provided by conventional arpeggiators or pattern playback functions.

Theory Of Operation

A performance of a musical phrase can be thought of as having many different “attributes” which determine the overall effect of the resulting music. For example, a musical phrase has a “rhythm” attribute, which is the rhythm with which the notes are being played. The number of notes (“chords”) being played at the same time in various places of the musical phrase could be called a “cluster” attribute. The velocity (accent) with which the notes are played is a “velocity” attribute. The spatial location in a stereo field where the notes are played is a “pan” attribute, etc.

Typically, music that has been recorded or sequenced has all of these attributes predetermined and fixed in relation to each other. A specific note is to be played with a specific rhythmic value for a specific period of time, at a specific volume level, at a specific location in a stereo field, with the sound of a specific musical instrument, and these relationships remain fixed no matter how many times you play back the performance. For example, in most if not all auto-accompaniment instruments, to achieve a variation in the accompaniment pattern the instrument essentially switches to a different pre-recorded sequence of musical events (again with specific relationships that are fixed in the data).

In **KARMA**, every aspect of a musical phrase has been separated into independently controllable attributes. Each of these attributes is controlled by a separate group of parameters, which can be individually varied or changed in groups by the user in real-time as the music is being generated; or changed all at once with the selection of a program or combination.

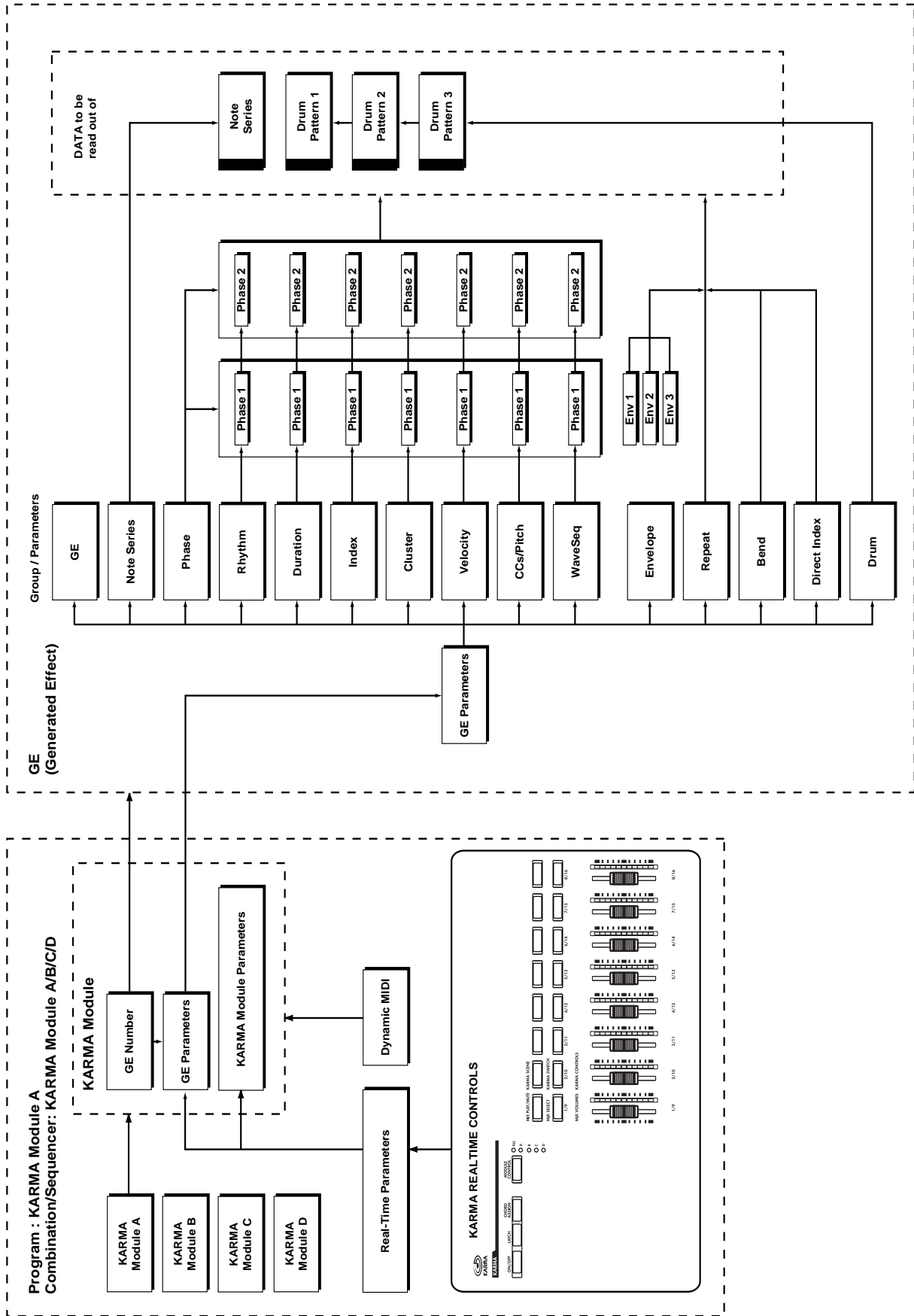
KARMA can also be used to generate infinitely variable randomized grooves and accompaniment backings. Up until now there have been two basic types of backing track generation. The traditional method used in all auto-accompaniment keyboards is a system which analyzes notes played on a keyboard (chord recognition) and then plays back patterns stored in memory through transposition tables. The second method is the one used by some algorithmic software products that create new patterns each time

the algorithm is called. In general, the first method is static and repetitive, while the second method cannot be modified in real-time.

KARMA combines the algorithmic diversity of the second method with the real-time control and immediate access of the first method to create a new form of interactive groove generation, where the user is in more direct control, since what is produced is directly related to which notes are pressed. Furthermore, extensive aspects of the rhythm, velocity, chord size and other parameters can be randomly varied in real-time to allow the user to control the complexity and density of the resulting performance.

Whether you are playing programs or combinations, performing with the **KARMA** Controls sliders, switches, and drum/chord pads, giving a live performance, or recording new music using the onboard sequencer, you can take full advantage of the **KARMA** function at any time.

KARMA Architecture (Diagram)



GE (Generated Effect) Group

Overview

The phrases and patterns produced by a KARMA module are generated by a **GE (Generated Effect)**.

Based on note data from the keyboard or external MIDI device, the GE uses various internal parameters to control how the note data will be developed, and how rhythm, chord structure, and velocity etc. will be controlled to generate a phrase or pattern. MIDI control changes and pitch bend data can also be

generated in synchronization with the phrase or pattern, making it possible to create phrases and patterns in which the tone color and note pitches change independently.

This instrument contains over **2000 preset GEs** that can be used with a wide range of instruments, playing styles, and musical genres

GE Global Parameters

GE Type	[0...3]
0: Generated-Riff	2: Generated-Drum
1: Generated-Gated	3: Real-Time

Selects one of several different overall algorithm configurations for the current Generated Effect. This setting determines some basic modes of operation, and which parameters are available within the various GE Groups.

0: Generated-Riff

Produces riffs, arpeggios, and chord clusters based on the notes given as input source material. The notes are expanded, transposed, replicated, and otherwise altered to form a Note Series by the parameters in the Note Series Group. Effects are generated based on the Rhythm Pattern as it relates to the clock source or tempo envelope.

1: Generated-Gated

A Note Series is created as in **0: Generated – Riff** above, but only a portion of the Note Series is retriggered according to the parameters. Effects are generated based on the Rhythm Pattern as it relates to the clock source or tempo envelope. The notes themselves can be generated repetitively in several different ways, or as a sustained set of notes which is then “sliced and diced” by a selected controller value. This can be used to simulate several types of popular techno effects, such as gating a synth pad with a hi-hat track and an external audio gate/compressor. This GE Type can also be used to simulate the Korg Triton Arpeggiator, along with “Gate Type” = **Vel CP**, explained below.

2: Generated-Drum

Uses special patterns of predetermined pitches rather than the Note Series to generate notes. These can be used not only to create Drum Patterns, but also to create controlled musical patterns. Effects are generated based on the Rhythm Pattern as it relates to the clock source or tempo envelope. Riffs based on the notes in the Note Series can be applied as pitch bend, to create wave-sequence and other unique effects, and also to control other things such as the length of Phases.


3: Real-Time

Different from the previous types in that the actual notes given as input source material are used as a starting point, from which effects are generated over time according to time calculations. Examples include glissandos and arpeggios which start with the note(s) given as input (Melodic Repeat), and Auto-Bending an input note a certain amount or to another note.

Gate Type **[0...4]**

- 0: Vel - retrigger ALL input notes with Velocity
- 1: Vel CP – retrigger Cluster Pattern notes with Velocity
- 2: CC [T]-sustain notes; retrigger only if Phase Transpose is different
- 3: CC [1]-sustain notes; retrigger when entering Phase1
- 4: CC [2]-sustain notes; retrigger when entering Phase2
- 5: CC [A]-sustain notes; retrigger when entering any Phase

Selects one of several different Gate Type settings. Two “Vel” options retrigger the notes repeatedly, while the “CC” options allow sustained notes to be chopped or stepped with CC Values.

 Available only when “GE Type” (p.953)= **1: Generated-Gated**.

0: Vel - retrigger ALL input notes with Velocity

The actual notes given as input source material (all of them) are generated repetitively as note-ons and note-offs according to the parameters. In other words, if you play eight notes, all eight notes will be repeatedly generated at once. This produces a “gated” effect where each cluster of notes possesses the attack portion of the program being used, as if someone was repeatedly striking a keyboard very quickly. A Velocity Pattern can be used to impart different velocities to the clusters of notes. The Cluster Pattern Grid is disabled and has no effect on how many notes are generated.

1: Vel CP – retrigger Cluster Pattern notes with Velocity

The Cluster Pattern Grid is used to indicate which notes are to be generated from a portion of the Note Series corresponding to the number of input notes played. In other words, the ten rows of the Value portion of the Cluster Pattern grid allow you to specify which of up to ten notes you may have played are to be generated. If a step of the Cluster Pattern has rows 0, 2 and 4 selected, then the first, third, and fifth notes in

the Note Series will be generated at that step. What these notes actually are will be influenced by the Note Series and Input Sort settings. This can be used to simulate the operation of the Korg Triton Arpeggiator, for example. Note that filling all ten rows of each column is essentially the same as using **0: Vel above**.

2...5: CC - 4 different CC Gate Types

When one of the four “CC Gate Types” is chose, the “Gate CC Number” parameter specifies a MIDI Control Change Message (CC) to be used in place of note-ons and note-offs. The actual notes given as input source material are then generated as note-ons only once at the beginning of the effect; the rest of the note-ons are turned into the specified CC controller value with the same value as the velocity of the note-on; the note-offs are turned into CC values of 0. Essentially, this means that a pad will be sustained, having the attack portion triggered only once. For example, if the selected CC was #11 (Expression) or #07 (Volume), the pad will be repeatedly turned on and off, simulating the popular techno effect of gating a synth pad with a hi-hat track and an external audio gate/compressor. In KARMA however, the Velocity Pattern can be used to control the value of each CC that is generated for a note-on (the volume of each “slice”), and the Duration Pattern (p.970) can be used to control the duration of each “slice.”

Other CCs can produce other interesting stepped and wave-sequence like effects. For example, using CC#74 to control Filter Cutoff Frequency can produce interesting “Sample & Hold” effects.

2: CC [T]-sustain notes; retrigger only if Phase Transpose is different

When this first CC option is chosen, the “pad” will only be triggered manually (i.e. when you strike the keyboard), or only if there is a Phase Change and the Phase Transpose (p.10) is different, requiring that the generated notes be transposed. Therefore, if the Phase Transposes are the same, the “pad” will never retrigger unless you trigger it manually.

3: CC [1]-sustain notes; retrigger when entering Phase1

Same as CC [T] above, with the exception that the “pad” will be retriggered when striking the keyboard, and every time that the Phase Pattern enters a step containing Phase 1. You can use this to have the notes retriggered occasionally while moving through the Phase Pattern.

4: CC [2]-sustain notes; retrigger when entering Phase2

Same as CC [T] above, with the exception that the “pad” will be retriggered when striking the keyboard, and every time that the Phase Pattern enters a step containing Phase 2. You can use this to have the notes retriggered occasionally while moving through the Phase Pattern.

5: CC [A]-sustain notes; retrigger when entering any Phase

Same as CC [T] above, with the exception that the “pad” will be retriggered when striking the keyboard, and every time that the Phase Pattern causes a Phase Change. You can use this to have the notes retriggered occasionally while moving through the Phase Pattern.

Gate CC Number [-1, 0...127]

-1: Off 0...126: MIDI CC #00...126


Select which CC will be transmitted instead of the note-ons and note-offs of the generated notes. For example, for “chopping” effects, set to **11: 11 (CC#11)**.

-1: Off

No MIDI CCs are generated.

0...126: MIDI CC #00...126

The specified MIDI CC is generated in place of the Module’s note-ons and note-offs. Note-offs are generated as a value of “0,” while note-ons are generated as a value equal to the velocity of the note-on.

 Available only when “Gate Type” is **one of the 4 CC options**.

Force Mono [0, 1]

0: Off 1: On

Selects whether the GE will operate polyphonically according to its other internal settings, or whether the generation of more than one note at a time and overlapping durations will be suppressed.

0: Off

Notes will be generated as expected according to the internal settings of the GE. Polyphonic clusters of notes may be generated according to the Cluster Pattern, repeated notes may be generated on top of other notes, and the durations of notes may overlap according to Duration settings.

1: On

The normal behavior of certain aspects of the GE will be overridden, suppressing the generation of multiple notes at the same time. Any clusters being generated will be removed, essentially generating what would be the single lowest note in the cluster. Any notes from Melodic Repeat that happen to be generated on top of another note will be suppressed. Multiple repeated notes happening at the same instance will only play one of them. Durations of generated notes will not be allowed to overlap, but may only extend up until the next note to be generated. Any note will cut off the previous note’s duration if it is sustaining. The result is that only one note at a time will be generated or sustaining at any given moment.

Note: When polyphonic GEs are applied to monophonic programs, the results may be strange due to the overlapping notes and durations. By turning on “Force Mono,” any GE can be applied to a monophonic program and made to sound good. However, it can also sound good as an effect on polyphonic programs, because it can simplify a dense GE in an interesting sounding way. For example, you can turn a comping keyboard part into a single note bass line.

Note: “Force Mono” and Rhythm Group: “Humanize”

When “Force Mono” is **1: On**, the effects of Rhythm: “Humanize” are removed if Melodic Repeat is being used at the same time. A GE can be stored with a normal amount of “Humanize,” so that it can be used that way with the “Force Mono” parameter off, and then “Force Mono” can be turned on in real-time. The

reason for this is that the “Force Mono” effect uses the first note arriving within a section of time (i.e. 16th notes) to window out the rest of the notes. If the underlying main notes are slightly late as a result of “Humanize,” it is possible for overlapping repeated notes to arrive slightly before them, and then the main notes get masked out while the repeated notes take precedence. Since “Humanize” is a randomly varied amount, this results in a completely unpredictable sequence of notes in this case, that cannot produce consistent results. By removing the “Humanize” amount when “Force Mono” is on with Melodic Repeat, the result is consistent and predictable.

With drums, when “Force Mono” is **1: On**, Humanize is removed even if not using repeats. This is because each note in a column of a drum pattern is affected individually by the Humanize parameter, and the “Force Mono” effect requires them to all line up on the same instant in order to allow only one of them to be produced.

Note: “Force Mono” and Cluster Group: “Strum”

When “Force Mono” is **1: On**, the effects of the “Strum” parameter are removed, since no clusters can be generated.

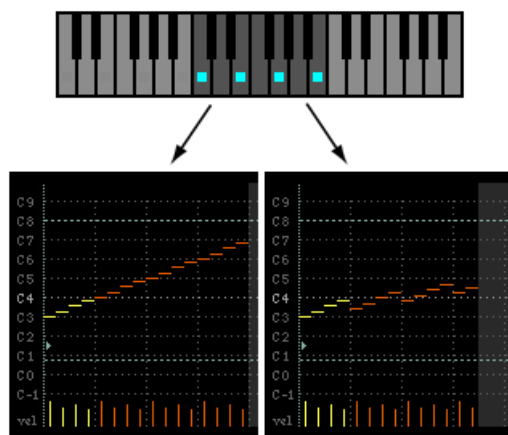
Note Series Group

Overview

The **Note Series Group** controls the creation of a “**Note Series**” in memory, which is the foundation of a large percentage of Generated Effects. The Note Series is a collection of pitches and corresponding velocities, created from initial notes coming from input source material (i.e. a keyboard, or sequence data which is being used as input). The various parameters control how these initial notes are replicated, shifted, sorted, filtered, and otherwise arranged into the Note Series. The Note Series is then used as the basic collection of pitches and velocities from which notes are generated, as controlled by most of the other parameters of the Generated Effect.

The diagram on the left shows “Replications” (p.957) of **400** (4.0) with an “Interval” (p.958) of **+12**, producing a 16-note Note Series from the four input notes ($4 \times 4.0 = 16$). Each Replication of the original four notes is shifted by +12 semitones from the previous Replication, yielding a four octave arpeggio.

The diagram on the right shows “Replications” of **350** (3.5) with an “Interval” of **+5**, producing a 14-note Note Series from the four input notes ($4 \times 3.5 = 14$). Each Replication of the original four notes is shifted by +5 semitones from the previous Replication, with the two notes at the end being produced by a half Replication.



Parameters

The following parameters create and change the Note Series.

When “GE Type” (p.953) = **2: Generated-Drum**, the effect of changing most of these parameters is only apparent if the Note Series is being applied as pitch bend in the Phase Group/Bend Group, or riff length is being used in the Drum Group.

The following 3 parameters will have an effect on when Phases change if the Phase “Length Mode” (p.961) is set to **0: AC-Actual**: “Replications” (p.957), “Filter Steps” (Filter Template), and “Filter Dupes”. See Phase Group.

Note Type [0...9]

- | | | |
|--------------|---------------|-------------|
| 0: Regular | 4: Whole Tone | 8: Tritones |
| 1: Scalic | 5: Diminished | 9: Fifths |
| 2: Scalic 2 | 6: Augmented | |
| 3: Chromatic | 7: Fourths | |

Selects one of several modes for supplying the initial notes from which the Note Series is created.

0: Regular

The Note Series created in memory will be produced based on the actual notes given as input source material (i.e. a keyboard, or sequence data which is being used as input).

1: Scalic

The Note Series created in memory will be produced based on chord analysis of the input source material; then a group of notes corresponding to the analyzed chord will be used instead of the actual notes. The initial octave is based on the lowest note received as input source material. This can be used so that one finger chords produce scalic riffs, or to supply notes that are not present in the source material.

2: Scalic 2

Same as **1: Scalic** (above), except an attempt is made to keep a seven note scale for each chord type. In other words, there will be more passing tones, and it will sound more “modal” in nature. For a good example of the difference, play a 4 note diminished chord with each one. This can be of use for creating a bass line that is more predictable when changing chords, or jazzy soloing kinds of effects.

3: Chromatic

The 12 steps of a chromatic scale will be used as input source material. The first note of the Note Series is based on the lowest note received as input source material.

4: Whole Tone

The 6 steps of a whole tone scale will be used as input source material. The first note of the Note Series is based on the lowest note received as input source material.

5: Diminished

The 4 steps of a diminished chord will be used as input source material. The first note of the Note Series is based on the lowest note received as input source material.

6: Augmented

The 3 steps of an augmented chord will be used as input source material. The first note of the Note Series is based on the lowest note received as input source material.

7: Fourths

3 steps of stacked fourths will be used as input source material. The first note of the Note Series is based on the lowest note received as input source material.

8: Tritones

2 steps of a tritone (augmented fourth) will be used as input source material. The first note of the Note Series is based on the lowest note received as input source material.

9: Fifths

2 steps (root and fifth) will be used as input source material. The first note of the Note Series is based on the lowest note received as input source material.

Note: If “Root Position” is On, then the pitches of the Note Series will be shifted so that different inversions of the same chord produce the same set of pitches. For more information, see “Root Position” on page 107.

Input Sort [0...4]

0: Up 1: Down 2: Actual 3: Random

Sets how the notes (and corresponding velocities) from the input source material are arranged prior to creating the Note Series.

0: Up

Notes are arranged from lowest to highest.

1: Down

Notes are arranged from highest to lowest.

2: Actual

Notes are left in the order received. With a “Note Type” of Regular, the Note Series will therefore be capable of being created in many different orders, since the order of the input notes can vary. With any other type, the input notes are not actually used and a scale is substituted instead (as explained above). For these Note Types, using “Actual” will result in a different order than “Up” or “Down,” but it will be the same order each time for each chord type.

3: Random

Notes are randomly arranged. This guarantees the initial order will be different each time.

Input Transpose [-48...+48]

Allows the input notes to be shifted by a specified number of semitones prior to the creation of the Note Series. The transposed input notes are then replicated and shifted according to the other parameters described below. This can be used, in conjunction with other Note Series Parameters, to shift and flip the Note Series into other configurations or inversions in real-time.

Inversion [-24...+24]

Allows different “inversions” of the input notes (after they are sorted) prior to creation of the Note Series. For example, if the notes {C, E, G, B} were received in that order as a chord and Inversion was 1, then the notes would be shifted to {E, G, B, C 8va} before creation of the Note Series (thus playing the 1st inversion). This is especially useful for setting multiple modules to play different inversions of the same effect, such as natural harp glissandos or riffs in harmony. Normally used with Input Sort set to 0: Up or 1: Down. The effect of this parameter when Input Sort is 2: Actual or 3: Random is less predictable, although potentially useful for some effects.

Replications [0...4000]

0...4000: 0.0...40.0

Sets how many times the input notes will be replicated according to the Interval. For example, 3 “Replications” with an “Interval” of 12 will give you a 3 octave arpeggio. Can be a fraction to achieve only a portion of the last replication. The value is represented as being x100 - so 350 is 3.5, 475 is 4.75, etc. Note that if “GE Type” (p.953) = 1: Generated-Gated, this has no audible effect on the pitches of the Generated Effect; however this still affects the overall range of the available notes for Direct Indexing of the Note Series (described elsewhere).

Max [1...255]

Sets an overall “final place” in the Note Series, beyond which indexes will never be chosen during playback, even if other settings might allow it. This is a playback only parameter which does not affect the creation of the Note Series. This is one way to change the overall length of the Note Series in real-time.

Symmetry [0, 1]

0: Off 1: On

When set to 1: On, additional notes are extrapolated at the end of the Note Series beyond the number specified by the “Replications” setting, which are accessed when clusters are generated in that area of the Note Series, or when the Index Group “Double/Invert” parameters (p.975) are used. This primarily allows different cluster sizes to be used without affecting the length and shape of the resulting riff. This interacts with Cluster Patterns and the Index Pattern Cluster Advance Mode, discussed elsewhere. Note that when this is 0: Off, clusters will “wrap around” at the end of a phase, or cause Phase Changes or cycling. Doubled notes caused by the use of the “Double” parameter in the Index Group will also be wrapped around at the top of the Note Series when this is off.

0: Off

The notes determined by the Repetitions setting (described above) are used as the range within which to generate notes.

1: On

Extra notes may be extrapolated at the end of the range depending on the cluster size at that point. The result will be a widening of the apparent range of the riff.

Interval [-24...+24]

Sets the number of semitones to offset each replication of the input notes by. For example, if set to +12 or -12, the Arpeggio will repeat in octaves (most normal). If set to 2, and "Repetitions" to 3, then playing a CMaj {C, E, G} will produced a CMaj, then DMaj {D, F#, A}, then EMaj {E, G#, B} as each replication is shifted by a whole-tone. Settings other than multiples of 12 are extremely useful in conjunction with "Chord Shift," described below, so that atonal notes are shifted to musically correct pitches.

Chord Shift [0...2]

0: Off 1: Scalic 2: Scalic2

Allows notes in the Note Series that may be atonal (out of a chord's scale) to be shifted to tonal notes, using one of several different tables.

0: Off

The Note Series is created with no further modification from this setting.

1: Scalic

Chord analysis is performed on the input source material, and as the Note Series is created, notes which may be "atonal" based on the analyzed chord (due to being shifted by non-octave values of "Interval") are shifted to tonal notes. Especially useful when "Interval" (discussed above) is set to something other than multiples of 12. The note tables used to shift the notes are the same as the ones used in "Note Type" (p.956): **1: Scalic**, described above.

2: Scalic2

Same as **1: Scalic** (above), except that the note tables used to shift the notes are the same as the ones used in "Note Type": **2: Scalic2**, described above. **Scalic2** is more modal in nature and has more passing tones than **1: Scalic**.

Wrap Bottom [0...127]

Wrap Top [0...127]

0...127: range C-1...G9

Sets an overall range for the pitches in the Note Series. Notes created beyond this range are wrapped around (dropped or raised an octave, depending on which end). Mainly intended to limit the Note Series to usable ranges, these settings can also be used creatively to force a riff to cycle around inside a certain range.

Voicing [0...8]

0: Closed 3: Open2A 6: Open3B
 1: Open1A 4: Open2B 7: Open4A
 2: Open1B 5: Open3A 8: Open4B

Selects one of several options for "spreading out" the input notes before creating the Note Series. This can be used to widen the voicing, create guitar-like voicings, or produce interesting variations.

0: Closed

The Note Series is created with no further modification from this setting.

1: Open 1A...8: Open4B

The Note Series has certain notes shifted up by an octave as it is created, then may be re-ordered according to the setting of "Input Sort" (p.957). Can be used to create different types of wider voiced chords for simulating guitar or string section voicings.

Filter Dupes [0...2]

0: Off 1: Adjacent 2: All

Allows duplicate notes in the Note Series to be removed in several different ways.

0: Off


The Note Series is created with no further modification from this setting.

1: Adjacent

As the Note Series is being created, notes that are the same as the immediately preceding note are discarded.

2: All

After the Note Series has been created, any notes that are duplicates of any others are removed.

 Not available if "GE Type" (p.953) = **1: Generated-Gated**.

Filter Fixed [0, 1]

0: Off 1: On

When Filter Steps is used (described below), allows the resulting tonality of the Note Series to be "Fixed" in relation to the key of C. For example, assume that "Note Type" (p.956) is set to **Chromatic** and "Chord Shift" is **Off**, so that the Note Series is essentially a chromatic scale. If you play a single C (and "Inversion" is set to 0 p.957), you will get a chromatic scale starting with C. If you then set up Filter Steps so that you are filtering steps {1, 3, 6, 8, 10} you would have a **C Major diatonic scale**. With "Filter Fixed" set to **Off**, if you then play a **D** on the keyboard, the whole scale will shift to become a **D Major diatonic scale**. With "Filter Fixed" set to **On**, the scale stays fixed to the key of C, but you are starting on the **D**; essentially, you have a **D minor scale**. You will be playing different modal scales starting with different pitches. Note that this is always related to the key of C; so if you want to put the resulting filtered, fixed Note Series into another key, you can use the Transpose KARMA Module parameter to do so. For more information, see "Transpose" on page 106. For example, if you set the transpose to +4, you would still play notes in the key of C, but the resulting generated notes would be in the

key of E. In the above example, playing a C would result in a E diatonic scale, playing a D results in an F# minor scale (F# Dorian mode) and so on.

- ⚡ Not available if "GE Type" = 1: **Generated-Gated**. For more information, see "GE Type" on page 953.

Filter Template [0...77]

Allows the entire Filter Steps grid (see "About Filter Steps" on page 959) to be changed to one of 78 different settings. Template 0 is all steps off (no steps filtered), while Template 77 is all steps on except the root (only the root is allowed in the Note Series). As the Templates proceed from 0 to 78, more and more steps are filtered out, in different combinations.

Filter Temp + Restore [-1...77]

Operates the same as "Filter Template" (above), with the difference that when the GE Real-Time Parameter is set to the minimum value specified by the GE Real-Time Parameters page range parameters (see "MIN (Minimum Value)" on page 113), the internal setting of the GE for the Filter Steps grid will be restored. In other words, you can have a certain Filter Steps setting already set up on the grid. Using "Filter Temp + Restore" as a GE Real-Time Parameter, you specify a range where the Min value restores the internal settings, and the rest of the range selects Templates, replacing the internal settings. So if the "Min Value" was 5 and the "Max Value" was 10, choosing 5 would restore the internal settings, and 6 through 10 would select the corresponding Filter Steps Template. You can use this to keep the internal settings of the GE, while still allowing a wide variety of Filter Templates to be substituted. In this case, the available range is -1-77. You can assign the full range of all 77 Templates, with indicating "Restore," or only a portion of the range, and still have the ability to restore the original internal settings.

About Filter Steps

Step	#1	#2	#3	#4	#5	#6	#7	#8	#9	#10	#11	#12
Key: C	C	C#	D	D#	E	F	F#	G	G#	A	A#	B
Key: E	E	F	F#	G	G#	A	A#	B	C	C#	D	D#



A 12 step grid corresponds to the scale tones with regard to a current "key," which is determined by Chord Analysis of the input source material. For example, if the key is determined to be C, then the steps 1 through 12 correspond to C, C#, D to B; if the key is determined to be "E," then steps 1 through 12 correspond to E, F, F# to D#. After the Note Series is created, notes belonging to the chosen steps are removed, thus "filtering" them out. For example, if {C, E, G, B} was the input material, CMaj7 would be the analyzed chord; if step #4 "3rd" was selected on the grid (as shown in the above diagram), all occurrences of E would be removed from the Note Series. Useful

for creating complex grooves where several modules are all supplied with the same source material, where for example you might not want the bass line to play the 3rd even if it is supplied from the keyboard, might want to remove all chance of 7ths from a comping guitar part, etc.

- ⚡ Selecting all steps to be filtered will result in a single note in the Note Series, determined by the settings of other parameters such as "Input Sort," "Inversion," etc.
- ⚡ To "fix" the resulting filtered collection of notes with regards to a specific key, use "Filter Fixed" (described above).
- ⚡ Not available if "GE Type" = 1: **Generated-Gated** (see "GE Type" on page 953).

Phase Group

Overview

A Generated Effect has two different “Phases.” Each of them is a separate collection of certain parameters including Rhythm, Velocity, Cluster, Pan and Index Patterns, among others. As the effect is generated, a Phase Pattern controls switching between the two Phases, so that completely different collections of

parameters can be used for a period of time. The Phase Group contains parameters that control the length, direction, and various other attributes of each Phase, the number of times and in what order the Phases will play, and whether or not a portion will be looped.

About Phase Patterns

Phase Pattern = 8

Step	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Phase	1	1	1	1	1	1	1	2								
1/2																

The Phase Pattern allows a pattern of switching between the 2 Phases of a Generated Effect to be constructed. The resulting Phase Pattern may have a

minimum of 1 step and a maximum of 16 steps. The example above shows an eight step Phase Pattern: 7 times through Phase 1 followed by once through Phase 2. After completing the eight steps, execution may loop back to Step 1. Note that the actual number of steps performed and whether it loops back at the end will be determined by other settings described in this chapter.

General Parameters

This group of parameters affects some overall characteristics of Phase performance.


Total Steps [0...32]

0: (∞) 1...32: number of steps

Sets the total number of steps of the Phase Pattern that will be played before stopping. The infinity sign 0: (infinity) sets it to loop forever; otherwise the setting represents a number of steps of the selected Phase Pattern. For example, if the Phase Pattern is a simple two-step pattern of {1, 2}, and the Total Steps menu is {4}, then four Phases would be played in the following order before stopping: {1, 2, 1, 2}.

Start % [0...100 (%)]

Controls the location in the Note Series at which the effect will start when it is triggered. Closer to 0% starts nearer the beginning while closer to 100% starts nearer the end; beginning/end relates to highest/lowest depending on the Phase “Direction” (p.962) setting. This can be applied just once when first triggering the effect, or as various steps of the Phase Pattern are entered, in conjunction with the Start Mode described below.

 Not available when “GE Type” (p.953) = 1: **Generated-Gated**. If 2: **Generated-Drum**, the Note Series can be applied as pitch bend, discussed elsewhere.

Start Mode [0...3]

- 0: T-only when Triggered
- 1: 1-when entering Phase1
- 2: 2-when entering Phase2
- 3: A-when entering any Phase

Controls how the “Start %” described above is applied to the effect as it is being generated (whether it’s only used when first triggered, or at other times during the Phase Pattern.)

0: T-only when Triggered

The “Start %” is applied only when the effect is triggered, i.e. from the keyboard or through Dynamic MIDI. When other steps of the Phase Pattern are entered during subsequent playback, the Note Series will reset to either the top or bottom depending on the Phase “Direction” setting.

1: 1-when entering Phase1

Each time that playback of a Phase Pattern step containing Phase 1 begins, the “Start %” will be applied. This can be used to start a phase somewhere in the middle of the Note Series from which the indexes can be chosen in either direction according to the Index Pattern.

2: 2-when entering Phase2

Each time that playback of a Phase Pattern step containing Phase 2 begins, the “Start %” will be applied. This can be used to start a phase somewhere in the middle of the Note Series from which the indexes can be chosen in either direction according to the Index Pattern.

3: A-when entering any Phase

Each time that playback of any Phase Pattern step begins, either Phase 1 or Phase 2, the “Start %” will be applied. This can be used to start a phase somewhere

in the middle of the Note Series from which the indexes can be chosen in either direction according to the Index Pattern.

- ⚡ Not available when “GE Type” (☞p.953) = **1: Generated-Gated**. If **2: Generated-Drum**, the Note Series can be applied as pitch bend, discussed elsewhere.

Length Mode [0...2]

0: AC-Actual 1: TS-Time Signature 2: EV-Events

Selects one of several modes for determining when a Phase Change from the current step to the next step of the Phase Pattern will occur. Note that this has a certain interaction with the Cycle Mode parameter, described below.

0: AC-Actual

Causes the Phase Change to be completely dependent on the length of the Note Series and the Phase “Beginning/End Offsets.” The portion of the Note Series to be used as specified by the Phase “Beginning/End Offsets” (described below) is referred to as the “playback portion” of the Note Series. The notes are generated by moving through the Note series according to the Index Group settings; when either end of the playback portion has been reached, a Phase Change occurs. Therefore, if more or less notes are played, the Phases will change sooner or later and bear no relation to any time signatures or specific number of events. This is useful for GEs that model the behavior of most simple arpeggiators.

- ⚡ Not available if “GE Type” (☞p.953) = **1: Generated-Gated**.

1: TS-Time Signature

Makes the Time Signature parameters (“Tsig Numerator/Denominator” ☞p.11) available in the Phase Specific Parameter area of each Phase (described below). These allow setting each Phase to various time signatures, which cause the Phase to playback a certain number of beats regardless of any other circumstances that might trigger a Phase Change. When moving through the Note Series, if either end of the playback portion is reached (specified by the “Phase Beginning/End Offsets” ☞p.963) before the amount of beats specified has occurred, then the movement either freezes, generates silence, wraps around, or cycles back and continues (depending on the setting of the “Cycle Mode” parameter, described below). Useful for groove generation and constraining effects to certain time signatures.

2: EV-Events

Makes the “Events” parameter available in the Phase Specific Parameter area of each Phase (described below). This is used to set the Phase to perform a certain number of events before changing Phases (an event being a note or cluster). When moving through the Note Series, if either end of the playback portion is reached (specified by the “Phase Beginning/End Offsets” ☞p.963) before the number of events specified has occurred, then the movement either freezes, generates silence, wraps around, or cycles back and continues (depending on the setting of the “Cycle

Mode” parameter, described below). Useful for constraining effects to a certain number of specific events, such as 4 strums per Phase.

Cycle Mode [0...3]

- 0: S-replace with silence
- 1: F-fill with top/bottom note
- 2: R-restart at other end of Phase
- 3: W-wrap at either end of Phase
- 4: B-cycle back from beginning of Phase
- 5: E-cycle back from end of Phase
- 6: BE-cycle back from beginning & end of Phase

Determines what will happen when either end of the playback portion of the Phase (specified by the “Phase Beginning/End Offsets” (☞p.963) and/or the length of the Note Series) is reached during note generation. If the “Length Mode” is **1: TS - Time Signature** or **2: EV - Events**, cycling can be allowed to occur. This has a different effect depending on the setting of the Phase “Length Mode” (above).

- ⚡ Not available if “Phase Length Mode” (above) = **0: Actual**. Not available if “GE Type” = **1: Generated-Gated**, unless “Gate Type” (☞p.953) = **1: Vel CP**. If “GE Type” = **2: Generated-Drum**, the Note Series can be applied as pitch bend, discussed elsewhere.

0: S-replace with silence

If note generation would extend beyond either end of the playback portion of the Phase, those notes are skipped and replaced with silence. Once the specified number of events (including silent notes) or beats of a time signature are generated, a Phase Change occurs. This can be used to simulate the Triton Arpeggiator setting “Arpeggio Type”: **As Played**.

1: F-fill with top/bottom note

If note generation would extend beyond either end of the playback portion of the Phase, those notes are limited and replaced with the bottom or top note of the Phase. Once the specified number of events or beats of a time signature are generated; a Phase Change occurs. Settings of the Index Pattern or Cluster Pattern which would cause movement beyond that point have no effect. This can be used to simulate the Triton Arpeggiator setting “Arpeggio Type”: **As Played (Fill)**.

2: R-restart at other end of Phase

If note generation would extend beyond either end of the playback portion of the Phase, those notes are replaced by notes within the playback portion, as if the riff restarted at the other end. (For the more technically oriented, the index is kept within range using modulo division.) Once the specified number of events or beats of a time signature are generated, a Phase Change occurs. This can be used to simulate the Triton Arpeggiator setting “Arpeggio Type”: **Running Up**.

3: W-wrap at either end of Phase

If note generation would extend beyond either end of the playback portion of the Phase, those notes are replaced by notes within the playback portion, as if the riff is being “wrapped around” the end point. (For the more technically oriented, the index is kept within range by inverting it.) Once the specified number of events or beats of a time signature are generated, a

Phase Change occurs. This can be used to simulate the Triton Arpeggiator setting “Arpeggio Type”:
Up&Down.

4: B-cycle back from beginning of Phase

Allows “cycling” to occur at the beginning of the playback portion of the Phase. For example, if the movement specified by the Index Pattern causes the index to go backwards beyond the beginning of the playback portion, “cycling” will occur (the index will automatically be jumped back into the playback portion by a calculated amount). If the Phase “Length Mode” is **0: AC-Actual**, no cycling is performed and a Phase Change will immediately occur.

5: E-cycle back from end of Phase

Allows “cycling” to occur at the end of the playback portion of the Phase. For example, if the movement specified by the Index Pattern causes the index to go forwards beyond end of the playback portion, “cycling” will occur (the index will automatically be jumped back into the playback portion by a calculated amount). If the Phase “Length Mode” is **0: AC-Actual**, no cycling is performed and a Phase Change will immediately occur.

6: BE-cycle back from beginning & end of Phase

Allows the behavior described above at both ends of the playback portion of the Phase.


Phase Specific Parameters

For each of the two Phases, a group of Phase Specific Parameters allow control of some performance characteristics within each Phase. If settings of the Phase Pattern indicate a particular Phase is not being used, the Phase Specific Parameters for that Phase will not be operable.

Direction **[0, 1]**


0: Forward 1: Backward

Selects the basic direction for movement through the Note Series in a particular phase. Works in conjunction with the parameters in the Index Group, which control how the index(es) move through the Note Series. For example, when the Direction is **0: Forward**, the Index Pattern values are added to the index to move it through the Note Series from left to right; when Direction is **1: Backward**, the Index Pattern values are subtracted to move the index through the Note Series from right to left.

 Not available when “GE Type” (p.953) = **1: Generated-Gated**. If **2: Generated-Drum**, the Note Series can be applied as pitch bend, discussed elsewhere.

Phase Transpose **[-36...+36 (semitones)]**

Allows each Phase to be transposed individually.

 This applies to each time the Phase occurs in the overall Phase Pattern, unlike the Step Transpose Value. Has no effect on Direct Indexing effects, which have a separate Transpose parameter (see Direct Index Group) or when “GE Type” (p.953) = **2: Generated-Drum**. The Phase Transpose value is cumulative with the Step Transpose value discussed above. For example, if a Step Transpose Value is **-12**, and the Phase Transpose Value for the Phase in use during that step is **+24**, the overall transpose would be **+12**.

Octave Phs. Transpose **[-36...+36]**

Allows the Phase’s Transpose value to be quantized to the nearest octave, so that when being changed in real-time, only transposition by octaves is possible. In this case, the value of the parameter changes by semitones, but the actual transpose value will only change at certain points within the range:

-36 to -31 = -36 (-3 octaves)
-30 to -19 = -24 (-2 octaves)

-18 to -7 = -12 (-1 octave)
-6 to +5 = 0 (no transpose)
+6 to +17 = +12 (+1 octave)
+18 to +29 = +24 (+2 octaves)
+30 to +36 = +36 (+3 octaves)

Oct/5th Phs. Transpose **[-36...+36]**

Allows the Phase’s Transpose value to be quantized to the nearest octave or fifth, so that when being changed in real-time, only transposition by octaves or fifths is possible. In this case, the value of the parameter changes by semitones, but the actual transpose value will only change at certain points within the range:

-36 to -33 = -36 (-3 octaves)
-32 to -27 = -29 (-3 octaves +5th)
-26 to -21 = -24 (-2 octaves)
-20 to -15 = -17 (-2 octaves +5th)
-14 to -9 = -12 (-1 octave)
-8 to -3 = -5 (-1 octave +5th)
-2 to +3 = 0 (no transpose)
+4 to +9 = +7 (+5th)
+10 to +15 = +12 (+1 octave)
+16 to +21 = +19 (+1 octave +5th)
+22 to +27 = +24 (+2 octaves)
+28 to +33 = +31 (+2 octaves +5th)
+34 to +36 = +36 (+3 octaves)

Events **[1...96]**

TSig Numerator **[0...31]**


0...31: 1...32

TSig Denominator **[0...4]**

0: 16 1: 12 2: 8 3: 6 4: 4

The parameters for determining when a Phase Change should occur vary according to the setting of the Phase “Length Mode” (p.9), described in General Parameters above. When the Phase “Length Mode” is **1: TS-Time Signature**, “TSig Numerator” and “TSig Denominator” are available which allow you to specify various time signatures for each Phase. A certain number of beats is then performed in the Phase, regardless of any other circumstances which might trigger a Phase Change. When the Phase “Length Mode” is **2: EV-Events**, a events is available which allows you to specify a certain number of events (an event being a note or cluster of notes). The specified

number of events is then performed in each Phase, regardless of any other circumstances which might trigger a Phase Change. When the Phase “Length Mode” is **0: AC-Actual**, then these parameters are not available. The Phases will then change according to the movement through the Note Series.

 **0: AC-Actual** not available when GE Type (⚙p.953) = **1: Generated-Gated**.


Beginning Offset % [0...100 (%)]

End Offset % [0...100 (%)]

Sets an overall beginning and end range in the Note Series for note generation within the Phase. Even though settings in the Note Series Group may have

created a very long Note Series, these can be used to select just a portion of the Note Series from which to generate notes over the length of a particular Phase.

For example, if the “Beginning Offset” is **25%** and the “End Offset” is **75%**, note generation within the Phase would be restricted to coming from the portion of the Note Series 1/4 to 3/4 of the way from the beginning.

 Not available when “GE Type” (⚙p.953) = **1: Generated-Gated**, unless “Gate Type” (⚙p.953) = **1: Vel CP**. If **2: Generated-Drum**, the Note Series can be applied as pitch bend, discussed elsewhere.

End Loop Parameters

Determines whether a portion of the effect will loop, after a certain number of steps of the Phase Pattern have been completed. Note that once the loop has started, it continues using the Phase Pattern, and current Phase “Length Mode”.

End Loop On/Off [0, 1]

0: Off 1: On

Enables/disables this feature, and the following two parameters.

End Loop Start Step [1...17]

Selects a total number of Phase Pattern steps to complete before entering the End Loop. For example, if the Phase Pattern was set to a 2 step pattern of {1, 2}

and the Start Step menu to **4**, the loop would be entered after the 2nd time through the Phase Pattern, at the end of the 4th step in total. Not available if the “End Loop On/Off” is set to **0: Off**.

End Loop Length [1...96]

1...96: events

Determines how many events (notes or clusters) will be moved forward/backward while looping, according to various other parameters such as the Index Pattern. Not available if the “End Loop On/Off” is set to **0: Off**.

Pattern Parameters

Pattern Items [1...16 (steps)]

Sets the number of steps in the Phase Pattern.

Pattern Step 1...16 [0, 1]

0: Phase1 1: Phase2

Sets which phase (Phase 1 or Phase 2) will be used for generating data when a specific step of the Phase Pattern is entered during playback. For each step that is enabled, the step may be set to either Phase 1 or Phase 2.

Note: If the number of steps in the Phase Pattern (Pattern Items) is less than the step being edited, this will produce no audible results.

Template Parameters [0...15]

Selects one of 16 templates (each having 4 steps) that can be applied to all or parts of the Phase Pattern. They specify 16 different combinations of Phase 1 and Phase 2 within a 4 step section:

0: 1-1-1-1	6: 1-2-1-1	12: 1-2-2-2
1: 2-2-2-2	7: 2-1-1-1	13: 2-2-2-1
2: 1-2-1-2	8: 1-1-2-2	14: 2-2-1-2
3: 2-1-2-1	9: 1-2-2-1	15: 2-1-2-2
4: 1-1-1-2	10: 2-2-1-1	

5: 1-1-2-1 11: 2-1-1-2

Template (All Steps)

The chosen template is applied to all steps of the Phase Pattern, regardless of how many there are. For example, if you selected **6: 1-2-1-1** (Template 6), then the following would happen to the Phase Pattern:

If the Phase Pattern had 1 steps: 1
 If the Phase Pattern had 2 steps: 1-2
 If the Phase Pattern had 4 steps: 1-2-1-1
 If the Phase Pattern had 7 steps: 1-2-1-1 1-2-1
 If the Phase Pattern had 16 steps: 1-2-1-1 1-2-1-1 1-2-1-1 1-2-1-1

Template Steps 1...4

Applies the selected template only to the first 4 steps of the Phase Pattern.

If there are more steps, they will remain unchanged.

Template Steps 5...8

Applies the selected template only to steps 5-8 of the Phase Pattern. If there are more steps, they will remain unchanged. Steps 1-4 will remain unchanged.

Template Steps 9...12

Same as above, except for steps 9-12.

Template Steps 13...16

Same as above, except for steps 13–16.

Note that if the number of steps in the Phase Pattern (Pattern Items) is less than the steps for which Templates are being changed, these will produce no audible results.

Step Transpose Value [-48...0...+48]

Allows a separate Transpose Value to be used in each step of the Phase Pattern (-48...+48 semitones) that affects all notes that are generated during that step.

The Step Transpose Value is cumulative with the Phase Transpose Value discussed below. For example, if a Step Transpose Value is -12, and the Phase Transpose Value for the Phase in use during that step is +24, the overall transpose would be +12. While this value is not directly accessible in each Phase Pattern Step as a GE RT Parameter, it may be set as part of a GE and varied by the following two GE RT Parameters:

Step Transpose On/Off

[0, 1]

0: Off 1: On

Allows the effect of the Step Transpose Values in each Phase Pattern Step to be turned on or off for the entire Phase Pattern.

Step Transp. Template

[0...17]

Allows one of 18 different templates for the 16 steps of a Phase Pattern to be chosen and applied to the current Phase Pattern. These 18 templates provide a wide variety of switching between octaves in various orders and amounts, and correspond to various settings of the Triton Arpeggiator “Octave” and “Octave Motion” parameters (refer to table at the bottom). They can be used to simulate Triton Arpeggio performances, in addition to other useful applications.

Template for emulating the operation of the TRITON series arpeggiator parameters “Octave” and “Octave Motion”

	1	2	3	4	5	6	7	8	9	11	12	13	14	15	16	Octave	Octave Motion*
0:	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	U D B
1:	0	12	0	12	0	12	0	12	0	12	0	12	0	12	12	2	U B
2:	12	0	12	0	12	0	12	0	12	0	12	0	12	0	12	2	D
3:	0	12	24	0	12	24	0	12	24	0	12	24	0	12	24	3	U
4:	24	12	0	24	12	0	24	12	0	24	12	0	24	12	0	3	D
5:	0	12	24	12	0	12	24	12	0	12	24	12	0	12	24	3	B
6:	0	12	24	36	0	12	24	36	0	12	24	36	0	12	24	4	U
7:	36	24	12	0	36	24	12	0	36	24	12	0	36	24	12	4	D
8:	0	12	24	36	24	12										4	B
9:	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	U D B (x2)
10:	0	0	12	12	0	0	12	12	0	0	12	12	0	0	12	2	U B (x2)
11:	12	12	0	0	12	12	0	0	12	12	0	0	12	12	0	2	D (x2)
12:	0	0	12	12	24	24	0	0	12	12	24	24	0	0	12	3	U (x2)
13:	24	24	12	12	0	0	24	24	12	12	0	0	24	24	12	3	D (x2)
14:	0	0	12	12	24	24	12	12	0	0	12	12	24	24	12	3	B (x2)
15:	0	0	12	12	24	24	36	36	0	0	12	12	24	24	36	4	U (x2)
16:	36	36	24	24	12	12	0	0	36	36	24	24	12	12	0	4	D (x2)
17:	0	0	12	12	24	24	36	36	24	24	12	12	0	0	12	4	B (x2)

* = Up, D = Down, B = Both

Rhythm Group

Overview

The **Rhythm Group** controls the rhythmic characteristics of the Generated Effect. It can also have an influence on when “Auto Bend” pitch bending effects (set up on the Bend Group) are generated.

About Rhythm Patterns

Rhythm Patterns control the timing with which notes will be generated. A value derived from a Rhythm Pattern is the size of the step between each generated note. Choices can be made from “Random Pools” (p.967) of values as described in detail later on. Furthermore, values can be tied to each other; the ties can be absolute or random.

Rhythm Patterns may be multiplied by the “Rhythm Multiplier,” which gives them many more variations, in addition to providing easy ways to experiment with

fractal and poly-rhythmic effects. A Rhythm Pattern of {8th, 16th, 16th} with a “Rhythm Multiplier” (p.968) of 200% will play {Quarter, 8th, 8th}.

A Rhythm Pattern will loop as long as note generation continues. It normally will not reset to the beginning of the Pattern unless a new Trigger is received, or the Phase Pattern has been configured to restart it at the beginning of certain Phases. This means that a four step Rhythm Pattern can be looping while an eight step Velocity Pattern and a twelve step Cluster Pattern are also independently looping, for example.

Global Parameters

The Global Parameters section contains parameters that relate to shifting the overall timing of the notes that are generated. The Humanize parameter allows subtle randomizations of timing, while the other four Swing-related RT Parameters deal with adding a “swing” or “hip-hop” feel to the rhythms.

The four Swing-related RT parameters will not be available if Swing On/Off is set to “Off.”

Humanize [0...255 (ms)]

Sets a range in milliseconds within which each note/cluster may be randomly shifted in time. For example, if set to **10 ms**, then each cluster or note as it is generated has a possibility of a random offset in time of between 0 to 10 ms. This affects all of the notes in the cluster at the same time. This can be used to impart a more “human,” less machine-like precision to generated notes. This can also be used to totally destroy the timing!

Swing Note Value [0...3]

0: 32th note 2: 8th note
1: 16th note 3: 4th note

Selects the base note value to be used in calculating swing. For example, if you want to add a swing feel to a steady string of 16th notes, you would select a **1: 16th note**. Straight 8th notes would exhibit no change with this setting, since they do not swing in such a feel unless they are syncopated. On the other hand, if you swing 16th notes with a **2: 8th note** Swing Note selected, the 16th notes are swung in an 8th note feel. While this is not necessarily natural “swing,” interesting shiftings of timings can be produced. Note that the setting of this parameter can be modified by the “Swing Use Multiplier” parameter, explained below.

Swing % [-200...200 (%)]

Sets the percentage of swing/hip-hop feeling to be applied. **0%** = no swing, **50%** = triplets, while **100%** pushes the swung notes all the way to the next value of half the note length set by the “Swing Note Value” (p.965). For example, if swinging straight **1: 16th notes**, **100%** would push the swung notes to 32nds. **200%** would push the swung notes all the way to the next 16th. **Negative values** push the swung notes the other direction. Note that triplet rhythm values may not be affected by swing, depending on internal settings of the GE.

Triplets may or may not be swung depending on the setting of the “Swing Triplets” parameter below.

Swing % 0~100,101,102 [0...100, 101, 102]

0...100: 0...+100%
101: 200%
102: -200%

This special variation of the Swing % parameter allows only the most useful settings to be applied as a GE RT Parameter, for assigning to a Real-Time Control. A setting of 0...100 corresponds to 0...100% swing factor, while a value of **101** selects +200%, and a value of **102** selects -200%. Using this ensures that the most useful settings will be available over the widest range of the assigned control, while allowing the useful +/-200% values to still be selected.

Swing Use Multiplier

[0...3]

- 0: Off
- 1: Ind-Independently
- 2: P1-Phase1
- 3: P2-Phase2

The "Rhythm Multiplier" (explained later on in this chapter) causes the values in the Rhythm Pattern to be increased or decreased by a percentage. The "Swing Use Multiplier" specifies several options for selectively applying (or not applying) the Rhythm Multiplier(s) to the "Swing Note Value" also, thereby affecting the resulting swing feel.

0: Off-do not use Multipliers for Swing

The "Rhythm Multipliers" in each Phase do not have any affect on the "Swing Note Value". For example, if generating 16th notes with a "Rhythm Multiplier" of 100% and "Swing Note Value" set to 1: 16th note, the resulting 16th notes will be swung with a 16th note feel. If the "Rhythm Multiplier" is changed to 50%, the resulting 32nd notes will still be swung with a 16th note feel. If the "Rhythm Multiplier" is changed to 200%, the resulting 8th notes will also be swung with a 16th note feel, resulting in no perceptible swing (unless the rhythm is syncopated).

1: Ind-independently use each Phase's Multiplier

Each Phase's "Rhythm Multiplier" (p.968) will independently affect swing calculations while generating rhythms within that Phase. In other words, the "Swing Note Value" will also have the "Rhythm Multiplier" applied to it. For example, if generating 16th notes with a "Rhythm Multiplier" of 100% and

"Swing Note Value" set to 1: 16th note, the resulting 16th notes will be swung with a 16th note feel. If the "Rhythm Multiplier" is changed to 50%, the resulting 32nd notes will be swung with a 32nd note feel. If the "Rhythm Multiplier" is changed to 200%, the resulting 8th notes will be swung with an 8th note feel. With this setting, it is possible to swing with different note values in the two Phases, such as swinging with an 8th note feel in one phase and swinging with a 16th note feel in the other.

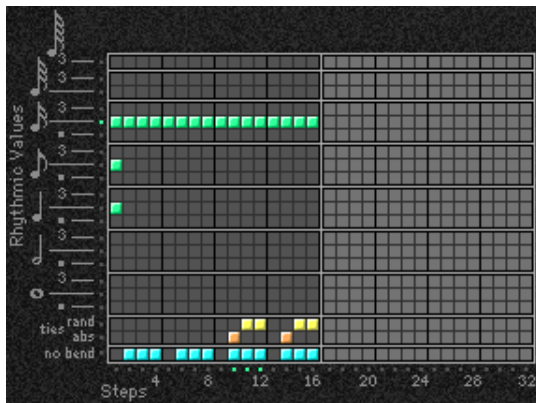
2: P1-always use Phase1's Multiplier

Same as 1: Ind above, except that Phase 1's "Rhythm Multiplier" will always be used, regardless of which Phase is currently generating rhythms. This allows the Rhythm Multiplier to be varied in Phase 1 while affecting the overall swing settings for the whole effect. For example, if generating 16th notes in both phases with both Phase's "Rhythm Multipliers" set to 100% and "Swing Note Value" set to 1: 16th note, the resulting 16th notes will be swung with a 16th note feel. If Phase 1's "Rhythm Multiplier" is changed to 200%, the resulting 8th notes in Phase 1 and 16th notes in Phase 2 will all be swung with an 8th note feel. If the "Rhythm Multiplier" in Phase 1 is 100% and changed to 50% in Phase 2, the resulting 16th notes in Phase 1 and 32nd notes in Phase 2 will all be swung with a 16th note feel.

3: P2-always use Phase2's Multiplier

Same as 2: P1 described above, except utilizing Phase 2's "Rhythm Multiplier."

Pattern Grid & Associated Parameters



Rhythm Pattern


A Rhythm Pattern controls the rhythm that the notes are generated with according to a grid of rhythmic values. It has any number of steps up to 32, with each step being represented by one column on the grid. The first column always contains at least one value; unused columns appear disabled. The top part of the grid corresponds to 18 different rhythmic values; the bottom 3 rows are special purpose rows:

[ties: rand] - Random Tie: randomly ties the rhythmic value in the same column to the previous column's rhythmic value. For example, a 16th note in the first column followed by a 16th note and a random tie in the

2nd column yields either an 8th note or two 16th notes. When at least one random tie has been selected, a weighting curve is available which allows choices to be slanted towards more ties or less ties, as described later.

[ties: abs] - Absolute Tie: always ties the rhythmic value in same column to the previous column's rhythmic value. For example, a 16th note in the first column followed by a 16th note and an absolute tie in the 2nd column yields an 8th note. The 2 tie rows are mutually exclusive; only one at a time can be used in any given column.

[no bend] - No Bend: affects when Automatic Pitch Bending effects can occur, as set up in the Bend Group. These effects will normally be triggered with every single generated note or cluster; by using the "no bend" row, bends can be prevented from occurring on various steps of the Rhythm Pattern.

 Pattern grids cannot be viewed or edited on the OASYS.

Random Weighting Parameters - Pools

The Random Weighting Parameters - Pools are made available when at least one step (column) in the Rhythm Pattern has multiple rhythmic values selected (constituting a “random pool” of values).

Whenever a random pool is encountered in playing through the pattern, a random choice is made from the values in that step. Certain areas of the random pool can be favored by the use of a weighting table, with various shaped curves. Using the curves, you can influence certain choices to be made more or less often than others, allowing very musical real-time control of the randomness.

Whether or not a certain random sequence will repeat for a number of times is controlled by settings in the Phase Pattern.



Pools-Random Factor [-99...+99]

Controls the degree of slope to the Weighting Curve. 0 = a Linear Curve with any Weighting Curve. **Negative values** not only invert but rotate the curve. When the value is either +99 or -99, the choices are “locked” to the highest or lowest values in the columns, and there are no random choices at all. (The only exception to this is an S-shaped curve with a value of -99. In this case, a random choice will be made between the highest and lowest values only.) For more information, see the Appendices: “Random Weighting Curves.” (p.50)

Pools-Weighting Curve [0...3]

- 0: Exponential 2: Exp-S
- 1: Logarithmic 3: Log-S

4 different shapes are available, which act to favor certain areas of the pool over others when each random choice is made. For more information, see “Random Weighting Curves” on page 1015.

0: Exponential

With a **positive Factor (+)**, choices will be exponentially weighted towards the shorter rhythms. With a **negative Factor (-)**, choices will be exponentially weighted towards the longer rhythms.

1: Logarithmic

With a **positive Factor (+)**, choices will be logarithmically weighted towards the shorter rhythms. With a **negative Factor (-)**, choices will be logarithmically weighted towards the longer rhythms.

2: Exp-S (Exponential S)

With a **positive Factor (+)**, choices will be exponentially weighted towards the middle rhythms, and away from the shorter and longer rhythms. With a **negative Factor (-)**, choices will be exponentially weighted towards the shorter and longer rhythms, and away from the middle rhythms.

3: Log-S (Logarithmic S)

With a **positive Factor (+)**, choices will be logarithmically weighted towards the middle rhythms, and away from the shorter and longer rhythms. With a **negative Factor (-)**, choices will be logarithmically weighted towards the shorter and longer rhythms, and away from the middle rhythms.

▲ A Factor of 0 with any shaped curve yields a linear table (straight diagonal line), and each of the values in the pool will have an equal chance of being chosen.

Note: While exponential and logarithmic curves may seem to have a similar shape, they have slight differences which can affect the outcome of the random choices. For more information, see “Random Weighting Curves” on page 1015.

The following table summarizes the effect of the various Weighting Curves and the Factor field on the choices from the Rhythm Pools:

Rhythm Pool values that receive priority:		
Weighting Curve	Factor	
	+ (positive)	- (negative)
Exp/Log	longer	shorter
Exp-S/Log-S	middle	shorter/longer

Random Weighting Parameters - Ties

The Random Weighting Parameters - Ties are made available when at least one step in the Rhythm Pattern contains a Random Tie. Whenever this step is encountered in playing through the pattern and a random choice must be made, the likelihood of a tie occurring can be favored by the use of a weighting table.



Ties-Random Factor [-99...+99]

Controls the degree of slope to the Weighting Curve. 0 = a Linear Curve with any Weighting Curve. Negative values not only invert but rotate the curve. When the

value is +99, the choices are “locked” to no ties whatsoever; when the value is -99, the choices are “locked” to ties always (and the effect is the same as if absolute ties were selected). For more information, see “Random Weighting Curves” on page 1015.

Ties-Weighting Curve [0, 1]

0: Exponential 1: Logarithmic

2 different shapes are available, which affect the likelihood of a tie occurring when a random choice is made. For more information, see “Random Weighting Curves” on page 1015.


0: Exponential

With a **positive Factor (+)**, choices will be exponentially weighted towards rhythm values more often. With a **negative Factor (-)**, choices will be exponentially weighted towards ties more often.

1: Logarithmic

With a **positive Factor (+)**, choices will be logarithmically weighted towards the rhythm values more often. With a **negative Factor (-)**, choices will be logarithmically weighted towards the ties more often.

Note: While exponential and logarithmic curves may seem to have a similar shape, they have slight differences which can affect the outcome of the random choices. For more information, see “Random Weighting Curves” on page 1015.

 A Factor of 0 with any shaped curve yields a linear table (straight diagonal line), and a random tie or a rhythm value in the pool will have an equal chance of getting chosen.

The following table summarizes the effect of the various Weighting Curves and the Factor field on random ties:

Values that receive priority:		
Weighting Curve	Factor	
	+ (positive)	- (negative)
Exp/Log	less ties	more ties

Associated Parameters

Rhythm Multiplier [1...800 (%)]

Multiplies the selected Rhythm Pattern by the percentage. Useful for poly-rhythmic and fractal effects, such as using the same Rhythm Pattern at different multiplications. For example, if a Pattern is {16th, 8th, 8th}, then using a “Rhythm Multiplier” of 50% changes it to {32nd, 16th, 16th}; using a “Multiplier” of 200% changes it to {8th, Quarter, Quarter}; using a “Multiplier” of 136% changes it to {8th triplet, Qtr triplet, Qtr triplet}; and using a “Multiplier” of 150% changes it to {dotted 8th, dotted Qtr, dotted Qtr}.

Straight Multipliers [0...5]

0: 25% 2: 100% 4: 400%
1: 50% 3: 200% 5: 800%

Selects from a quantized set of “straight” values for the Rhythm Multiplier field. In other words, when applied to a Rhythm Pattern containing values such as 16th notes, the resulting rhythmic values will be straight values such as 8th notes, quarter notes, etc.

Straight/Trip Mults [0...10]

0: 25% 4: 100% 8: 400%
1: 34% 5: 136% 9: 544%
2: 50% 6: 200% 10: 800%
3: 68% 7: 272%

Selects from a quantized set of “straight & triplet” values for the Rhythm Multiplier field. In other words, when applied to a Rhythm Pattern containing values such as 16th notes, the resulting rhythmic values will be straight values such as 8th notes, quarter notes, etc. or various triplet values.

Strt/Dot/Trip Mults [0...15]

0: 25% 4: 68% 8: 150% 12: 400%
1: 34% 5: 75% 9: 200% 13: 544%
2: 37% 6: 100% 10: 272% 14: 600%
3: 50% 7: 136% 11: 300% 15: 800%

Selects from a quantized set of “straight, triplet & dotted” values for the Rhythm Multiplier field. In other words, when applied to a Rhythm Pattern containing values such as 16th notes, the resulting rhythmic values will be straight values such as 8th notes, quarter notes, etc., various triplet values, or various dotted values.

Template Parameters

The two Template Parameters select from 63 or 64 different Rhythm Pattern Templates, and load the parameters into the current Phase’s Pattern Grid and associated parameters.

A Rhythm Pattern Template consists of:

- the configuration of the Rhythm Pattern Grid
- Random Weighting Parameters - Pools
- Random Weighting Parameters - Ties

Template [1...63]

The internal settings of the GE for the set of parameters corresponding to the chosen Template are never used; rather they are always replaced by one of the selected Templates from within the Min/Max range specified for the GE Real-Time Parameters page (“MIN (Min Value)” and “MAX (Max Value)” PG p.66). In this case, available range is 1–63.

Template + Restore [0: [As Stored]...63]

Similar to the above setting; however, the internal settings of the GE can be restored and used as part of the real-time Template operation. In this case, the Min setting of the Template Range actually does not select that Template; rather, it causes the internal settings of the GE to be restored for that Template's set of parameters. In other words, you can have a complex pattern already set up. When "Template + Restore" is being assigned as a GE Real-Time Parameter, you specify a range where the "Min Value" restores the internal settings, and the rest of the range selects Templates, replacing the internal settings. So if the "Min value" was **5** and the "Max value" was **10**, choosing **5** would restore the internal settings, and **6** through **10** would select the corresponding Rhythm Template. You can use this to keep the internal settings of the GE, while still allowing a wide variety of Templates to be substituted for various groups of parameters. In this case, the available range is **0-63**. You can assign the full range of all 63 Templates, or only a portion of the range, and still have the ability to restore the original internal settings.

Duration Group

Overview

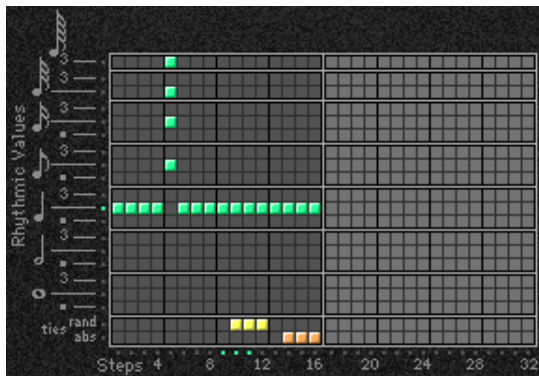
The **Duration Group** contains the parameters that control the duration of the notes in a Generated Effect.

About Duration Patterns

Duration Patterns control the duration of notes for each “rhythm event” that is generated according to the settings in the Rhythm Group. Choices can be made from “Random Pools” of values as described in detail later on. Furthermore, values can be tied to each other; such ties can be absolute or random.

A Duration Pattern will loop as long as note generation continues. It normally will not reset to the beginning of the Pattern unless a new Trigger is received, or the Phase Pattern has been configured to restart it at the beginning of certain Phases. That means that a four step Duration Pattern can be looping while an eight step Velocity Pattern and a twelve step Cluster Pattern are also independently looping, for example.

Pattern Grid & Associated Parameters



Duration Pattern

A Duration Pattern controls the durations that the notes are generated with according to a grid of rhythmic values. It has any number of steps up to 32, with each step being represented by one column on the grid. The first column always contains at least one value; unused columns appear disabled. The top part of the grid corresponds to 18 different rhythmic values; the bottom 2 rows are special purpose rows:

[ties: rand] - Random Tie: randomly ties the rhythmic value in the same column to the previous column’s rhythmic value. For example, a 16th note in the first column followed by a 16th note and a random tie in the 2nd column yields either an 8th note or two 16th notes. When at least one random tie has been selected, a weighting curve is available which allows choices to be slanted towards more ties or less ties, as described later.

[ties: abs] - Absolute Tie: always ties the rhythmic value in same column to the previous column’s rhythmic value. For example, a 16th note in the first column followed by a 16th note and an absolute tie in the 2nd column yields an 8th note.

The 2 tie rows are mutually exclusive; only one at a time can be used in any given column.

- ⚠ If the “Duration Mode” is **3: Timed**, **4: Rhythm Overlap**, or **5: Rhythm %**, the Duration Pattern Grid is not utilized.
- ⚠ Pattern grids cannot be viewed and edited in the OASYS.

Associated Parameters

Duration Mode

[0...7]

- | | |
|-----------------------|--------------------|
| 0: Poly Extend | 4: Rhythm Overlap |
| 1: Poly Extend/Damped | 5: Rhythm % |
| 2: Mono Extend | 6: Pattern Overlap |
| 3: Timed | 7: Pattern % |

Selects one of several modes of operation for generating durations in the current Phase:

- ⚠ Based on the current setting, the Duration Pattern Grid, and Random Weighting Parameters may not be available.

0: Poly Extend

Each note will sustain until the next generation of the same note, or until that note is no longer a part of the Note Series (caused by playing a new chord, for example). For example, if the notes to a CMaj chord are sustaining and the chord is changed to a C Minor, only the Es will be damped. Especially useful for finger-picked and strummed guitar effects. Certain steps may be “damped” by using the Duration Pattern to indicate a duration value shorter than the current Rhythm Pattern value. The “Duration Value” parameter is used to specify a percentage of the Duration Pattern value, making it shorter or longer by a certain amount. For example, if the Rhythm Pattern is generating quarter

notes, any step in the Duration Pattern (as modified by the Duration Value) that is shorter than a quarter note will cause the notes (and all sustaining notes at that time) to have the specified duration. This is useful for simulating the technique of strumming and damping certain chords within the progression. Any value in a Duration Pattern step (as modified by the Duration Value) that is longer than the current Rhythm Pattern value will be ignored, and the notes will sustain as described above. The "Duration Value" specifies a percentage of the overall value (1 – 800%) - therefore, values less than 100% will shorten the duration represented by the Pattern Step, and values greater than 100% will lengthen it.

1: Poly Extend/Damped

The same as above, except all sustaining notes will be damped when the chord changes, not just notes that are no longer in the Note Series.

2: Mono Extend

The same as above, except each note or cluster is sustained until the next note or cluster (of any pitch or pitches) is generated.

3: Timed ("Duration Value": 1...5000 ms)

The "Duration Value" parameter is used to specify the duration of the generated notes, in milliseconds (1 – 5000 ms). All notes will therefore have the same length. Note that this is independent of the current tempo - if it is set to **50 ms**, it will always be 50 ms, regardless of tempo.

4: Rhythm Overlap

("Duration Value": -500...+500 ms)

The "Duration Value" parameter is used to specify an amount by which each note or cluster will overlap or be separated from the next note or cluster, in milliseconds (-500 – 500 ms). Note that this relates to the Rhythm Pattern values. **Positive values** cause overlapping; **negative values** cause separation. For example, a setting of **-20** ensures that all notes will extend and be separated from the next notes by 20 ms regardless of the actual rhythm the notes are generated with, or the current tempo. Note that while the Rhythm Pattern values themselves are relative to tempo, the value specified here is not. Using the example setting of **-20**, there will always be a gap of 20 ms between notes regardless of the tempo.

5: Rhythm % ("Duration Value": 1...800%)

The "Duration Value" parameter is used to specify a percentage of the rhythmic value a note is generated with to use as a duration (1 – 800%). Note that this relates to the Rhythm Pattern values. The actual time is then calculated on the fly, taking into account the current tempo. For example, with a setting of **50%**, if the Rhythm Pattern specifies a string of **8th notes**, they will appear to be generated as a string of **16th notes** separated by **16th note rests** (each 8th note will have the duration of a 16th note, or 50%). Note that this value is therefore relative to tempo.

6: Pattern Overlap

("Duration Value": -500...+500 ms)

The Duration Pattern is used to construct a Duration Pattern, in a similar fashion to the Rhythm Pattern. Each step in the pattern indicates the duration for notes that are currently to be generated. The "Duration Value" parameter is used to specify amount by which to increase or decrease the pattern values, in milliseconds (-500 – 500 ms). This can be used to set up a certain Duration Pattern, and then vary in real-time the "gate-time" of each note in the pattern simultaneously. For example, if the Duration Pattern is generating **16th - 8th** at a tempo of **120 BPM**, the notes would have the durations of **125 ms, 250 ms**, etc. If the "Duration Value" parameter, is **-20**, they would be generated as **105 ms, 230 ms**, etc. Note that while the Duration Pattern values themselves are relative to tempo, the value specified here is not. Using the example setting of **-20**, the notes will always be **20 ms** shorter regardless of the tempo.

7: Pattern %

("Duration Value": 1...800%)

The Duration Pattern is used to construct a Duration Pattern, in a similar fashion to the Rhythm Pattern. Each step in the pattern indicates the duration for notes that are currently to be generated. The "Duration Value" parameter is used to specify a percentage by which to increase or decrease the pattern values (1 – 800%). This can be also be used to set up a certain Duration Pattern, and then vary in real-time the "gate-time" of each note in the pattern simultaneously, similar to the previous option. For example, if the Duration Pattern is generating **16th - 8th** at a tempo of **120 BPM**, the notes would have the durations of **125 ms, 250 ms**, etc. If the "Duration Value" is **80%**, they would be generated as **100 ms, 200 ms**, etc. Note that this value is therefore

Duration Value

[-500...+5000]

The range and function of this parameter depend on the setting of "Duration Mode."

See the descriptions above under "Duration Mode."

When the "Duration Mode" is changed, this value will be set to a default value appropriate for the mode. (if it is out of range.)

⚠ Not available if "Duration Mode" = **0: Poly Extend, 1: Poly Extend/Damped, or 2: Mono Extend.**

Use Rhythm Multiplier

[0, 1]

0: Off 1: On

When **1: On**, the durations of the generated notes will be affected by the current setting of the Rhythm Group "Rhythm Multiplier" (p.968). For example, if the Duration Pattern specifies a duration of a 16th note, and the "Rhythm Multiplier" is set to **200%** in the current Phase, the actual resulting duration will be an 8th note. This is useful when you want to vary the Rhythm Multiplier in real-time and have the Duration Pattern also lengthen the notes appropriately.

Random Weighting Parameters - Pools

The Random Weighting Parameters - Pools are made available when at least one step (column) in the

Duration Pattern has multiple rhythmic values selected (constituting a "random pool" of values).

For more information, see “Random Weighting Parameters - Pools” on page 967.

Pools-Random Factor [-99...+99]

For more information, see “Pools-Random Factor” on page 967.

Pools-Weighting Curve [0...3]

- 0: Exponential 2: Exp-S
- 1: Logarithmic 3: Log-S

For more information, see “Pools-Weighting Curve” on page 967.

The following table summarizes the effect of the various Weighting Curves and the Factor field on the choices from the Duration Pools:

Duration Pool values that receive priority:		
Weighting Curve	Factor	
	+ (positive)	- (negative)
Exp/Log	Longer	shorter
Exp-S/Log-S	middle	shorter/longer

Random Weighting Parameters – Ties

For more information, see “Random Weighting Parameters - Ties” on page 967.

Ties-Random Factor [-99...+99]

For more information, see “Ties-Random Factor” on page 967.

Ties-Weighting Curve [0, 1]

- 0: Exponential 1: Logarithmic

For more information, see “Ties-Weighting Curve” on page 968.

The following table summarizes the effect of the various Weighting Curves and the Factor field on random ties:

Values that receive priority		
Weighting Curve	Factor	
	+ (positive)	- (negative)
Exp/Log	less ties	more ties

Associated Parameters

Template Parameters

The two Template Parameters select from 63 or 64 different Duration Pattern Templates, and load the parameters into the current Phase’s Pattern Grid and associated parameters.

A Duration Pattern Template consists of:

- the configuration of the Duration Pattern Grid
- Random Weighting Parameters - Pools
- Random Weighting Parameters - Ties

Template [1...63]

☞ p.968 “Rhythm Group”: “Template Parameters”.

Template + Restore [0: [As Stored]...63]

☞ p.969 “Rhythm Group”: “Template + Restore”.

Index Group

Overview

The **Index Group** controls the order of the pitches as they are generated from the Note Series, and some other characteristics that can affect the number of notes generated at a time.

About Index Patterns

Index Patterns describe a way of moving through the Note Series in memory and consequently control the order of the pitches as they are generated. The Note Series has an index associated with it that indicates the current position, and the next Index to be generated. The Index Pattern values indicate how the index will be moved after generating the Index at the current position. A positive value moves forward from the current position; a negative value moves backwards; a value of 0 repeats a Index. Choices can be made from "Random Pools" of values as described in detail later on. When the Phase "Direction" is set to **1: Backwards**, the values operate in inverted fashion.

Since the first value in the Index Pattern is not used until after the first Index has been generated, a Index Pattern of {1, 1, 1, -2} will cause the generation of the first four notes in the Notes Series, after which it jumps back to the 2nd note in the Note Series and so on.

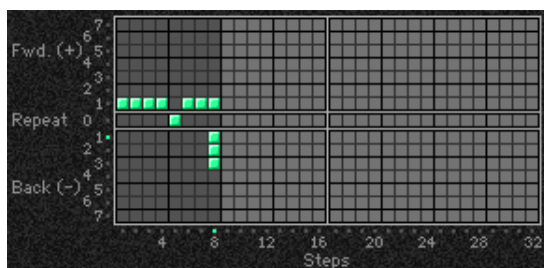
```
Note Series:   C4 → E4 → G4 → B4 ...
Index Pattern: → 1 → 1 → 1 →
                ← ← -2 ← ←
Generated Note: C4 → E4 → G4 → B4 → E4 ...
```

Note that it is possible to create Index Patterns that will not move ahead or will actually move backwards, given that you can start from a position that is somewhere in the middle of a Note Series by using either the "Start %" (p.960) or "Beginning/End Offset %" parameters (p.963) in the Phase Group. If you do create a Index Pattern that simply stays in one place (i.e. {1, -1}, or {0}), a Phase Change will only occur if the Phase "Length Mode" (p.961) is not set to **0: AC-Actual**, since in this mode it waits for the end of the Note Series to be reached, and this will never happen if there is no forward movement.

A Index Pattern will loop as long as note generation continues. It normally will not reset to the beginning of the Pattern unless a new Trigger is received, or the Phase Pattern has been configured to restart it at the beginning of certain Phases. This means that a four step Index Pattern can be looping while an eight step Velocity Pattern and a twelve step Cluster Pattern are also independently looping, for example.


Besides using Index Patterns, several other means of moving through the Note Series are provided. These options are controlled with the Index Pattern Type parameter, as described below.

Pattern Grid & Associated Parameters



Index Pattern

A Index Pattern has any number of steps up to 32, with each step being represented by one column on the grid. The first column always contains at least one value; unused columns appear disabled. The 15 rows represent forward and backward movement from the current index as each note or cluster of notes is generated.

 Pattern grids cannot be viewed or edited on the OASYS.

Associated Parameters

Index Mode

[0...2]

0: Pattern 1: Random 2: Random Walk

0: Pattern


Movement through the Note Series will be controlled by a Index Pattern constructed in the pattern grid.

1: Random

Causes the pitches to be chosen at random from the applicable portion of the Note Series. Unlike most arpeggiators, the random algorithm used here does not allow notes to happen twice in a row, which sounds less machine-like and more musical. Once a note has been chosen, future choices of that note will not occur until all other notes in the applicable portion have been chosen.


2: Random Walk (“Random Walk Max Step”: 1...9)
 Makes available the “Random Walk Max Step” parameter.

Causes the pitches to meander from the start pitch in a random fashion, with the largest step that can be taken in any direction controlled by the “Random Walk Max Step” parameter. For example, if “Random Walk Max Step” is set to 2, then the “pool” of possible choices for movement from the current Index is {-2, -1, 1, 2}. Note that {0} is not allowed as a possible choice. This is good for creating riffs which sound a bit like improvisation, especially when you use the Phase Group to ensure that random phrases will be repeated a number of times before new ones are chosen.

 If you want the possibility of the same notes happening twice or more in a row, you can use 0: Pattern, and configure the Index Pattern to have pools of values including “0,” instead of using Random or Random Walk.


Random Walk Max Step [1...9]

Sets the largest step that can be taken when Index Pattern Type is set to **2: Random Walk**, as described above. The value relates to movement of the Index through the Note Series, not a particular musical interval.


 Not available unless Index “Pattern Type” is **2: Random Walk**.

Random Weighting Parameters

The Random Weighting Parameters are made available when at least one step in the Index Pattern has multiple values selected (constituting a “random pool” of values).

 p.967 “Rhythm Group”: “Random Weighting Parameters - Pools”.

Pools-Random Factor [-99...+99]

 p.967 “Rhythm Group”: “Pools-Random Factor”.

Pools-Weighting Curve [0...3]

- 0: Exponential 2: Exp-S
- 1: Logarithmic 3: Log-S

For more information, see “Rhythm Group” on page 965, “Pools-Weighting Curve” on page 967, and “Random Weighting Curves” on page 1015.

The following table summarizes the effect of the various Weighting Curves and the Factor field on the choices from the Index Pattern Pools:

Index Pool values that receive priority:		
Weighting Curve	Factor	
	+ (positive)	- (negative)
Exp/Log	higher in grid	lower in grid
Exp-S/Log-S	middle	higher/lower

Associated Parameters

Cluster Mode [0, 1]

Sets the way that clusters affect the advancement through the Index Pattern. When set to Multi, a cluster will advance by as many steps as notes in the cluster, depending on other internal settings.

- 0: Single 1: Multi

0: Single-1 Step per Cluster

Each time a note, cluster of notes, or group of drum notes is generated one Index Pattern Value will be chosen for the resulting note or cluster of notes, after which the Index Pattern advances to the next value. For example, a cluster of six notes will all be generated from the next six adjacent notes in the Note Series (or Drum Pattern) and advance the pattern by one to the next step. In other words, when a cluster is about to be generated, the index in the Note Series will first move an amount determined by the previous Step’s Index Pattern Value; then all the notes in the cluster will be generated from adjacent indexes, after which the Pattern will again advance by one. This is useful for creating clusters of notes which jump around following the Index Pattern exactly; the bottom note of each cluster essentially follows the path that would be taken by a cluster size of 1, with the effect that cluster size has no effect on how quickly the Index Pattern

moves through the Note Series and Phase (or Drum Pattern). Also useful for randomizing Drum Patterns, since it will cause the index into the Drum Pattern to jump around and not move forward in a linear fashion.

Index Pattern=2, Cluster Size = 6

Note C2 E2 G2 B2 C3 E3 G3 B3 C4 E4 G4 B4
 Series:
 Step1: C2 E2 G2 B2 C3 E3
 Step2: G2 B2 C3 E3 G3 B3
 Step3: C3 E3 G3 B3 C4 E4
 Step4: G3 B3 C4 E4 G4 B4

1: Multi-1 Step For Each Note In Cluster

When the internal GE parameter “Advance Mode” is **0: Independent**: For every note in a cluster or group of drum notes generated simultaneously, a separate Index Pattern Value will be chosen after which the Index Pattern advances to the next value. For example, a cluster of six notes will be generated with the next six Index Pattern Values (with a net advance of six steps). This means that each note in the cluster will not necessarily be the adjacent note in the Note Series (or Drum Pattern), but a certain distance from the previous note as specified by the pattern value. This is useful for creating clusters of notes with different

voicings, or randomizing Drum Patterns in a manner different than above. Another effect of this is that after each cluster, the next cluster starts where the previous cluster left off, in effect advancing through the Phase and the Note Series (or Drum Pattern) much more quickly.

Index Pattern= 2, Cluster Size = 6

Note C E G B C E G B C E G B C E G B ...
 Series: 2 2 2 2 3 3 3 3 4 4 4 4 5 5 5 5 6 6 6 6 ...
 Step1: C G C **G** C G
 2 2 3 **3** 4 4
 Step2: C G C G
 5 5 6 6 ...

When the internal GE parameter "Advance Mode" is 1: Lock (R) or one of the Drum Lock options:

The Index Pattern is using the other pattern's index; therefore, it is not possible for it to advance with each note. So it works slightly differently: the Index Value at the current step is used for each note in the cluster. So a cluster of six notes will be generated with the same distance between each index, as specified by the current Index Pattern Value. This value also indicates where the next cluster will start. For example, with an Index Pattern value of {3}, a cluster of 3 notes will have the indexes spaced by 3 and the next cluster will start 3 indexes away from the last generated note.

Index Pattern = {3 2 1}, Cluster Size = 3

Advance Mode: Lock (R), Cluster Mode: Multi

Note **C E G B C E G B C E G B C E G B** ...
 Series: **2 2 2 2 3 3 3 3 4 4 4 4 5 5 5 5 6 6 6 6** ...
 Step1: C B **G**
 2 2 **3**
 Step2: E2 B E
 4 5
 Step3: B C E ...
 5 6 6

⚠ When the "GE Type" (p.953) is **0: Generated - Riff**, setting this to **1: Multi** will have no effect unless there is a Cluster Pattern containing values of more than just 1.

⚠ When the "GE Type" is **2: Generated-Drum**, setting this to **1: Multi** will have no effect unless at least one Drum Pattern has the "[c] (clusters)" button turned on in the Phase Pattern and there is a Cluster Pattern containing values of more than just 1.

Invert [0, 1]

0: Off 1: On

When **1: On**, the index will be inverted with regards to the overall Note Series (taking into consideration the "Beginning and End Offsets" in the Phase Group) and generated again, thereby generating twice as many notes at a time. This will also cause any clusters to be inverted.

0: Off

Index Pattern= 2, Cluster Size= 2

Note C2 E2 G2 B2 C3 E3 G3 B3
 Series:
 Step1: C2 E2

Step2: G2 B2
 Step3: C3 E3
 Step4: G3 B3

1: On

Index Pattern= 2, Cluster Size= 2

Note C2 E2 G2 B2 C3 E3 G3 B3
 Series:
 Step1: C2 E2 G3 B3
 Step2: G2 B2 C3 E3
 Step3: G2 B2 C3 E3
 Step4: C2 E2 G3 B3

Double

[0, 1]

0: Off 1: On

When **1: On**, the "Double Amount" parameter becomes available, and the index will be doubled by the interval indicated and generated again, thereby generating twice as many notes at a time. This will also cause any clusters to be doubled.

Note: When using "Double" and "Invert" at the same time, four times as many notes will be generated.

Double Amount

[0...12]

0: Auto 1...12: Index

This parameter becomes available when "Double" is **1: On**. The index will be doubled by the interval indicated and generated again, thereby generating twice as many notes at a time. When set to **0: Auto**, an optimal interval is automatically calculated depending on the number of notes in the Note Series. The other settings specify exact distances from the current index (forward) within the Note Series (not semitones).

"Double": **1: On**, "Double Amount": 2

Note C2 E2 G2 B2 C3 E3 G3 B3 C4 E4 G4 B4
 Series:
 Step1: C2 G2
 Step2: E2 B2
 Step3: G2 C3
 Step4: B2 E3

Inv/DbI Vel. Offset

[0...200%]

Sets an amount by which the velocity of any inverted and doubled notes will be offset from the original notes. This allows you to make them a bit softer or louder than the original notes. The value is a percentage of the original note's velocity, so values **less than 100** will produce softer inverted and doubled notes, while values **greater than 100** will produce louder inverted and doubled notes. A value of **0%** will effectively stop the generation of inverted and doubled notes.

⚠ Not available unless "Double" or "Invert" (p.975) is set to **1: On**.

Template Parameters

The two Template Parameters select from 63 or 64 different Index Pattern Templates, and load the parameters into the current Phase's Pattern Grid and associated parameters.

An Index Pattern Template consists of:

- the configuration of the Index Pattern Grid
- Random Weighting Parameters

Template [1...63]

☞ p.968 "Rhythm Group": "Template".

Template + Restore [0: [As Stored]...63]

☞ p.969 "Rhythm Group": "Template + Restore".

Cluster Group

Overview

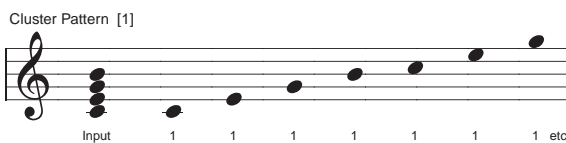
The Cluster Group contains the parameters that control the “clustering” characteristics of the Generated Effect (the number of notes to generate simultaneously each time a rhythm event occurs,

thereby creating chords and polyphonic phrases). Also controlled from here is the degree of strumming on a cluster, and the direction in which a cluster is strummed.

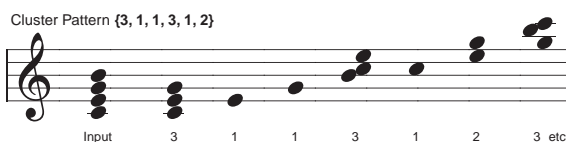
About Cluster Patterns

A “cluster” is a group of notes that will be generated at the same time, with a size ranging from 1 to 10. Cluster Patterns control how many notes at a time will be generated each time the Rhythm Pattern determines that it is time to produce some notes (each “rhythm event”). This can be used to cause chords to be generated at certain times; the resulting chords may optionally strummed or skewed in several ways, with differing degrees of looseness. Random choices of cluster sizes can be made from “Random Pools” of values as described in detail later on.

If the Cluster Pattern is 1, then single notes are produced (when “GE Type” (p.953) = 0: **Generated-Riff**). A CMaj7 as input source material might produced the following Riff:



If the Cluster Pattern was {3, 1, 1, 3, 1, 2} (and the Index Pattern “Cluster Mode” 0: **Single** p.974), then the following result would be produced by the same input notes:



Note that the number of notes in a cluster can be effectively doubled or quadrupled if “Invert,” “Double” (p.975) or both are being used in the Index Group.

A Cluster Pattern will loop as long as note generation continues. It normally will not reset to the beginning of the Pattern unless a new Trigger is received, or unless the Phase Pattern has been configured to restart it at the beginning of certain Phases. This means that a four step Rhythm Pattern can be looping while an eight step Velocity Pattern and a twelve step Cluster Pattern are also independently looping, for example.

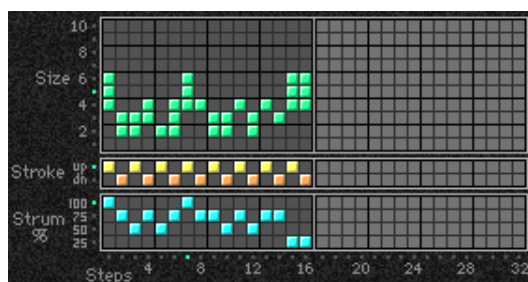
Strum [0...1000 (ms)]

Sets the value in milliseconds that each cluster will be “strummed” (quickly arpeggiated or flammed). Note that a single note cannot be strummed, so this only has an effect on cluster sizes greater than 1. This is the total time for each cluster, so each note in a cluster of 5 notes will be closer together than a cluster of 3 notes with the same strum value. This maintains a proper degree of “looseness” while changing cluster sizes.

Strums are presently alternated in the up and down direction. By setting this to high values (so there are not really strums, but arpeggiations happening), interesting overlappings of each cluster over subsequent clusters can be made to occur.

- ⚠ Not available if “GE Type” (p.953) = 2: **Generated-Drum**. Not available if “GE Type” = 1: **Generated-Gated** and “Gate Type” = **Expression**.

Pattern Grid & Associated Parameters



Cluster Pattern

A Cluster Pattern represents a series of values indicating the size of clusters of notes to be generated (chords). It has any number of steps up to 32, with each

step being represented by one column on the grid. The first column always contains at least one value; unused columns appear disabled. The 10 rows represent the number of notes to be generated at a time, from 1 to 10.

- ⚠ Pattern grids cannot be viewed or edited on the OASYS.

Random Weighting Parameters

The Random Weighting Parameters are made available when at least one step (column) in the Cluster Pattern has multiple values selected (constituting a “random pool” of values).

For more information, see “Rhythm Group” on page 965, and “Random Weighting Parameters - Pools” on page 967.

Pools-Random Factor [-99...+99]

For more information, see “Rhythm Group” on page 965, and “Pools-Random Factor” on page 967.

Pools-Weighting Curve [0...3]

0: Exponential 2: Exp-S
1: Logarithmic 3: Log-S

For more information, see “Rhythm Group” on page 965, and “Pools-Weighting Curve” on page 967, and “Random Weighting Curves” on page 1015.

The following table summarizes the effect of the various Weighting Curves and the Factor field on the choices from the Cluster Pattern Pools:

Cluster Pool values that receive priority:		
Weighting Curve	Factor	
	+ (positive)	- (negative)
Exp/Log	larger	smaller
Exp-S/Log-S	middle	smaller/larger

Associated Parameters

Template Parameters

The two Template Parameters select from 63 or 64 different Cluster Pattern Templates, and load the parameters into the current Phase’s Pattern Grid and associated parameters.

A Cluster Pattern Template consists of:

- the configuration of the Cluster Pattern Grid
- Random Weighting Parameters.

Template [1...63]

☞ p.968 “Rhythm Group”: “Template”.

Template + Restore [0: [As Stored]...63]

☞ p.969 “Rhythm Group”: “Template + Restore”.

Velocity Group

Overview

The **Velocity Group** controls most of the aspects that affect the velocities of the notes in the Generated Effect.

About Velocity Patterns

A Velocity Pattern represents amounts to be subtracted from the initial velocities of notes as they are about to be generated. This can therefore be used to provide patterns of accents in the generated notes, while retaining some of the original velocity information if desired. Choices can be made from “Random Pools” of values as described in detail later on.

Initial velocity is determined by the setting of the “Velocity Mode,” and how hard the notes are played when providing input notes. If “Velocity Mode” was set to **Constant - 124**, then all of the generated notes would have an Initial Velocity of 124. Playing them with a Velocity Pattern of {0, - 20, - 40} would produce the following accented velocities:

124, 104, 84, 124, 104, 84, etc.

Velocity Patterns are additive to Velocity Envelopes, and are compressed to the degree that the envelope approaches zero. In other words, a wide Velocity Pattern will become less wide as the envelope approaches zero to prevent notes from disappearing.

Velocity Patterns may be scaled by the “Velocity Scale” parameter, yielding precise control over how a Velocity Pattern affects an instrument, and additional variations.


A Velocity Pattern will loop as long as note generation continues. It normally will not reset to the beginning of the Pattern unless a new Trigger is received, or the Phase Pattern has been configured to restart it at the beginning of certain Phases. That means that a four step Note Pattern can be looping while an eight step Velocity Pattern and a twelve step Cluster Pattern are also independently looping, for example.

Global Parameters

Velocity Mode [0...2]

0: Actual 1: Average 2: Constant

Controls how the actual velocities of the notes received as input source material affect the velocities of the notes as they are generated.

 When the “Velocity Mode” is **0: Actual** or **1: Average**, the Velocity Range Bottom/Top parameters are available. When the Velocity Mode is **2: Constant**, the Velocity Value parameter is available.

0: Actual

The actual velocities received are used as the “Initial Velocity” for each note as they are generated. Loud notes (and their generated counterparts) will play loud, and vice versa. The Velocity Range Bottom and Top parameters are operable, allowing you to scale the amount of sensitivity.

1: Average

The notes received as input have their velocities averaged, and this is then used as the Initial Velocity at which to generate notes. The Velocity Range Bottom and Top parameters become operable, allowing you to scale the amount of sensitivity.

Using this mode allows the velocities received as input to control the overall volume of the resulting effect. For example, you might use this mode so that playing chords hard made the strumming of a guitar a bit louder overall, but where the resulting velocities in each note of a cluster are the same.

2: Constant

The velocities of the notes received as input are ignored; the Velocity Value parameter becomes operable and specifies directly the initial velocity value at which to generate the notes. For example, entering 124 will generate all notes with an initial velocity of 124.

Velocity Value [1...127]

Sets the Initial Velocity value at which to generate notes. For example, entering “124” will generate all notes with an initial velocity of 124. The Pattern Values and Velocity Scale are then factored in to yield the actual generated velocities.

 Not available unless “Velocity Mode” = **2: Constant**.

Velocity Range Bottom [1...127]

Velocity Range Top [1...127]

Sets the overall velocity sensitivity range for input notes, which yields the Initial Velocity to which the Pattern Values and Velocity Scale is applied. Setting **Bottom/Top** to 1/127 will provide full sensitivity (any input note with a velocity of 1–127 will go into KARMA as played). Moving the bottom value up decreases the overall sensitivity while making the notes gradually louder - for example, with a setting of 64/127, an input velocity of 64 would enter KARMA as 96 (velocities in the range 1–127 are scaled into the range 64–127, or 50% louder). Moving the top value down decreases overall sensitivity while making the notes gradually softer - for example, with a setting of

1/64, an input velocity of 64 would enter KARMA as 32 (velocities in the range 1–127 are scaled into the range 1–64, or 50% softer).

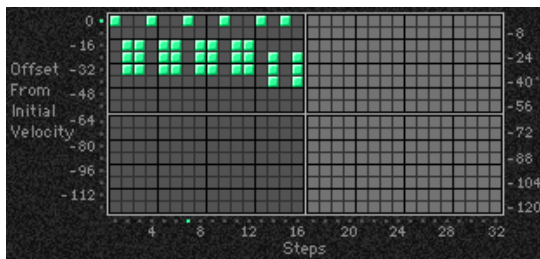
Note: Setting the two values to the same value creates a constant value, and would be the same as using “Velocity Mode” = 2: **Constant**. For example, setting the Mode to Average with a range of 64/64 is the same as Constant with “Velocity Value” = 64.

Randomize Bottom [-12...+12]

Randomize Top [-12...+12]

Sets a range of randomization to be applied to each note’s velocity as it is generated. Note that this can be used to make the velocity of each note in a cluster slightly different, while using the Velocity Pattern to generate random velocities applies to each cluster as a whole. Useful for more human-sounding effects, with less machine-like precision.


Pattern Grid & Associated Parameters



Velocity Pattern

A Velocity Pattern has any number of steps up to 32, with each step being represented by one column on the grid. The first column always contains at least one

value; unused columns appear disabled. From the top, the 16 rows represent increasing amounts of velocity offsets to be subtracted from the Initial Velocity of the input notes (as determined by the Velocity Mode). It is important to note that the reason the pattern operates with negative, subtractive values rather than absolute positive values is so that it can be applied to the actual initial velocities of the input source material, thereby superimposing a pattern of accents while not destroying already existing velocity nuances (if desired).


 Pattern grids cannot be viewed or edited on the OASYS.

Random Weighting Parameters

The Random Weighting Parameters are made available when at least one step (column) in the Velocity Pattern has multiple values selected (constituting a “random pool” of values).

 p.967 “Rhythm Group”: “Random Weighting Parameters - Pools”

Pools-Random Factor [99...+99]

 p.967 “Rhythm Group”: “Pools-Random Factor”

Pools-Weighting Curve [0...3]

- 0: Exponential 2: Exp-S
- 1: Logarithmic 3: Log-S

For more information, see “Rhythm Group” on page 965, “Pools-Weighting Curve” on page 967, and “Random Weighting Curves” on page 1015.

The following table summarizes the effect of the various Weighting Curves and the Factor field on the choices from the Velocity Pools:

Velocities that receive priority:		
Weighting Curve	Factor	
	+ (positive)	- (negative)
Exp/Log	louder	softer
Exp-S/Log-S	middle	louder/softer

Associated Parameters

Cluster Mode [0, 1]

- 0: Single-1 Step Per Cluster
- 1: Multi-1 Step For Each Note In Cluster

0: Single-1 Step Per Cluster

Each time a note, cluster of notes, or group of drum notes is generated one Velocity Pattern Value will be chosen for the current step, after which the Velocity Pattern advances to the next step. For example, a cluster of six notes will all be generated with the same

velocity and advance the Velocity Pattern by one to the next step. This is useful for creating very noticeable “accented patterns” within effects using large clusters of notes such as gated techno effects.

1: Multi-1 Step For Each Note In Cluster

For every note in a cluster or group of drum notes generated simultaneously, a separate Velocity Pattern Value will be chosen after which the Velocity Pattern advances to the next value. For example, a cluster of six notes will be generated with the next six Velocities

indicated by the pattern, with a net advance of six steps. This means that each note in a cluster or each note of a drum pattern that is generated simultaneously can be given its own velocity. This is useful for more subtly shifting accents within clusters of notes, and adding more human-like velocity randomness to drum patterns.

- 🔧 When the “GE Type” (⚙️p.953) is **0: Generated-Riff**, setting this to **1: Multi** will have no effect unless there is a Cluster Pattern containing values of more than just one.
- 🔧 When the “GE Type” is **1: Generated-Gated**, the number of notes being generated is considered the Cluster Size, and setting this to **1: Multi** will cause the pattern to advance by the number of notes being generated.
- 🔧 When the “GE Type” is **2: Generated-Drum**, setting this to **1: Multi** will have no effect unless at least one Drum Pattern has the “[c] (clusters)” button turned on in the Phase Pattern and there is a Cluster Pattern containing values of more than just 1, or more than one drum note is being generated at a time (by using Drum Patterns in “Poly” mode).

Scale [-999...+999 (%)]

Sets a percentage by which the chosen Velocity Pattern is scaled before being applied. Notes can be made to disappear or drop out using large positive values; large negative values with a very soft initial velocity can create interesting “reversed” effects.

Note that this can be used to “increase the resolution” of the Velocity Pattern Grid; for example, at **+100%** the offsets match the values displayed on the vertical axis; at **+50%** the offsets would be divided by two, for a difference of four between each value rather than eight and an overall range of **0 to -60**; at **+25%** the offsets would be divided by four for a difference of two between each value and an overall range of **0 to -30**. Conversely, at **+200%** the offsets would be multiplied by two, for a difference of sixteen between each value and an overall range of **0 to -240**, meaning that some notes will drop out and leave “holes” in the sequence of notes (since any note with a velocity less than 1 is not generated).

- 🔧 Not available if “GE Type” (⚙️p.953) = **2: Generated-Drum**; each pattern in the Drum Group has a separate Velocity Scaling parameter.

Template Parameters

The two Template Parameters select from 63 or 64 different Velocity Pattern Templates, and load the parameters into the current Phase's Pattern Grid and associated parameters.

A Velocity Pattern Template consists of:

- the configuration of the Velocity Pattern Grid
- Random Weighting Parameters.

Template [1...63]

⚙️p.968 “Rhythm Group”: “Template”.

Template + Restore [0: [As Stored]...63]

⚙️p.969 “Rhythm Group”: “Template + Restore”.

CCs/Pitch Group

Overview

The **CCs/Pitch Group** allows the editing of parameters that control generation of **CC (Control Change) messages**. For example, this can control the panning (CC #10) of the notes in the Generated Effect (stereo placement left to right). Any other CC data may also be generated to control any MIDI controllable characteristic of your synthesizer, such as resonance, filter frequency, vibrato, etc. You may also use the CC

Pattern to generate stepped Pitch Bend messages, technically not a "CC." Depending on internal settings of the GE, the CC Pattern may also be used to specify "Pitch Offsets" that will be applied as Transpose Values to each note as it is generated. This can be used to simulate the Triton Arpeggiator Pitch Offset value for each step, in addition to providing other interesting and useful effects.

About CC/Bend/Pitch Patterns

A value derived from a CC/Bend Pattern is a MIDI Control Change value from 0–127 (or Pitch Bend, or Pitch Transpose Values, if selected). The values are sent out as each note or cluster of notes is generated. Choices can be made from "Random Pools" of values as described in detail later on.

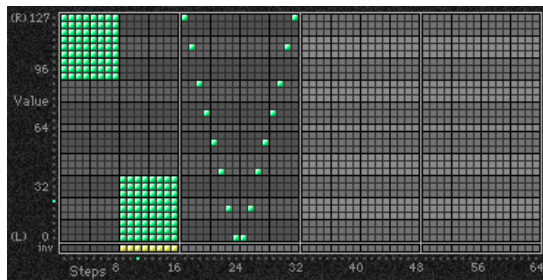
If the selected CC is 10 (Pan) for example, a CC Pattern such as {0, 127} would cause every other note to pan to the opposite side of the stereo spectrum. A CC Pattern of {0, 0, 0, 0, 127, 127, 127, 127} would play four notes left, then four notes right. A CC Pattern may be inverted at any time (caused to go in the opposite

direction, 127 – 0) by using the **Polarity** Parameter, which is an easy way to reverse the direction of the pattern.

A CC Pattern will loop as long as note generation continues. It normally will not reset to the beginning of the Pattern unless a new Trigger is received, or unless the Phase Group has been configured to restart it at the beginning of certain Phases. This means that a four step CC Pattern can be looping while an eight step Velocity Pattern and a twelve step Cluster Pattern are also independently looping, for example.

Pattern Grid & Associated Parameters

CC grid when being used for CCs or Pitch Bend



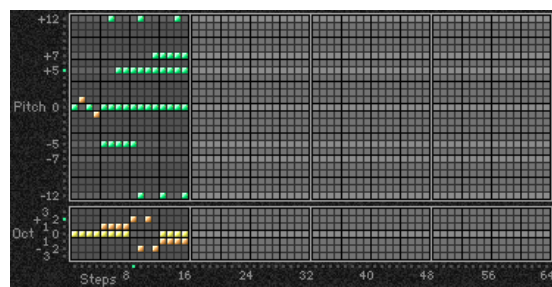
CC Pattern


A CC Pattern represents a series of values indicating a MIDI Control Change (or Pitch Bend) value to be generated. It may have any number of steps up to 64, and loop independently of other patterns being used at the same time. Each step is represented by one column on the grid. The first column always contains at least one value. Each row represents a CC or Pitch Bend value in multiples of **four** (0, 4, 8, 12 etc.). The special bottom row ("inv") indicates whether or not to invert the Random Weighting Curve (discussed later on) for any pools within that column.

Depending on internal settings of the GE, the Phase 2 CC Pattern may be used to specify "Pitch Offsets" for notes as they are generated. In this case, the grid is split into two portions: the top portion (Pitches) contains 25 rows, corresponding to a Transpose value of -12 to +12 semitones. The bottom portion (Octaves) contains 7 rows, corresponding to a Transpose value of -3 to +3

octaves. By combining the two Transpose values, any offset from -48 to +48 can be achieved. This can be used to simulate the Triton Arpeggiator Pitch Offset value for each step, in addition to providing other interesting and useful effects.

CC grid when being used for Pitch Offsets



 Pattern grids cannot be viewed or edited on the OASYS.

Associated Parameters

Fixed On **[0...128]**

0...127: fixed CC value 128: Pattern

When set to 128, the Pattern Grid becomes operative, and the Pattern is sent out. When set to any other value, a single CC or Pitch Bend value corresponding to the fixed value is sent, and the Pattern Grid becomes inoperative. This allows you to override the Pattern with a fixed value.

⚠ Not available in Phase 2 when Pitch Offsets are being used.

CC Mode [0...5]

- 0: Pattern
- 1: Index to 0...127
- 2: Index to 24...108
- 3: Index to 32...96
- 4: Index to 0...64
- 5: Index to 64...127

⚠ Not available in Phase 2 when Pitch Offsets are being used.

0: Pattern

When 0: Pattern is selected, the Pattern Grids will be used to generate the assigned CC/Bend.

Index

The 1-5: Index to options allow the data to be generated based on the position of the index in the Note Series from left to right. For example, when set to **1: Index to 0...127**, the index of the note in the Note Series (about to be generated) is compared to the minimum and maximum indexes that will be generated according to the current settings and scaled into a value from 0-127 so that the first index to be used generates 0 and the last 127, with indexes in between being scaled accordingly. The **Polarity** button can invert this for the opposite effect (127-0). Can be useful for simulating stereo miking of an instrument like a piano or harp (with Pan data CC 10), or for

simply tracking the movement of the indexes with any other CC data. The Pattern Grid described above will not be available.

1: Index to 0...127

Scales generated notes into CC or Pitch Bend values 0-127.

2: Index to 24...108

Scales generated notes into CC or Pitch Bend values 24-108.

3: Index to 32...96

Scales generated notes into CC or Pitch Bend values 32-96.

4: Index to 0...64

Scales generated notes into CC or Pitch Bend values 0-64.

5: Index to 64...127

Scales generated notes into CC or Pitch Bend values 64-127.

Polarity [0, 1]

- 0: Regular (+)
- 1: Inverted (-)

0: Regular (+)

The CC Pattern is sent out as originally created.

1: Inverted (-)

The CC Pattern is inverted; i.e. 0 is sent out as 127, 127 is sent out as 0, 96 is sent out as 32, etc. This allows the same pattern to be used in two different directions.

Random Weighting Parameters

The Random Weighting Parameters are made available when at least one step (column) in the CC Pattern has multiple values selected (constituting a "random pool" of values).

For more information, see "Rhythm Group" on page 965 and "Random Weighting Parameters - Pools" on page 967.

Pools-Random Factor [-99...+99]

For more information, see "Rhythm Group" on page 965 and "Pools-Random Factor" on page 967.

Pools-Weighting Curve [0...3]

- 0: Exponential
- 1: Logarithmic
- 2: Exp-S
- 3: Log-S

For more information, see "Rhythm Group" on page 965, "Pools-Weighting Curve" on page 967, "Appendices" on page 1014, and "Random Weighting Curves" on page 1015.

The following table summarizes the effect of the various Weighting Curves and the Factor field on the choices from the CC Pools:

CC Pool values that receive priority:		
Weighting Curve	Factor	
	+ (positive)	- (negative)
Exp/Log	higher in grid	lower in grid
Exp-S/Log-S	middle	higher/lower

Note: Turning on the Weighting Curve Inversion Row button causes the opposite behavior specified above (in that step).

Pitches-Random Factor [-99...+99]

Controls the shape of the weighting curve being applied to the top part of the CC Pattern Grid (Pitches).

For more information, see "Rhythm Group" on page 965 and "Random Weighting Parameters - Pools" on page 967.

⚠ This is valid only if the GE settings make the Phase 2 CC pattern specify Pitch Offset values.

Pitches-Weighting Curve [0...3]

- 0: Exponential
- 1: Logarithmic
- 2: Exp-S
- 3: Log-S

Chooses a weighting curve shape for the top part of the CC Pattern Grid (Pitches).

For more information, see "Rhythm Group" on page 965, "Random Weighting Parameters - Pools" on page 967, and "Random Weighting Curves" on page 1015.

⚠ This is valid only if the GE settings make the Phase 2 CC pattern specify Pitch Offset values.

Octaves-Random Factor [-99...+99]

Controls the shape of the weighting curve being applied to the bottom part of the CC Pattern Grid (Octaves).

For more information, see “Rhythm Group” on page 965 and “Pools-Random Factor” on page 967.

- 🚩 This is valid only if the GE settings make the Phase 2 CC pattern specify Pitch Offset values.

Octaves-Weighting Curve [0...3]

0: Exponential 2: Exp-S
1: Logarithmic 3: Log-S

Chooses a weighting curve shape for the bottom part of the CC Pattern Grid (Octaves).

For more information, see “Rhythm Group” on page 965, “Pools-Weighting Curve” on page 967, and “Random Weighting Curves” on page 1015.

- 🚩 This is valid only if the GE settings make the Phase 2 CC pattern specify Pitch Offset values.

Global Parameters

CC-A [-1...126]

CC-B [-1...126]

-1: Off 96...125: [N/A]
0...95: CC#00...CC#95 126: Pitch Bend

Selects one of the supported Control Change messages, in addition to **126: Pitch Bend**.

Note: CC-A and CC-B may be generated simultaneously, with the same or different values, in alternation, and other variations depending on internal settings of the GE.

- 🚩 Even if CC-A or CC-B are properly activated, you may not be hearing any effects if the “Transmitted MIDI Filter: “CC-A/CC-B” parameters (“CC-A/CC-B” on page 104) have been set to filter out the data that KARMA is generating.

Associated Parameters

Cluster Mode [0, 1]

0: Single-1 Step Per Cluster
1: Multi-1 Step For Each Note In Cluster

0: Single-1 Step Per Cluster

Each time a note, cluster of notes, or group of drum notes is generated one CC Pattern Value will be chosen for the current step, after which the CC Pattern advances to the next value. For example, a cluster of 6 notes will be generated with a single CC value preceding it, and advance the pattern by 1 to the next step.

1: Multi-1 Step For Each Note In Cluster

For every note in a cluster or group of drum notes generated simultaneously, a separate CC Pattern Value will be chosen after which the CC Pattern advances to the next value. For example, a cluster of 6 notes will be generated with each note preceded by the next 6 CC values indicated by the pattern, with a net advance of 6 steps. This means that each note in a cluster or each note of a drum pattern that is generated simultaneously can be given its own CC value - but only if your synth supports this type of behavior.

This will also affect the “Note Number” Pattern Type options. If **0: Single**, a cluster of notes will be preceded by one CC value according to the pitch of the first note; if **1: Multi**, each note will get a corresponding CC value. For example, if generating pan data, this can be used to pan each note of a cluster across the selected range according to its pitch (but only if your synth supports this type of behavior).

- 🚩 When the “GE Type” (“GE Type” on page 953) is **1: Generated-Gated**, the number of notes being generated is considered the Cluster Size.

- 🚩 When the “GE Type” is **0: Generated-Riff**, setting this to **1: Multi** will have no effect unless there is a Cluster Pattern containing values of more than just 1.

- 🚩 When the “GE Type” is **2: Generated-Drum**, setting this to **1: Multi** will have no effect unless at least one Drum Pattern has the “[c] (clusters)” button turned on in the Phase Pattern and there is a Cluster Pattern containing values of more than just 1, or more than one drum note is being generated at a time (by using more than one Drum Pattern, or by using a single Drum Pattern in “Poly” mode).

Pitch Offsets On/Off [0, 1]

0: Off 1: On

When On: 1, the Pitch Offset pattern specified by the Phase 2 CC Pattern grid is applied as transpose values to notes as they are generated. This allows the effect of the pattern to be switched on and off in realtime. This will not have any effect unless internal settings of the GE specify that Pitch Offsets are being used.

P.Offset Chord Shift [0...2]

0: Off 1: Scalic1 2: Scalic2

0: Off

The Pitch Offsets are applied with no further modification from this setting.


1: Scalic1

Chord analysis is performed on the input source material, and as the Pitch Offset values are applied to transpose the generated notes, notes that may be “atonal” based on the analyzed chord are shifted to tonal notes. Useful for creating complex chromatic

Pitch Offset Patterns and ensuring that the results stay in a certain key or chord. The note tables used to shift the notes are the same as the ones used in Note Series Group “Note Type”: **1: Scalic**. For more information, see “Note Type” on page 956.

2: Scalic2

Same as 1: Scalic (above), except that the note tables used to shift the notes are the same as the ones used in “Note Series Group “Note Type”: **2: Scalic2**. Scalic2 is more modal in nature and has more passing tones than **1: Scalic**.

-  Will not have any effect unless internal settings of the GE specify that Pitch Offsets are being used.

Template Parameters

The two Template Parameters select from 63 or 64 different CC/Pitch Pattern Templates, and load the parameters into the current Phase's Pattern Grid and associated parameters.

A CC/Pitch Pattern Template consists of:

- the configuration of the CC Pattern Grid
- Random Weighting Parameters
- Polarity

Template [1...63]

For more information, see “Rhythm Group” on page 965, and “Template” on page 968.

Template + Restore [0: [As Stored]...63]

For more information, see “Rhythm Group” on page 965, and “Template + Restore” on page 969.

WaveSeq Group

Overview


The WaveSeq Group controls a set of parameters that allow the waveforms of the OASYS's programs to be varied in real-time, creating popular "wave-sequence" style effects.

About WaveSeq Patterns

WaveSeq Patterns control the waveforms of the synth programs that are being used to generate notes. Here you can sequence a pattern of up to 32 different waveforms (16 in each phase). A value derived from a WaveSeq Pattern is the ID of a specific waveform. Choices can be made from "Random Pools" of values. The waveforms change with each note (although you can specify a number of steps containing the same waveform, of course, so that it repeats the same waveform for a number of notes.)

You can set up effects that more resemble traditional wave sequences by setting the Index Group or the Note Series to only repeat a single pitch, or by using "GE Type" = **1: Generate-Gated**, with "Gate Type" = **0: Vel**, instead of generating notes all over the place. Then you can concentrate on just changing waveforms, and the notes remain static.

On the other hand, part of the beauty of KARMA wave sequencing is having the notes change in a sequenced fashion, while the waveforms are also changing.

 Presently, it is not possible to have the waveforms change while notes are sustaining, so you cannot use "GE Type" = **1: Generate-Gated**, with "Gate Type" = **CC type** (for chopped pads.)

Alternately, you can have it generate just waveform changes, without actually generating any notes. For example, you can have it randomly pick a new Multisample (from a group you've defined) with each note you play on the keyboard. Or you can assign a range of Multisamples to a Real-Time Control and select the one you want to use, in real-time.

One of the most interesting features is the ability to offset the entire waveform map that you've set up, either by varying the "Wave Offset" parameter, or by tracking it with the keyboard. Since the results are totally dependent on the destination synth's waveform order, completely unexpected and unplanned results can be achieved that would be impossible to get any other way. For example, a WaveSeq Pattern of mallet-like sounds could be shifted instantly into a group of guitar or industrial noise waveforms, radically modifying the resulting timbre of the phrase.

A WaveSeq Pattern will loop as long as note generation continues. It normally will not reset to the beginning of the Pattern unless a new Trigger is received, or the Phase Group has been configured to restart it at the beginning of certain Phases. This means that a four step WaveSeq Pattern can be looping while an eight step Velocity Pattern and a twelve step Cluster Pattern are also independently looping, for example.

Global Parameters

Wave Pattern On/Off

[0, 1]

0: Off 1: On

An overall switch for turning the WaveSeq effect On/Off. Setting to **0: Off** will return the program to normal operation (and may optionally reset the waveforms to their original values, if your synth supports this behavior). In the OASYS, this allows you to activate the WaveSeq effect in real-time, where turning it Off sets the timbres being affected back to their original waveforms.

Oscillator Mode

[0...4]

0: Osc1 In Both Phases
 1: Osc2 In Both Phases
 2: Alternate (Osc1 Phase 1, Osc2 Phase 2)
 3: Split (Osc1 Phase 1, Osc2 Phase 2, simultaneously)
 4: Both (Osc1 & Osc2 same, simultaneously)

Specifies several ways that two different oscillators in the destination program(s) can be controlled, with regards to the two different Phases of a GE.

0: Osc1 In Both Phases

The specified waveforms will be selected according to the switching of the Phase Pattern, but only for Oscillator 1. During steps utilizing Phase 1, the Phase 1 Pattern will be used to change the waveforms, and during steps utilizing Phase 2, the Phase 2 Pattern will likewise be used. Oscillator 2 (if used in the program) will not be affected.

1: Osc2 In Both Phases

The specified waveforms will be selected according to the switching of the Phase Pattern, but only for Oscillator 2. During steps utilizing Phase 1, the Phase 1 Pattern will be used to change the waveforms, and during steps utilizing Phase 2, the Phase 2 Pattern will likewise be used. Oscillator 1 will not be affected.

⚠ This setting will have no effect on a single-oscillator or drum program.

2: Alternate (Osc1 Phase 1, Osc2 Phase 2)

During playback of Phase 1, Oscillator 1 waveform changes will be generated. During playback of Phase 2, Oscillator 2 waveform changes will be generated. Therefore, the Phase 1 Pattern and parameters are associated with Oscillator 1, and the Phase 2 Pattern and parameters are associated with Oscillator 2. When in Phase 1, Osc 2 will remain on the last sent waveform change of Phase 2, and when in Phase 2, Osc 1 will remain on the last sent waveform change of Phase 1. This creates an “alternating” sort of effect between the two oscillators, where one oscillator will change for a period of time, then the other, but not at the same time.

⚠ The Phase 2 parameters will have no effect on a single-oscillator or drum program.

3: Split (Osc1 Phase 1, Osc2 Phase 2, simultaneously)

The Phase 1 Pattern and parameters are associated with Oscillator 1, and the Phase 2 Pattern and parameters are associated with Oscillator 2. However, they generate waveform changes simultaneously, ignoring the Phase Pattern settings. For example, this means the Pattern Grid in Phase 1 can be used to generate a wave-sequence pattern for Osc 1, at the same time that the Pattern Grid in Phase 2 can be used to generate a completely different wave-sequence pattern for Osc 2. The switching of Phases which normally occurs according to the Phase Pattern is ignored, and they both generate waveform changes for their respective oscillators simultaneously, all the time.

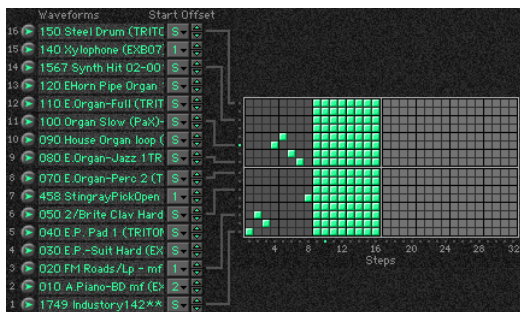
⚠ The Phase 2 parameters will have no effect on a single-oscillator or drum program.

4: Both (Osc1 & Osc2 same, simultaneously)

The two oscillators are controlled in tandem. The Phase Pattern switching between Phases is used as normal, but both Osc 1 & 2 are changed as specified by the Pattern (with the same values). For example, you can set up a complex pattern of up to 16 waveforms in Phase 1, and a different complex pattern with different waveforms in Phase 2, and let the Phase Pattern control switching between them. Every time Osc 1 is changed, Osc 2 will also change to the same waveform.

Pattern Grid & Associated Parameters

A WaveSeq Pattern specifies a sequence of waveform select messages to be sent, thereby changing the waveform of the sound with each note (if desired).



A WaveSeq Pattern may have any number of steps up to 32, and loop independently of other patterns being used at the same time. Each step is represented by one column on the grid. The first column must always contain at least one value; unused columns appear disabled.

More than one value can be entered in any given column, which then becomes a “random pool” from which choices will be made at random, subject to the use of a weighting curve as described later on. The weighting curve becomes available when there is at least one random pool selected. The example above shows a pattern of 8 single waveform choices in the first 8 steps, after which waveform choices are made at random from the entire group of 16 waveforms for an additional 8 steps. Whether or not the random choices will be different each time through the Phase is

controlled in the Phase Group; you can choose to repeat the same random sequence a number of times or always generate new random sequences of choices.

Also controlled in the Phase Group is whether or not the WaveSeq Pattern will start from the beginning each time a Phase starts. For example, assume the pattern contained ten items and a Phase only used eight of them before changing to a different Phase. If the pattern was not set to restart in the Phase Group, then the second time through the same Phase it would pick up where it left off: at the 9th value of the pattern.

⚠ Pattern grids cannot be viewed or edited on the OASYS.

Row 1...16 Waveform [000...2261]

Selects a waveform for the corresponding row of the Pattern Grid.

Row 1...16 Start Offset [0...8]

0: Sample Start
1...8: 1st...8th

Chooses one of the available start offset points for the selected waveform.

⚠ The actual value will be limited internally to the available number of Start Offsets for the specified waveform, which may be different from the full range of 0...8.

Waveform Type [0, 1]

- 0: MultiSound
- 1: WaveSequence

Specifies whether the messages sent will change the program's oscillator(s) to different Multisamples, or different Wave Sequences.

0: MultiSound

The choices indicated by the pattern values will cause various Multisamples to be selected for the specified oscillators.

1: WaveSequence

The choices indicated by the pattern values will cause various Wave Sequences to be selected for the specified oscillators.

Waveform Offset [-999...999]

Offsets the entire group of 16 Waveform Choices by the specified amount (each waveform has the specified number added to it.) This can be a quick way to transform a pattern into a completely unexpected result. Waveforms will be limited to the first and last waveforms if the offset causes them to go out of range.

Keyboard Track (C2) [0, 1]

- 0: Off
- 1: On

When **1: On**, allows the specified 16 Waveform Choices to track the keyboard (lowest note played, with reference to C2 - Note# 36). In other words, the 16 waveforms will be used exactly as specified when the lowest input note played is a C2. If the lowest note is higher or lower than C2, the number of steps that it is higher/lower will be added to or subtracted from each waveform, offsetting the entire group. This provides a completely different resulting wave-sequence depending on where the input notes are played.

Pattern Length [1...32]

Specifies the number of steps of the Waveform Pattern that will be used during note generation. This allows you to loop a smaller portion of the entire pattern. For example, if the Waveform Pattern grid has been set up with a 20 step pattern, and "Pattern Length" = 3, then only the first three steps of the pattern will be used to generate notes. Those three steps will loop continuously as the GE generates notes, and the other steps will not be used. To use all steps of any Waveform Pattern that is loaded, even when changing Waveform Templates, set this to 32.

Random Weighting Parameters

The Random Weighting Parameters are made available when at least one step (column) in the WaveSeq Pattern Grid contains multiple values selected (constituting a "random pool" of values). Whenever a random pool is encountered in playing through the pattern, a random choice is made from the values in that step. Certain areas of the random pool can be favored by the use of a weighting table, with various shaped curves. Using the curves, you can influence certain choices to be made more or less often than others, allowing very musical real-time control of the randomness.

Whether or not a certain random sequence will repeat for a number of times is controlled by the Phase Group.

For more information, see "Rhythm Group" on page 965, and "Random Weighting Parameters - Pools" on page 967.

Pools-Random Factor [-99...+99]

For more information, see "Rhythm Group" on page 965, and "Pools-Random Factor" on page 967.

Pools-Weighting Curve [0...3]

- 0: Exponential
- 1: Logarithmic
- 2: Exp-S
- 3: Log-S

For more information, see "Rhythm Group" on page 965, "Pools-Weighting Curve" on page 967, and "Random Weighting Curves" on page 1015.

The following table summarizes the effect of the various Weighting Curves and the Factor field on the choices from the WeveSeq Pools:

WaveSeq Pool values that receive priority:		
Weighting Curve	Factor	
	+ (positive)	- (negative)
Exp/Log	higher in grid	lower in grid
Exp-S/Log-S	middle	higher/lower

Associated Parameters

Template Parameters

The two Template Parameters select from 63 or 64 different WaveSeq Pattern Templates, and load the parameters into the current Phase's Pattern Grid and associated parameters.

A WaveSeq Pattern Template consists of:

- the configuration of the Pattern Editing Grid
- the sixteen "Waveform Choice" values, and the corresponding "Start Offset" values.

- Random Weighting Parameters

Template [1...63]

For more information, see "Rhythm Group" on page 965, and "Template" on page 968.

Template + Restore [0: [As Stored]...63]

For more information, see "Rhythm Group" on page 965, and "Template + Restore" on page 969.

Envelope Group

Overview

Each Generated Effect has **3 envelopes** which can be applied to various options such as Velocity, Tempo, Pitch Bend, Duration, Repeat Time, and any CC (Control Change).

About Envelopes

For those of you familiar with synthesizer envelopes, these are standard **ADSR** Envelopes, with the addition of a Start Level. For those who are not, ADSR stands for “Attack, Decay, Sustain, Release”. When the envelope is triggered in some fashion like a key being depressed, the envelope starts at the Start Level and moves to the Attack Level in the amount of time specified by Attack Time. This is the “Attack Phase” of the envelope. Once the envelope reaches the Attack Level, it then immediately continues to the Sustain Level in the amount of time specified by Decay Time. This is the “Decay Phase”. When it reaches the Sustain Level, it will remain there until some event causes it to enter the “Release Phase,” typically a key being released. The envelope then moves to the Release Level in the amount of time specified by Release Time.

An envelope simply describes the shape of some function, and the time that it takes. In the case of KARMA GE, the function is either a crescendo/decrescendo of the velocity levels of the notes in the phrase, an accelerando/ritard of the speed

at which the notes are generated, an overall sweeping of the pitch, a continuous varying of a selected CC (MIDI Control Change), etc.

Note that in the case of Velocity Envelopes, the envelope’s shape is subtractive to the Initial Velocity Level generated according to the “Velocity Mode” Parameter. (PG.979) The loudest value the envelope will produce is the Initial Velocity received. However, when low Initial Velocities are received, the Envelope is automatically scaled so that a consistent shape is maintained regardless of the value. In other words, the Envelope will be compressed to the degree that the Initial Velocity is less than 127. For more information on Initial Velocity, see Velocity Group/“Velocity Mode.”

When and how the Envelopes will be triggered is determined by the Envelope Trigger Parameters (Envelope1, Envelope2, Envelope3: “Trigger”) in the KARMA Module parameters. For more information, see “7-4b: Module Parameters-Trigger” on page 110.

In addition to being triggered by the keyboard, the envelopes can also be selectively triggered at Phase Changes according to settings in the Phase Group.

Parameters

The parameters are the same for all three of the envelopes, and are discussed below.

On/Off (Envelope On/Off) [0, 1]

0: Off 1: On

Turns on the corresponding envelope, and makes its parameters operative.

Note: Even if the envelope is properly activated, you may not be hearing any effect if the “Transmit MIDI Filter: Envelope1/Envelope2/Envelope3” parameters (PG p.104) have been set to filter out the data that KARMA is generating.

Envelope Type

[0...127]

- 0: [VE] Velocity
- 1: [TA] Tempo-Absolute
- 2: [TR] Tempo-Relative
- 3: [PB] Pitch Bend
- 4: [DU] Duration
- 5: [RT] Repeat Time
- 6: [OO] Bank Select
- 7...100: [#00...#95] CCs (Control Changes)
- 101...127: [N/A]

Selects the function that the envelope performs. The first six settings are specific predetermined types, while the others allow any MIDI CC Message to be sent by the envelope.

0: [VE] Velocity

Controls the crescendo and decrescendo of the Riff, much like an Amplitude Envelope controls the volume on a synthesizer. The envelope’s range of 0–99 is scaled into 0–127, which is then combined with the actual

velocities of the notes being generated, to impart an overall velocity shape while maintaining the accents within the individual notes.

1: [TA] Tempo-Absolute

Controls the speed of the Riff, for *accelerando* and *ritard* effects. When active, the effect does not sync to the Internal Master Clock or External Sync, but runs on its own clock, controlled by the Tempo Envelope. This means that the envelope is in absolute control of the tempo, and changing the KARMA Tempo has no effect.

2: [TR] Tempo-Relative

Controls the speed of the Riff, for *accelerando* and *ritard* effects. When active, the effect does not sync to Internal or External MIDI Clock, but runs on its own clock, controlled by the Tempo Envelope. However, this option takes into account the KARMA Tempo, so if the tempo is slower the Tempo Range of the envelope will also be slower. Note that this does not mean the time over which the envelope operates, which is a different option discussed below under the "Tempo Relative" parameter. (p.992)

3: [PB] Pitch Bend

Controls an overall pitch bend on the entire effect. Note that the overall range of the Pitch Bend can be set in either the Bend Group.

4: [DU] Duration

Controls an overall shortening of durations of generated notes. In other words, the normal calculated duration of the note becomes the maximum duration length, and the shape of the envelope scales the durations between 0–100% of the minimum duration length and that value. The minimum and maximum duration values depend on the "Duration Mode" setting in the Duration Group. For more information, see "Duration Group" on page 970.

5: [RT] Repeat Time

Controls an overall shortening of the repeat time that is selected for use in the Melodic Repeat Group. In other words, the normal calculated repeat time becomes the maximum time, and the shape of the envelope scales the repeat time between 0–100% of 1 ms and that value. For example, if the Repeat Rhythm Value was set to a 16th note at 120 BPM, the repeat time would be 125 ms for each note. A Repeat Time Envelope would vary the envelope's range of 0–99 between 1 ms and 125 ms. This can provide interesting "bouncing" delay effects with repeats of the same pitch on drum and perc sounds, among other unique effects.

Poly Extend, Poly Extend/Damped, Mono Extend:

The Duration Envelope only affects notes that have durations shorter than the current Rhythm Pattern value (as specified by the Duration Pattern Grid), since the other notes will be auto-extending to the next note or next occurrence of the same note. For the shorter notes, the length of the Duration Pattern Value represents the maximum duration, and the envelope's 0–99 range represents 0–100% of that value, with 1 ms being the minimum duration. To adjust the minimum duration, you would adjust the envelope's level settings to only move between the higher values, i.e. 50–99.

Timed (Duration Value range: 1...5000 ms)

The Duration Value represents the maximum duration in milliseconds, and the envelope's 0–99 range represents 0–100% of that value. For example, if the Duration Value field is set to 250 ms, then the envelope shapes the durations from 1 ms to 250 ms over its 0–99 range. To make the durations go from 125 ms to 250 ms, you would adjust the envelope's level settings so that it moves from 50–99 (50%–100%).

Rhythm Overlap, Pattern Overlap (Duration Value range: -500...500 ms)

The Duration Value represents the maximum overlap or gap (in milliseconds) between successive notes, and the envelope's 0–99 range represents 0–100% of that value. For example, if the Duration Value field is set to +20, then the envelope shapes the durations from -500 ms to +20 ms over its 0–99 range. To adjust the minimum duration, you would adjust the envelope's level settings to only move between the higher values, i.e. 50–99.

Rhythm %, Pattern % (Duration Value range: 1...800%)

The Duration Value represents the maximum percentage of the current Rhythm Pattern Value, and the envelope's 0–99 range represents 0–100% of that value. For example, if the Duration Value field is set to 50%, then the envelope shapes the durations from 1% to 50% of the Rhythm Pattern Value over its 0–99 range. To make the durations go from 25% to 50%, you would adjust the envelope's level settings so that it moves from 50–99 (50%–100%).

7...100: [#00...#95] CCs (Control Change)

Send the selected CC value according to the shape of the envelope - the envelope's range of 0–99 is scaled into 0–127 and sent as the selected controller. This is especially useful when you loop the envelopes to get slow, sweeping LFO effects, for controlling various tone generation characteristics on synthesizers and effects devices that support this type of control. Note that for looping to work, you must set the **Loop On** and **Envelope Latch** modes ("Envelope1, Envelope2, Envelope3" on page 111) properly - see the "Loop Mode" parameter below.

The following Level and Time parameters may also be controlled in various combinations by parameters discussed later on in this section.

Start Level [0...99]

The level at which the envelope begins when triggered.

Attack Time [0...99]

The time it will take to reach the "Attack Lvl (Attack Level)." This is a portion of the overall time setting specified in the "Time Scale" parameter described below.

Attack Level [0...99]

The first level which the envelope reaches in the amount of time specified by "Attack Time."

Decay Time [0...99]

The time it will take to reach the “Sustain Lev (Sustain Level)” from the Attack Level. This is a portion of the overall time setting specified in the “Time Scale” parameter described below.

Sustain Level [0...99]

The second level which the envelope reaches in the amount of time specified by “Decay Time.” The envelope will remain at this level until the keys depressed on the keyboard are released, or some other function causes the envelope to enter the Release Phase.

Release Time [0...99]

The time it will take to reach the “Rel. Level (Release Level)” once the Release Phase is triggered. This is a portion of the overall time setting specified in the “Time Scale” parameter described below.

Release Level [0...99]

The final level the envelope reaches in the amount of time specified by “Rel. Time (Release Level).”

Amplitude Amount [0...99]

Represents the maximum level that the envelope will reach. The rest of the envelope is scaled accordingly. For example, if this is set to **50**, the envelope’s output will be half what the other parameter specify.

Time Scale [0...10]

0: R-Riff Length

1...10: 1 to 10 seconds in 1 second increments

Specifies the overall amount of time that each segment will take when set to its maximum value. The envelopes in KARMA GE are 3 segment envelopes; they have an attack segment, decay segment, and release segment. For example, if the attack segment time (“Attack time”) was set to **99** and the “Time Scale” to **1 second**, the attack segment will take **1000 ms**; if “Attack time” was set to **50**, then the attack segment will take **500 ms**. If the times of all 3 segments were set to **99**, the total time of the envelope would be approximately 3 seconds (not taking into account any time spent at the sustain level). When set to **0: R-Riff Length**, the Time Scale is automatically scaled to the length of the Generated Effect. This can be useful for such things as harp glissandos, where supplying more/less notes as input will cause the resulting envelopes to be slower/faster. Note that if the Phase “Length Mode” is set to **1: TS-Time Signature**, then the length of a Phase is determined by the Time Signature

and not the number of notes played, so the results of setting this to **0: R-Riff Length** may not be noticeable in that case.

Attack Smooth [0, 1]

0: Off 1: On

When set to **0: Off**, retriggering an envelope will start it at its preset Start Level regardless of its current position. When set to **1: On**, the envelope will restart from its current position, not the Start Level. This can be used to “smooth” the repeated retriggerings of the envelope.

Loop Mode [0...3]

Selects one of several methods of causing the envelope to loop continuously from one point back to another.

0: Off

1: S-Start Level ↔ Sustain Level

2: R-Start Level ↔ Release Level

3: A-Attack Level ↔ Release Level

0: Off

The envelope will proceed through all its segments in a normal fashion.

1: S-Start Level ↔ Sustain Level

Upon reaching the Sustain Level, the envelope will loop back to the Start Level and start over. Requires Envelope Latch Mode (see “Envelope Latch” on page 112) to be set to **Off**, **Sus1**, or **Sus2**. For continuous looping after key release, you must have **Sus2** selected - see the table below.

2: R-Start Level ↔ Release Level

Upon reaching the Release Level, the envelope will loop back to the Start Level and start over. Requires Envelope Latch Mode (see “Envelope Latch” on page 112) to be set to **Rel1** or **Rel2**. For continuous looping after key release, you must have **Rel2** selected - see the table below.

3: A-Attack Level ↔ Release Level

Upon reaching the Release Level, the envelope will loop back to the Attack Level and start over. Requires Envelope Latch Mode (see “Envelope1, Envelope2, Envelope3” on page 111, and “Envelope Latch” on page 112) to be set to **Rel1** or **Rel2**. For continuous looping after key release, you must have **Rel2** selected - see the table below.

The following table illustrates the relationship between the 3 Envelope Loop Modes described above, and the Envelope Latch Modes (see “Env1 Latch Mode” on page 118).

Envelope Loop Mode	Envelope Latch Mode				
	Off	Sus1	Rel1	Sus2	Rel2
[S] Start Level ↔ Sustain Level	key release ends loop	key release ends loop	n/a	loop continuously	n/a
[R] Start Level ↔ Release Level	n/a	n/a	key release ends loop	n/a	loop continuously
[A] Attack Level ↔ Release Level	n/a	n/a	key release ends loop	n/a	loop continuously

Tempo Relative [0, 1]

0: Off 1: On

When **1: On**, makes the selected envelope's time scale relative to tempo. This means that the envelope can **Track** the notes being generated, or a particular length of time. If you have it set to make a particular shape over 1 bar of 4/4, then changing the tempo will maintain this relationship by scaling the tempo range of the envelope accordingly.

For example, assume you have an envelope timed to produce a sweep over 1 bar of 4/4 at 120 BPM. If you change the tempo to **60** and the "Tempo Reltv" parameter is **0: Off**, the envelope will still operate for the same length of time, therefore sweeping over 1/2 of the bar of 4/4. If you set tempo to **240**, it would sweep over 2 measures of 4/4.

With "Tempo Reltv" **1: On**, the time scale of the envelope is changed according to the tempo. Therefore, it will always sweep over 1 bar of 4/4 regardless of the tempo.

Note that you can use this with the **2: [TR] Tempo - Relative Envelope Type** (described above), so that it not only has a range that is influenced by the tempo, but its "Time Scale" is also influenced by the tempo.

Note Trigger [0, 1]

0: Off 1: On

Allows an envelope to be triggered with every single note. When set to **0: Off**, the envelope is triggered normally as specified by the settings of the Envelope Trigger in the KARMA Module parameters, Dynamic MIDI, and the Envelope Triggering settings of the Phase Pattern. For more information, see "Envelope1/Envelope2/Envelope3" on page 104, and "Envelope Trigger" on page 112.

When set to **1: On**, every single note that is generated will retrigger the selected envelope. For example, this can be useful for adding Vibrato to individual notes (using an envelope set to **CC #01 (Mod Wheel)**), or fading in/out individual notes (using an envelope Type of **CC #07 (Volume)** or **CC #11 (Expression)**).

Level Combinations

Sta/Att Level (Start/Attack Level) [0...99]

Controls an Envelope's Start and Attack Levels at the same time - both will be set to the same value.

Sta/Sus Level (Start/Sustain Level) [0...99]

Controls an Envelope's Start and Sustain Levels at the same time - both will be set to the same value.

Sta/Rel Level (Start/Release Level) [0...99]

Controls an Envelope's Start and Release Levels at the same time - both will be set to the same value.

Att/Sus Level (Attack/Sustain Level) [0...99]

Controls an Envelope's Attack and Sustain Levels at the same time - both will be set to the same value.

Att/Rel Level (Attack/Release Level) [0...99]

Controls an Envelope's Attack and Release Levels at the same time - both will be set to the same value.

Sus/Rel Level (Sustain/Release Level) [0...99]

Controls an Envelope's Sustain and Release Levels at the same time - both will be set to the same value.

Sta/Att/Sus Level (Start/Attack/Sustain Level) [0...99]

Controls an Envelope's Start, Attack and Sustain Levels at the same time - all will be set to the same value.

Sta/Att/Rel Level (Start/Attack/Release Level) [0...99]

Controls an Envelope's Start, Attack and Release Levels at the same time - all will be set to the same value.

Sta/Sus/Rel Level (Start/Sustain/Release Level) [0...99]

Controls an Envelope's Start, Sustain and Release Levels at the same time - all will be set to the same value.

Att/Sus/Rel Level (Attack/Sustain/Release Level) [0...99]

Controls an Envelope's Attack, Sustain and Release Levels at the same time - all will be set to the same value.

All Levels [0...99]

Controls an Envelope's Start, Attack, Sustain and Release Levels at the same time - all will be set to the same value.

Time Combinations

Att/Dec Time (Attack/Decay Time) [0...99]

Controls an Envelope's Attack and Decay Times at the same time - both will be set to the same value.

Att/Rel Time (Attack/Release Time) [0...99]

Controls an Envelope's Attack and Release Times at the same time - both will be set to the same value.

Dec/Rel Time (Decay/Release Time) [0...99]

Controls an Envelope's Decay and Release Times at the same time - both will be set to the same value.

All Times [0...99]

Controls an Envelope's Attack, Decay and Release Times at the same time - all will be set to the same value.

Repeat (Melodic Repeat) Group

Overview

Melodic Repeat allows any note to be repeated in a delay-like fashion, with many additional features and enhancements. When the GE Type is one of the “Generated” types (i.e. 0: Generated - Riff), the notes as they are generated may each start sequences of repeating notes. When the GE Type is **3: Real-Time**, the actual input notes may each start sequences of repeating notes.

Based on a familiar technique know as “MIDI Delay,” MIDI notes are repeated at certain time intervals while their velocities decrease, thus imitating the effect of delay in an external effects processor. However, as typically implemented, this causes severe polyphony problems, and the creative options are few. In KARMA, many sophisticated enhancements and improvements have been added, including:

- Slow down the Master Tempo and the repeated notes can remain in time with the original notes.
- Use a Tempo envelope to create drastic accelerandos and ritards and then lock the repeated notes to the envelope.
- Use a Repeat Time envelope to modulate the time between each repeat, for unique rhythmic effects.

- Unique “Duration Modes” not only save polyphony, but create interesting performance options.
- Delayed pitches may be transposed and melodically shifted using Chord Recognition.
- Transposed notes may be rebounded or wrapped around within a range. The range may be an absolute range, or a “sliding” range that tracks the input notes.
- Only notes within a certain velocity range can trigger repeated notes, while others will not.
- The Rhythm Patterns, Index Patterns, Velocity Patterns, etc. may be used to control when and how the repeated notes are generated.

When the “GE Type” (Ⓢp.953) is one of the Generated types (i.e. **0: Generated-Riff**), the notes as they are generated may each start strings of repeating notes. When the “GE Type” is **3: Real-Time**, the actual input notes may each start strings of repeating notes.

Repeats can not be generated when “GE Type” = **1: Generated-Gated** and “Gate Type” (Ⓢp.953) is one of the CC Types, since notes are not actually generated in this mode, but a sustained set of notes is manipulated by a selected CC, i.e. “chopped” by **CC #11 (Expression)**.

General Parameters

Rhythm		[0...25]
0: None (Instant)	10: 8th triplet	20: Whole
1: 64th triplet	11: 8th	21: Whole Dotted
2: 64th	12: 8th Dotted	22: 2 bars
3: 64th Dotted	13: Quarter triplet	23: 3 bars
4: 32th triplet	14: Quarter	24: 4 bars
5: 32th	15: Quarter Dotted	25: Pattern
6: 32th Dotted	16: Half triplet	
7: 16th triplet	17: Half	
8: 16th	18: Half Dotted	
9: 16th Dotted	19: Whole triplet	

Sets the rhythm (repeat time) for each repeated note (16th note, dotted 16th, etc.). All rhythms chosen here lock to the Global Tempo, or to the Tempo Envelope if “Tempo Env. Lock” is on, described below.

0: None

The repeated notes are put out simultaneously with the generated/input notes, without any delay. This can be used to generate clusters of notes, while using Repeat “Transpose” (Ⓢp.41) to change the pitch intervals between them, for creating harmonies and other effects.

1...24: Note Values

Selects a rhythmic value to use for each repeated note (16th note, dotted 16th, etc.) When one of these Note Values is chosen, the same rhythmic value is used for each repeated note.

25: Pattern

The Rhythm Pattern in the Rhythm Group is used), so that repeated notes can have different rhythms.

Straight Rhythms [0...11]

0: None (Instant)	4: 8th	8: 2 Wholes
1: 64th	5: Quarter	9: 3 Wholes
2: 32nd	6: Half	10: 4 Wholes
3: 16th	7: Whole	11: Rhythm Pattern

Selects a setting for the “Rhythm Value” parameter from a subset of the entire range. The subset consists of the straight values (no triplets or dotted values) along with **0: None** and **11: Rhythm Pattern**. This is used to provide real-time control of the “Rhythm Value” parameter while excluding certain of the in-between values.

Dotted Rhythms [0...8]

0: None (Instant)	3: 16th Dotted	6: Half Dotted
1: 64th Dotted	4: 8th Dotted	7: Whole Dotted
2: 32nd Dotted	5: Quarter Dotted	8: Rhythm Pattern

Selects a value for the “Rhythm Value” parameter from a subset of the entire range. The subset consists of the dotted values along with **0: None** and **8: Rhythm Pattern**. This is used to provide real-time control of the “Rhythm Value” parameter while excluding certain of the in-between values.

Triplet Rhythms [0...8]

0: None (Instant)	3: 16th Triplet	6: Half Triplet
1: 64th Triplet	4: 8th Triplet	7: Whole Triplet
2: 32nd Triplet	5: Quarter Triplet	8: Rhythm Pattern

Selects a setting for the “Rhythm Value” parameter from a subset of the entire range. The subset consists of the triplet values along with **0: None** and **8: Rhythm Pattern**. This is used to provide real-time control of the “Rhythm Value” parameter while excluding certain of the in-between values.

Selected Rhythms [0...13]

0: None (Instant)	5: 8th Dotted	10: 2 Wholes
1: 64th	6: Quarter	11: 3 Wholes
2: 32nd	7: Quarter Dotted	12: 4 Wholes
3: 16th	8: Half	13: Rhythm Pattern
4: 8th	9: Whole	

Same as “Straight Rhythm Values,” except adds the two most musically useful dotted values also.

Selected Rhythms2 [0...18]

0: None (Instant)	7: 16th	14: Whole
1: 64th Triplet	8: 8th Triplet	15: 2 Wholes
2: 64th	9: 8th	16: 3 Wholes
3: 64th Dotted	10: 8th Dotted	17: 4 Wholes
4: 32nd Triplet	11: Quarter	18: Rhythm Pattern
5: 32nd	12: Quarter Dotted	
6: 16th Triplet	13: Half	

Specially created for Drum GEs, providing the same subset as Selected Rhythm Values (above), with the addition of the most useful short note values.

Use Swing [0, 1]

0: Off 1: On

Sets whether the repeated notes will take on the swing feel that is set in the Rhythm Group. If **0: Off**, the generated notes may be swung but the repeated notes will not be. Note that triplet rhythm values are not affected by swing.

🔍 When the Rhythm Group “Swing %” parameter (“Swing %” on page 965) is **0**, this parameter has no effect.

Time Offset (ms) [-127...+127]

Allows a positive or negative millisecond offset to be applied to very short repeat times, making them slightly shorter or longer. One use is to “tune” to a certain key resonant delay effects created with short repeat times.

🔍 Only operable when one of the first three settings of the Rhythm menu are selected (None, 64th triplet, or 64th). For example, you can use it to adjust a short Rhythm setting, and then switch to a longer setting via GE RT Parameter control, and the offset will be ignored, allowing the longer rhythms to stay in sync.

Repetitions [0...100, 101: ∞]

The maximum number of repeated notes to generate. Note that due to other settings and circumstances, not all of them may actually be generated. A setting of **101: ∞** causes the notes to repeat indefinitely, unless something else stops them.

Decay [-126...+126]

The amount by which each successive repeated note changes in velocity. **Negative numbers** cause the delayed notes to decrease in volume (more common), while **positive numbers** cause the delayed notes to increase in volume. Interesting effects can be created by a combination of a **high negative** “Initial Velocity” (i.e. -120) and a **small positive** “Decay” (i.e. +4). Note that this operates in conjunction with the Velocity Pattern specified in the Velocity Group.

Initial Velocity [-126...+126]

The velocity above or below the original note that the first repeated note is generated at, after which the “Decay” parameter is added to them with each successive repetition. Note that this operates in conjunction with the Velocity Pattern specified in the Velocity Group.

Transpose [-24...25]

-24...24: -24...+24 semi-tones
25: Index Pattern

The amount by which each successive repeated note is transposed in pitch. When one of the semitone values is selected, the same value is used for each repeated note. When the Pattern option is selected, the **25: Index Pattern** in the Index Group is used, so that each repeated note can transpose a different amount from the previous repeated note. Depending on the input notes, anything other than 0 or multiples of 12 may produce atonal results; these can be shifted to tonal results using “Chord Shift,” described below.

Chord Shift [0...2]

0: Off 1: Scallic 2: Scallic2

When repeated notes are being transposed in pitch, atonal results may occur depending on the “Transpose” setting. When “Chord Shift” is **0: Off**, no change occurs in the transposition. Setting “Chord Shift” to **1: Scallic** or **2: Scallic2** causes chord recognition

algorithms to shift the notes to musically correct ones, even in pending repeated notes that haven't yet sounded.

Even when the Transpose setting is **0**, this can be used to make the pending repeated notes conform to the new chord, which is impossible with outboard analog/digital delays. For example, if "Chord Shift" is **0: Off** and you strike a BMaj chord which will repeat 10 times, and then play a C Major chord before they have all repeated, the still to be generated repeats will be BMaj repeats overlapping CMaj repeats (dissonant). With "Chord Shift" is **1: On**, the still to be generated repeats will shift to the new chord and blend with the new repeats.

Note: A certain area of the keyboard may need to be assigned as a Control Area for Chord Scan (in the Dynamic MIDI) to produce the desired results.

0: Off

The transposed notes are repeated with no further modification from this setting.

1: Scalic

As the notes are repeated, notes which may be "atonal" based on the analyzed chord (due to being transposed) are shifted to tonal notes. Especially useful when "Transpose" (discussed above) is set to something other than **0** or multiples of **12**. The note tables used to shift the notes have fewer passing tones than **2: Scalic2** (described below), and therefore may produce results that are more pleasing.

2: Scalic2

Same as **1: Scalic** (above), except that the note tables used to shift the notes have more passing tones for each chord; therefore, **2: Scalic2** sounds more modal in nature.

Stop Mode

[0...3]

0: Off

1: Any-Any Note

2: AKR-1st Note After Key Release

Allows pending repeated notes which haven't sounded yet to be discarded (stopped) by various actions, such as playing the keyboard.

0: Off

Playing new chords or notes do not affect pending repeated notes - they will continue repeating as the parameters specify. This allows previously started repeats to overlap newly started repeats.

1: Any-Any Note

Playing any new chords or notes will cause all pending repeated notes to be discarded, and only the new notes will be repeated.

2: AKR-1st Note After Key Release

Playing any new notes while still sustaining at least one note will not cause damping; all keys must first be released, and then the next chord/note will discard any pending repeated notes.

Note: A MIDI Controller can also be assigned to perform the stopping of repeats by using the "Repeat Stop" Dynamic MIDI Destination (PG p.237). When a Dynamic MIDI destination (7-7: Dynamic MIDI

"Destination") is set to "Trigger Notes" or "Trigger Notes & Envs," Stop Mode also applies to whether the repeats will be stopped when triggered by the Dynamic MIDI action.

Rebound Mode

[0...2]

0: Off

1: Wrap

2: Rebound

When using "Transpose" (p.995) with repeated notes and many repetitions, eventually the pitches of the repeated notes may go beyond a certain range. This can be an absolute overall range, or a small range designed to track the hands around the keyboard. The range and functioning of it is determined by the settings of the "Range Mode" and "Range Bottom/Top" parameters described below. When the pitches of the repeated notes goes beyond this range, the "Rebound Mode" setting determines whether the repeats will end or continue in a modified fashion.

0: Off

When repeated notes go beyond the specified range, they will cease to repeat, regardless of the number of repetitions left.

1: Wrap

When repeated notes go beyond the specified range, they will drop up or down an algorithmically determined interval (depending on which end of the range they exceed) and continue until the required number of repetitions have been generated. This will cause an up/down back-and-forth "cycling" effect at the top or bottom of the range.

2: Rebound

When repeated notes go beyond the specified range, they will reverse their direction (essentially by inverting the current Transpose values) and continue in the opposite direction until the required number of repetitions have been generated. This will cause an up/down back-and-forth "cycling" effect over the entire range.


Tempo Env. Lock

[0, 1]

0: Off

1: Lock

When a Tempo Envelope is being used (in the Envelope Group), setting this to **1: Lock** causes the repeated notes to lock their size to the Tempo Envelope; i.e. as the Tempo Envelope speeds up the times between them get smaller. Setting this to **0: Off** causes the size to remain relative to the KARMA Tempo; even though the Tempo Envelope may be speeding up or slowing down the effect, the repeat times remain the same.

 When a Tempo Envelope is **0: Off** or not in use, this parameter has no effect.

Range Parameters

These parameters affect the pitch range of the repeating notes as they transpose, and what happens when they go outside of the range. They also control a range for triggering by velocity.

Range Mode [0...3]

- 0: Absolute
- 1: Lowest Note Relative
- 2: Highest Note Relative
- 3: Lowest/Highest Note Relative

Selects one of several options for how the “Wrap Bottom” and “Wrap Top” values are used, which specify a range within which repeated notes will be maintained. This can be either an “absolute range,” or a “sliding range” that tracks your hands around the keyboard. When notes go beyond this range, they will either stop repeating, wrap around or rebound, as determined by the “Rebound” setting.

0: Absolute

The “Range Bottom (abs)” and “Range Top (abs)” parameters are used, specifying Note Number values for the absolute bottom and top of the pitch range for repeated notes. For example, **36** is C2 and **72** is C5.

1: Lowest Note Relative

The “Range Bottom (rel)” and “Range Top (rel)” parameters are used, defining a “sliding range” with regards to the lowest note played, represented as +/- semitones. For example, if you set bottom to **-12** and top to **+12**, this means that the notes will be kept in range from an octave below the lowest note played to an octave above the lowest note played.

2: Highest Note Relative

The same as above, but relates to the highest note played.

3: Lowest/Highest Note Relative

The “Range Bottom (rel)” parameter relates to the lowest note played, and the “Range Top (rel)” parameter relates to the highest note played. Therefore, you control the overall range according to the spread of the notes that are played. For example, if you set both the bottom and top to **0** in this mode, then repeated notes would never be generated outside of the range of the lowest to highest note that were provided as input.

Range Bottom (Abs) [0...127: C-1...G7]

Range Top (Abs) [0...127: C-1...G7]

Specifies an absolute pitch range within which to keep repeated notes that are being transposed. The Bottom and Top values are Note Numbers in the range 0–127/C-1–G7. When the pitches of repeated notes exceed this range, the setting of the “Rebound” parameter comes into effect.

Note: These settings are only effective when the “Range Mode” parameter is **0: Absolute**.

Range Bottom (Rel) [–64...+63 semitones]

Range Top (Rel) [–64...+63 semitones]

Specifies a relative (sliding) pitch range within which to keep repeated notes that are being transposed, based on the position of input notes played on the keyboard. The Bottom and Top values are semitone offsets in the range –64–+63. When the pitches of repeated notes exceed this range, the setting of the “Rebound” parameter comes into effect.

Note: These settings only have an effect when the “Range Mode” parameter is one of the 1.3: Relative settings.

Vel. Range Bottom [1...127]

Vel. Range Top [1...127]

Specifies a Velocity Range for initiating the generation of repeated notes. Input notes with velocities outside of this range will not generate repeats.

When “GE Type” (☞p.953) is **3: Real-Time**, these specify a velocity range within which input notes will trigger the generation of repeated notes. Notes outside of the velocity range will not generate repeats. This is an easy way to allow the velocity with which you play to control the triggering of repeated notes.

When “GE Type” is any of the other options, these specify a velocity range within which generated notes (such as notes from the Note Series, or Drum Pattern notes) will trigger the generation of repeated notes. Notes outside of the velocity range will not generate repeats. This allows only certain notes within certain velocity ranges to trigger the generation of repeated notes, while others will not.

⚠ Repeats can not be generated when “GE Type” (☞p.953) = **1: Generated-Gated** and “Gate Type” (☞p.953) is one of the CC Types, since notes are not actually generated in this mode, but a sustained set of notes is manipulated by a selected CC, i.e. “chopped” by **CC#11 (Expression)**.

GE Mode = Real-Time Parameters

If the “GE Type” is **3: Real-Time**, these additional parameters are also available.

Duration Mode (RT)

[0...4]

- 0: As Played
- 1: Fixed
- 2: As Played-No Overlap
- 3: Fixed-No Overlap
- 4: As Played-Delay No Overlap

Chooses one of 5 different modes for the durations of the repeated notes, which not only can greatly reduce problems with polyphony, but also provide some interesting performance options.

0: As Played

Each delayed note will have the same duration as the initial note, with the exception that if “Transpose” (p.995) is 0, then notes of the same pitch will not overlap. If “Transpose” is other than 0, and many notes are sustained, this can quickly eat up a lot of the polyphony of your sound modules.

1: Fixed

The original note will have the duration as played, but each repetition will have a fixed length, set by the “Duration Value (RT)” parameter, in milliseconds. This can be used so that holding long notes will have repeated notes with short durations, saving polyphony or creating useful effects.

2: As Played-No Overlap

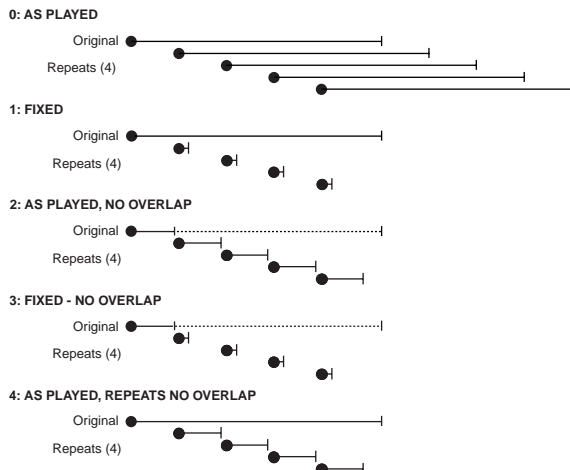
If the original note is shorter than the repeat time, each delayed note will have the same duration as the initial note. If the original note is longer than the repeat time, it will be cut-off by the first repeat, and each repeat will cut-off the preceding one. Therefore, all notes including the original one will not have a duration longer than the repeat time.

3: Fixed-No Overlap

If the original note is longer than the repeat time, it will be cut-off by the first repeated note. Furthermore, each repeated note will have a fixed value in milliseconds, set by the “Duration Value (RT)” parameter.

4: As Played-Delay No Overlap

The original note will have the duration as played, and so will the delays, as long as they are shorter than the repeat time. If the original note is longer than the repeat time, it will not get cut-off, but the delays will limit their lengths to the repeat time.



Duration Value (RT)

[2...5000 (ms)]

Specifies the length of the durations of the repeated notes (in milliseconds).

⚠ Only available when the “Duration Mode (RT)” is **1: Fixed** or **3: Fixed-No Overlap**.

Key Mode (RT)

[0, 1]

- 0: Down
- 1: Up

Selects whether the repeated notes start immediately upon receiving a “key down” event, or wait until notes are released (“key up”).

0: Down (Key down)

Generation of the repeated notes starts immediately upon receiving a note according to the settings of the parameters.

1: Up (Key up)

Generation of the repeated notes is not started until the input source note(s) are released. This allows you to trigger the start of a repeated effect with the release of the keys.

Chord Quantize (RT)

[0, 1]

- 0: Off
- 1: On

Causes one of two different types of behavior, depending on the setting of the “Key Mode (RT)” parameter above.

When “Key Mode (RT)” is 0: Down

When a chord is played on the keyboard, there is a certain amount of “slop” associated with hitting the keys: the fingers arrive at slightly different times, there is a built in amount of MIDI timing inaccuracy, etc. When using **Melodic Repeat** to repeat the chord a number of times, you will hear the same slop it was received with repeated exactly. This corresponds to the “Chord Quantize (RT)” setting of **0: Off**. This may or may not be desirable; sometimes you may want it, other times you may not. When “Chord Quantize (RT)” is set to **1: On**, the notes in the first repeat of the chord will be hard quantized so that they generate simultaneously. All subsequent repeats will be based on those quantized notes, and therefore will also be quantized.

When “Key Mode (RT)” is 1: Up

The repeats will be triggered when the key(s) are released, so they will be quantized together at that point to occur simultaneously anyway, with no “slop.” But depending where you released them overall in time, they may be “out of sync” with the rhythm or groove that may be being generated. This corresponds to the “Chord Quantize (RT)” setting of **0: Off**. When “Chord Quantize (RT)” is set to **1: On**, the release (and generation of the first repeats) will be quantized to correspond to the nearest rhythmic division of note generation. This will either be a 16th note, or the rhythm value chosen in the “Rhythm Value” parameter, whichever is longer.

Bend Group

Overview

The **Bend Group** allows various shapes of automatic pitch bending to be applied to individual notes as they are generated. It also allows a special “arpeggiated bending” option to be applied to Drum Patterns.

However, no bending will actually occur unless the Phase Pattern has been configured to allow it. This allows effects to be set up where bending only occurs in one or more steps of the Phase Pattern, while other steps have no bending.

Bending is also affected by the Rhythm Pattern’s “no bend” row. Bending will normally be triggered with every single generated note or cluster within a Phase

Pattern step where bending is activated; by using the “no bend” row, you can specify that bends will not occur on various notes (single steps) of the Rhythm Pattern. For more information, see Rhythm Group: “Pattern Grid & Associated Parameters” on page 966.

Note that even if bending is properly activated, you may not be hearing any bending effects if the 7–2b: Transmitted MIDI Filter: “Pitch Bend” parameter (PG p.104) has been set to filter out the pitch bend that KARMA is generating.

General Parameters

On/Off

[0, 1]

0: Off 1: On

Allows the bending effects to be turned on or off. While there are several other ways to disable bending effects, this is mainly provided to allow the RT Params to control this in real-time. Note that this has no effect if there are no Phase Pattern Steps with bending enabled, or every step of the Rhythm Pattern has a “no bend” row activated.

Amount

[-12...18]

0: Random	15: Next Note +2
-12...12: -12...+12 semitones	16: Prev Note
13: Next Note	17: Prev Note -1
14: Next Note +1	18: Prev Note -2

Sets the size in semitones of the bends, or selects one of several special bending options. Note that the actual resulting size of the bend also depends on the setting of the “Bend Range” parameter, described later on. The following descriptions apply when the “Bend Range” (p.1001) value is 12 (an octave). If the “Bend Range” was 6, the semitones would actually be half-semitones; if the “Bend Range” was 24, the semitones would actually be whole tones.

0: Random (-12...12)

Each bend selects a random semitone size from -12-12 (excluding 0).

-12...12: -12...+12 semitones

Bends each note the selected semitone size.

13: Next Note

Bends each note to what will be the next note. For example, if the notes to be generated were {C, E, G, B, C...}, then the C will bend to the E, the E will bend to the G, etc. This is very useful for simulation of portamento, or effects like sliding from one bass note to another within a phrase.

14: Next Note +1

Bends each note to what will be the note 2 notes from the current note. For example, if the notes to be generated were {C, E, G, B, C...}, then the C will bend to the G, the E will bend to the B, etc.

15: Next Note +2

Bends each note to what will be the note 3 notes from the current note. For example, if the notes to be generated were {C, E, G, B, C...}, then the C will bend to the B, the E will bend to the second C, etc.

16: Prev Note

Bends each note to what was the previous note. For example, if the notes to be generated were {C, E, G, B, C...}, then the E would bend to the C, the G would bend to the E, the B would bend to the G, etc. In this case, if C was the first note to be generated, a bend to E would be calculated since there is no actual “previous” note.

17: Prev Note -1

Bends each note to the note that was two notes previous. For example, if the notes to be generated were {C, E, G, B, C...}, then the G will bend to the C, the B will bend to the E, etc.

18: Prev Note -2

Bends each note to the note that was three notes previous. For example, if the notes to be generated were {C, E, G, B, C...}, then the B will bend to the C, the second C will bend to the E, etc.

For the 3 Previous Note settings, when no notes have yet been played, KARMA extrapolates what it thinks the bends would have been for the first few notes, based on various settings. Most of the time this will produce a “musical-sounding” bend.

For the Next and Previous Note settings, a bend of 0 is not allowed, even if the next or previous notes to be generated are the same pitch. In this case, a bend to the next or previous note in the Note Series will be used, in order to preserve the illusion of continuous bending. If all possibilities are exhausted, a bend of an octave (12) will be used.

13, 14, 15, 17 & 18 not available when “GE Type” (“GE Type” on page 953) is 3: **Real-Time**.

Force Bend If Zero [0, 1]

0: Off 1: On

When using next or previous note bending, if the two pitches to be bent between are adjacent, a bend of zero can result (no bend). When Force Bend If Zero is 1: **On**, a bend will be created anyway, with an appropriate automatically calculated amount. This allows each note to have an audible bend, even if it technically shouldn't, thereby maintaining an illusion of continuous bending (useful for synth bass lines, for example). When 0: **Off**, no bends will be created between notes of the same pitch (useful for acoustic and electric bass lines, for example).

Not available unless Amount is set to one of the Next or Previous Note settings.

Shape [0...2]

0: Bend 1: Hammer 2: Hammer Bend

Selects one of Three different overall shapes for the resulting bend. 0: **Bend** is a single bend to a destination pitch, while the “Hammer” settings bend to the pitch and back. See the Appendices: “Using Auto Bend”. (p.1014)

0: Bend

Bends the current note to whichever note or by whichever semitone size is selected in the “Amount” parameter. The timing and length of the bend is determined by the “Length,” “Start %” and “End %” parameters. (p.1000) Useful for portamento simulation and ethnic bending effects, among others.

1: Hammer

Bends the current note to whichever note or by whichever semitone size is selected in the “Amount” parameter, then back to the current pitch. The timing and length of the bend is determined by the “Length,” “Start %” and “End %” parameters, and the “Width %” parameter. Useful for guitar hammer-on effects, among others.

2: Hammer Bend

Bends the current note to whichever note or by whichever semitone size is selected in the “Amount” parameter (p.999), then back to the current pitch, then again to the note or pitch selected in the “Amount” parameter. The timing and length of the bend is determined by the “Length,” “Start %” and “End %” parameters, and the “Width %” parameter. Useful for ethnic bending effects, among others.

Alternation [0, 1]

0: Off 1: Alternating

When set to 1: **Alternating**, causes alternate bends to flip back and forth between the + and -. For example, if the “Amount” parameter is set to +12, then the bends produced with a series of notes will be {+12, -12, +12, -12...} etc. When Next/Previous Note Bending is selected, it will alternate between Next and Previous.

For example, if 13: **Next Note** is selected in the size Menu, then the bends will be {Next, Prev, Next, Prev...} etc.

Step Mode [0...12]

0: Smooth 1...12: 1 ST...12 ST

Sets whether the bends will be smooth (continuous) or divided into steps (glissando bends).

0: Smooth

Bends will be continuous, with a value sent out every “n” milliseconds as specified by the Rate parameter.

1...12: 1 ST...12 ST (semitones)

Bends will be quantized to the semitone step size selected, producing “glissando” bends. For example, if the “Amount” parameter is set to 12 and Step Mode is set to 2: **2 ST**, then the resulting bend will be **quantized to 6 steps of 2 semitones** each (a Whole tone scale.)

When one of the Semitone settings is selected, the Rate parameter is not available.

Length [0...25]

- | | | |
|-----------------|---------------------|-------------------|
| 0: 64th triplet | 9: 8th triplet | 18: Whole triplet |
| 1: 64th | 10: 8th | 19: Whole |
| 2: 64th Dotted | 11: 8th Dotted | 20: Whole Dotted |
| 3: 32th triplet | 12: Quarter triplet | 21: 2 bars |
| 4: 32th | 13: Quarter | 22: 3 bars |
| 5: 32th Dotted | 14: Quarter Dotted | 23: 4 bars |
| 6: 16th triplet | 15: Half triplet | 24: Fixed-ms |
| 7: 16th | 16: Half | 25: Note Duration |
| 8: 16th Dotted | 17: Half Dotted | |

Specifies an overall length for a “bend window” within which the bend will take place, based on the “Start %” and “End %” parameters. See the Appendices: “Using Auto Bend”. (p.1014)

0...23: Note values

Sets the overall length of each bend window to the selected rhythm value; each bend will therefore be the same length. Note that this is tempo dependent, so changing tempo changes the length of the bend and keeps the effect locked to tempo. If the length of the bend is longer than the actual duration of the note with which it is generated, part or all of the bend will not be heard.

24: Fixed-ms

Makes available the “Fixed-ms” parameter. A length of absolute time may then be specified in milliseconds for each bend window. Note that this is independent of any tempo settings. You might use this to keep the same length and speed of a bend regardless of the tempo.

25: Note Duration

The duration of the note as it is generated is used as the bend window, with the “Start %” and “End %” parameters specifying where in the note’s duration the bend will start and end. Each bend may therefore be a different length, depending on the durations of the notes. A 16th note duration will have a bend that is half

the length and twice as fast as an 8th note duration. If the duration is varied in real-time, the length of the bends will also be varied.

⚡ Not available when "GE Type" (p.953) is **3: Real-Time**, since the duration of the note is determined by actually playing the keyboard. If selected, this setting will act the same as **7: 16th** note.

Fixed-ms [10...5000 (ms)]

A fixed length of absolute time may be specified in milliseconds for each bend window. Note that this is independent of any tempo settings. You might use this to keep the same length and speed of a bend regardless of the tempo. Has no effect unless the **24: Fixed-ms** setting is selected for the "Length" parameter

Start % [0...100 (%)]

Specifies the start point of the bend in the overall bend window (set by the "Length" parameter). The value is a percentage of the overall bend window. For example, if **0%**, the bend will start as soon as the note begins to play; other values will cause a certain "delay" before the start of the bend.

End % [0...100 (%)]

Specifies the end point of the bend in the overall bend window (set by the "Length" parameter). The value is a percentage of the overall bend window. For example, if **100%**, the bend will extend all the way to the end of the bend window; other values will cause the bend to reach the destination pitch and "hang there" for a period of time.

Width % [0...100 (%)]

Specifies the width of the "hammer" when the **1: Hammer** or **2: Hammer Bend** shape is selected. This controls the amount of bend at each end of the hammer (the "back-and-forth" bend). For example, **0%** creates a triangle wave shape, and **100%** creates a square wave shape, with other values somewhere in between. Width also controls the length of the final bend when the Hammer Bend shape is selected. See the Appendices: "Using Auto Bend." (p.1014)

⚡ Has no effect when **0: Bend** is selected in the "Shape" parameter.

Drum Bend Mode [0, 1]

0: Generated 1: Arpeggiated

Selects one of two different bending techniques for Drum GEs: "Generated" according to the parameters on this Group, or "Arpeggiated" using the current Note Series settings.

Note: If the "GE Type" (p.953) is **2: Generated-Drum**, the "Drum Bend Mode" parameter specifies one of two different bending effects:

0: Generated-generate shape for each note

Causes bending to be generated for each drum note the same as with any other "GE Type". All of the parameters described above operate as described.

1: Arpeggiated-use Note Series for stepped bends

Disables most of the other bend parameters, and instead uses the pitches of the notes in the Note Series to generate stepped "pitch bend sequences." The riff or arpeggio that would normally be being produced if the "GE Type" was **0: Generated-Riff** is still being generated internally, even though the Drum Pattern(s) are being played. This internal riff or arpeggio can be applied to the resulting drum rhythms as Pitch Bend values. The Index Pattern controls the order of the pitch bend values, which are selected from within the Note Series, just as if the "GE Type" was **0: Generated-Riff**. This results in "Wave-Sequencing" effects and other unique sounds.

⚡ Not available when "GE Type" is not **2: Generated-Drum**.

Bend Range [0...24 (semitones)]

Sets the overall bending range of the whole GE. This also affects pitch bend envelopes, CC-A/CC-B if generating pitch bend, etc. Note that this must be set to **12** for the semitone-related bend parameters described above to actually be semitones.

GE Mode = Real-Time Parameters

If the "GE Type" is **3: Real-Time**, the following parameters will also be available.

Key Mode (RT) [0, 1]

0: Down 1: Up

Selects whether the bend will be initiated when the keys are pressed (MIDI note-ons are received) or when the keys are released (MIDI note-offs are received).

0: Down

The bend window specified by the "Length" (p.1000) setting starts immediately upon receiving a note according to the settings of the parameters.

1: Up

The bend window is not started until the input source note is released. Note that for this kind of bend effect to be audible, you must either be using a synth program with a long release, or set the "Rel. Delay Length (RT)" parameter below to something other than **0: Off**.

Direction (RT) [0, 1]

0: From 1: To

Selects whether the pitch is bent from the note to the destination (**1: To**) or from the destination to the note (**0: From**.) This most often relates to which Bend Shape is selected.

0: From

The bend starts at a pitch offset equal to the Amount setting, and ends at the current pitch (i.e. Joystick center). For example, if "Amount" = **-12** and "Shape" =

0: Bend, it would be the same as starting a note with the Joystick all the way in the pitch down position, and then moving it to the center.

1: To

The bend starts at the current pitch (i.e. Joystick center), and ends at a pitch offset equal to the Amount setting. For example, if "Amount" = -12 and "Shape" =

0: Bend, it would be the same as starting a note with the Joystick in the center position, and then moving it all the way to the pitch down position.

For more information on practical uses for this, see the Appendices "Using Auto Bend: Next/Previous Note Bending: Realtime." (p.1014)

Rel. Delay Length (RT) [0...24]

0: 64th triplet	9: 8th triplet	18: Whole triplet
1: 64th	10: 8th	19: Whole
2: 64th Dotted	11: 8th Dotted	20: Whole Dotted
3: 32th triplet	12: Quarter triplet	21: 2 bars
4: 32th	13: Quarter	22: 3 bars
5: 32th Dotted	14: Quarter Dotted	23: 4 bars
6: 16th triplet	15: Half triplet	24: Off
7: 16th	16: Half	
8: 16th Dotted	17: Half Dotted	

Allows the release (note-offs) of notes to be delayed by certain amounts (various rhythmic durations at the current tempo). This is mainly to allow bends to be produced when you release the keys (with "Key Mode (RT)" set to **1: Up**). When **24: Off**, no delay is added.

Rel. Delay Damping (RT) [0, 1]

0: Off	1: On
--------	-------

When **1: On**, starting new notes while others are still sustaining (because of a delayed note-off from the "Rel. Delay Length (RT)" parameter above) will shut the sustaining notes off. This is useful for creating monophonic style bending effects using "Key Mode (RT)" and "Rel. Delay Length (RT)". When **0: Off**, the notes are allowed to overlap.

Vel. Range Bottom (RT) [1...127]

Vel. Range Top (RT) [1...127]

Specifies a Velocity Range for triggering the generation of pitch bend effects. Input notes with velocities outside of this range will not trigger the bending. This is an easy way to allow the velocity with which you play to control the triggering of pitch bending effects.

Drum Group

Overview

The **Drum Group** allows up to three different **Drum** or **Melodic Patterns** (of equal or different lengths) to be created, edited, and simultaneously looped, while being separately modified by various other parameters. Many of these modifications are

controlled by settings in the Phase Group. This allows you to set up effects where various things happen only on certain steps of the Phase Pattern; such as a four bar Drum Pattern which is randomized with a Cluster Pattern every fourth time through (bars 13–16).

About Drum Patterns

A Drum Pattern is a special type of “fixed” pattern that contains Note Numbers. These can be used to construct Drum and Percussion Patterns, or Melodic Patterns of a more fixed nature than what is generated by using the Note Series Group. Although you can create Drum Patterns with any mixture of notes you desire, a basic concept used throughout the available GEs was to have the three patterns (and three Drum Template Banks) follow these basic rules:

Pattern 1/Bank 1: Kick, Snare, and Tom Notes

Pattern 2/Bank 2: Hi-Hat, Ride, and Cymbal Notes

Pattern 3/Bank 3: Percussion Notes

This allows you to mix and match Kick/Snare Patterns with different Hi-Hat Patterns and Percussion Patterns, allowing great flexibility and variation.

Drum Patterns with more than one sound turned on in a column can operate either “polyphonically” (generating more than one drum note at a time) or as random “pools,” where a random choice will be made from one of the drum sounds in the column. The bottom row of each grid allows a rest to be placed as a step, or added to the pools for the possibility of a rest.

A Drum Pattern consists of only Note Numbers and rests; there are no durations, no velocities, no rhythms. The other information is supplied by the Rhythm, Velocity, Cluster, and other Patterns. It helps to think in terms of straight 16ths (or 32nds) while constructing new patterns. You can of course later play the Drum Patterns with Rhythm Patterns different values, for more variations.

A Drum Pattern will loop as long as note generation continues. The 3 separate Patterns are independently loopable, so they can be of different lengths; a 4 bar

Kick/Snare Pattern can be used with a 2 bar Hi-hat Pattern and a 3 bar Percussion Pattern, etc. They normally will not reset to the beginning of the Pattern unless a new Trigger is received, or unless the Phase Pattern has been configured to restart them at the beginning of certain Phases. This also means that a sixty-four step Drum Pattern can be looping while an eight step Velocity Pattern and a twelve step Cluster Pattern are also independently looping, for example.

The riff or arpeggio that would normally be being produced if the “GE Type” (p.953) was **0: Generated-Riff** is still being generated internally. Therefore, if Index Patterns, Cluster Patterns, or Velocity Patterns are being used by the GE, these can be applied to the Drum Patterns with very interesting results, causing randomization and quasi-improvisational effects. The GEs included in the OASYS make use of this effect in the Drum RTC Model, on the “Randomize/Improvise” slider.

These randomizations are controlled by settings in the Phase Pattern. This allows effects where various things happen only on certain steps of the Phase Pattern; such as a four bar Drum Pattern which is randomized with a Velocity Pattern every fourth time through (bars 13–16).

Also, the same riff or arpeggio can be applied to the resulting drum rhythms as Pitch Bend values, on the Bend Group. This results in “Wave-Sequencing” effects and other unique sounds. The included GEs use this feature in the Drum RTC Model on Switch 6. Each step in the Phase Pattern can have Pitch Bend activated for that particular step. This means that you can do something like have no Pitch Bend through three steps and then have Pitch Bend on the fourth step.

Pattern Editing Grid & Associated Parameters



Drum Pattern


A Drum Pattern is a grid of 8 rows by 64 columns. The bottom row of the grid is the “Rest” row; the other 7 rows correspond to 7 Drum Sounds or Notes that have been chosen to construct the pattern. A Drum Pattern

may have any number of steps up to 64, with each step being represented by one column on the grid; unused columns appear disabled.

The example above shows a kick, snare, toms and maracas pattern, where the bottom two rows in the top part of the grid have their corresponding Drum Sound menus set to kick and snare. The bottom row of rests are interleaved with the kick and snare choices to form a groove to be played with a straight 32nd note Rhythm Pattern. Therefore, the entire grid represents a 2 bar phrase of 4/4 time, with every 8 columns representing 8 32nd notes (1 quarter note).

Also shown above is a 65th column, known as the “Always Column” and indicated by the abbreviation “a” underneath it. When a row is selected in this column, it will cause any values in that row of the

Drum Pattern to always be played, regardless of any randomization that is going on, or regardless of the “Poly/Pools” setting (discussed later on).

 Pattern grids cannot be viewed or edited on the OASYS.

Associated Parameters

Play On/Off [0, 1]

0: Off 1: On

When **1: On**, the Drum Pattern is played during Note Generation. When **0: Off**, the Grid may contain values but will not be played during Note Generation. This can be used to temporarily “mute” one or more patterns during playback.

On/Off Combinations [0...7]

Controls all 3 Drum Pattern On/Off at the same time, in various combinations. The values **0–7** select one of 8 different combinations, shown in the following table:

Value	Pattern 1	Pattern 2	Pattern 3
0	Off	Off	Off
1	On	Off	Off
2	Off	On	Off
3	Off	Off	On
4	On	On	Off
5	Off	On	On
6	On	Off	On
7	On	On	On

Row1...7 Note [0...127]

0...127: C-1...G9

Selects a Drum Sound/MIDI Note Number for each of the 7 rows of the selected Drum pattern.

Row1...7 Vel. Offset [-127...+127]

Allows the velocity for notes from that row only to be offset with regards to other rows. For example, you can use this to make a snare softer overall than a kick. Note that this is subtractive/additive: “0” leaves velocities at the Initial Velocity they would normally be generated with based on the Velocity Group settings. So setting positive amounts may interfere with the Velocity control that you have specified elsewhere. One example is controlling the velocity sensitivity of the Drum Pattern with the keyboard. Regardless of your Velocity Group settings, if the Row Velocity Offset here was a large positive value, you would get no apparent velocity sensitivity from the keyboard for this row, since this value would be added and effectively cancel out the effects of the Velocity Mode and Value.

Rhythm Multiplier [1...800 (%)]

Multiplies the current Rhythm Pattern. Note that this is entirely independent of the same parameter in the Rhythm Group. This means that each Drum Pattern can have a different “Rhythm Multiplier.” (p.968) For example, if you set the Rhythm Pattern to 32nds, you could drive one Drum Pattern with a “Rhythm Multiplier” of 100% at 32nd note speed, and another

Drum Pattern at 200% for 16th note speed. If they were the same number of steps, it would take twice as long to perform the entire 16th-based pattern as the 32nd-based pattern. This also means that the Rhythm Pattern driving the underlying Riff (that may be applied as Pitch Bend or used to randomize the Drum Patterns) can be operating at a different rhythmic relationship. For example, if the Rhythm Pattern was set to 16ths, and the Drum Pattern “Rhythm Multiplier” to 50%, the Drum Pattern would be generated as 32nd-based, while any arpeggiated pitch bend would be 16th-note based, or 1 bend every 2 steps of the Drum Pattern.

Straight Multipliers [0...5]

0: 25% 2: 100% 4: 200%
1: 50% 3: 200% 5: 800%

Selects from a quantized set of “straight” values for the “Rhythm Multiplier” field of the associated Drum Pattern(s). In other words, when applied to a Rhythm pattern containing values such as 16th notes, the resulting rhythmic values will be straight values such as 8th notes, quarter notes, etc.

Straight/Trip Mults [0...10]

0: 25% 3: 68% 6: 200% 9: 544%
1: 34% 4: 100% 7: 272% 10: 800%
2: 50% 5: 136% 8: 400%

Selects from a quantized set of “straight & triplet” values for the “Rhythm Multiplier” field of the associated Drum Pattern(s). In other words, when applied to a Rhythm pattern containing values such as 16th notes, the resulting rhythmic values will be straight values such as 8th notes, quarter notes, etc. or various triplet values.

Strt/Dot/Trip Mults [0...15]

0: 25% 4: 68% 8: 150% 12: 400%
1: 34% 5: 75% 9: 200% 13: 544%
2: 37% 6: 100% 10: 272% 14: 600%
3: 50% 7: 136% 11: 300% 15: 800%

Selects from a quantized set of “straight, triplet & dotted” values for the “Rhythm Multiplier” field of the associated Drum Pattern(s). In other words, when applied to a Rhythm pattern containing values such as 16th notes, the resulting rhythmic values will be straight values such as 8th notes, quarter notes, etc., various triplet values, or various dotted values.

Pattern Vel. Offset [-127...+127]

Subtracts or adds a constant amount to the velocities for each Drum Pattern. Allows a Pattern’s relative volume to be raised or lowered with regard to the

other Patterns. Note that this is subtractive/additive: 0 leaves velocities at the Initial Velocity they would normally be generated based on the Velocity Group settings.

Setting positive amounts may interfere with the Velocity control that you have specified elsewhere. One example is controlling the velocity sensitivity of the Drum Pattern with the keyboard. Regardless of your Velocity Group settings, if the Pattern Velocity Offset here was a large positive value, you would get no apparent velocity sensitivity from the keyboard, since this value would be added and effectively cancel out the effects of the Velocity Mode and Value.

Pattern Vel. Scale [-999...+999 (%)]

Specifies a percentage by which the Velocity Pattern selected in the Velocity Group is scaled before being used to generate notes from the Drum Pattern, if this feature has been assigned in the Phase Group. Notes can be made to disappear or drop out using large positive values; large negative values with a very soft Initial Velocity can create interesting “reversed” effects. The same field in the Velocity Group itself is disabled for Drum Effects, since each Pattern here has its own “Velocity Scale.”

Pattern Transpose [-36...+36]

Allows each Drum Pattern to be individually transposed in semitones. This is additive to the transpose in the KARMA Module. For more information, see “7–3: Module Parameters–Control” on page 105.

Octave Transpose [-36...+36]

Allows the Drum Pattern Transpose value to be quantized to the nearest octave, so that when being changed by a KARMA Realtime Control, only transposition by octaves is possible. In this case, the value of the parameter changes by semitones, but the actual transpose value will only change at certain points within the range:

- 36 to -31 = -36 (-3 octaves)
- 30 to -19 = -24 (-2 octaves)
- 18 to -7 = -12 (-1 octave)
- 6 to +5 = 0 (no transpose)

- +6 to +17 = +12 (+1 octave)
- +18 to +29 = +24 (+2 octaves)
- +30 to +36 = +36 (+3 octaves)

Oct/5th Transpose [-36...+36]

Allows the Drum Pattern Transpose value to be quantized to the nearest octave or fifth, so that when being changed by a KARMA Real-time Control, only transposition by octaves or fifths is possible. In this case, the value of the parameter changes by semitones, but the actual transpose value will only change at certain points within the range:

- 36 to -33 = -36 (-3 octaves)
- 32 to -27 = -29 (-3 octaves +5th)
- 26 to -21 = -24 (-2 octaves)
- 20 to -15 = -17 (-2 octaves +5th)
- 14 to -9 = -12 (-1 octave)
- 8 to -3 = -5 (-1 octave +5th)
- 2 to +3 = 0 (no transpose)
- +4 to +9 = +7 (+5th)
- +10 to +15 = +12 (+1 octave)
- +16 to +21 = +19 (+1 octave +5th)
- +22 to +27 = +24 (+2 octaves)
- +28 to +33 = +31 (+2 octaves +5th)
- +34 to +36 = +36 (+3 octaves)

Note Series -> Length [0, 1]

- 0: Off
- 1: On

When **1: On**, the Pattern uses the GE’s actual Note Series Length as the length of the Drum Pattern. For example, if the Note Series Group was set to “Replications” (p.957) 4.0 with “Symmetry” (p.957) **Off**, and 4 notes were played, a **16 note** Note Series would normally be created. The Drum Pattern would restart after **16 steps** if it have been played. Playing 1 note would change the Note Series Length to 4, and the Drum Pattern would restart after **4 steps**. This can be used to change the apparent length or time signature of the groove or phrase in real-time. When this is **0: Off**, the Drum Pattern loops through its full length.

Random Weighting Parameters– Pools

The Random Weighting Parameters - Pools are made available when at least one step (column) in the Drum Pattern Grid contains multiple buttons turned on in the upper 7 rows (not counting the “rest” row), and the “pools” button is on. This step then constitutes a “random pool” of Drum Sounds/Notes.

For example, you can influence whether a tom will be played at a certain step more often than a snare.

For more information, see “Rhythm Group” on page 965, and “Random Weighting Parameters - Pools” on page 967.

Pools-Random Factor [-99...+99]

For information on this parameter, see “Rhythm Group” on page 965 and “Pools-Random Factor” on page 967.

Pools-Weighting Curve [0...3]

- 0: Exponential
- 1: Logarithmic
- 2: Exp-S
- 3: Log-S

For more information, see “Pools-Weighting Curve” on page 967, and “Rhythm Group” on page 965.

See also “Appendices” on page 1014, and “Random Weighting Curves” on page 1015.

The following table summarizes the effect of the various Weighting Curves and the Factor field on Drum Sound choices:

Exp/Log	higher in grid	lower in grid
Exp-S/Log-S	middle	higher/lower

Drum Pool values that receive priority:		
Weighting Curve	Factor	
		+ (positive)

Random Weighting Parameters– Rests

The Random Weighting Parameters - Rests are made available when at least one column in the grid has a rest and at least one other Drum Sound turned on. This will happen with either the **1: pool** or **2: poly** selected, since you can have random rests in both modes; they just operate differently (see the description under “Pools/Poly,” below).

Whenever this step is encountered in playing through the pattern and a random choice must be made, the likelihood of a rest occurring can be favored by the use of a separate weighting curve.

Rests-Random Factor [-99...+99]

Controls the degree of slope to the Weighting Curve. **0 = a Linear Curve** with any Weighting Curve. Negative values not only invert but rotate the curve. For examples, see “Random Weighting Curves” on page 1015.

Rests-Weighting Curve [0, 1]

0: Exponential 1: Logarithmic


2 different shapes are available, which affect the likelihood of a rest occurring when a random choice is made. For more information, see “Random Weighting Curves” on page 1015.

0: Exponential

With a positive **Factor (+)**, choices will be exponentially weighted towards the Drum Sounds/Notes more often. With a negative **Factor (-)**, choices will be exponentially weighted towards the rests more often.

1: Logarithmic

With a positive **Factor (+)**, choices will be logarithmically weighted towards the Drum Sounds/Notes more often. With a negative **Factor (-)**, choices will be logarithmically weighted towards the rests more often.

 A Factor of **0** with any shaped curve yields a linear table (straight diagonal line), and each of the values in the pool will have an equal chance of getting chosen.

The following table summarizes the effect of the various Weighting Curves and the Factor field on random rests:

Values that receive priority:		
Weighting Curve	Factor	
		+ (positive)
Exp/Log	less rests	more rests

Associated Parameters

Pools/Poly [0, 1]

0: Poly 1: Pools

Chooses one of 2 modes of operation for the entire grid when columns contain more than one Drum Sound and/or a rest.

0: Poly

If there is more than one Drum Sound selected in a column (and no rest), then all of the Drum Sounds at that step will be played; if you had a kick, snare, and hi-hat in the same column, all 3 would be played when that step was reached. This is the typical operation of most grid-based rhythm pattern software. However, if a rest is also selected, then there will be a random possibility of a rest or a Drum Sound for each of the Drum Sounds; in other words, if you had a kick, snare, hi-hat and rest in the same column, for each of the 3 Drum Sounds a choice between the sound and the rest would be made (subject to the Random Rest Weighting Curve described previously). This would result in one of 8 possible combinations:

kick, snare, hi-hat → kick, snare, hi-hat

(rest), snare, hi-hat → snare, hi-hat
 kick, (rest), hi-hat → kick, hi-hat
 kick, snare, (rest) → kick, snare
 (rest), snare, (rest) → snare
 (rest), (rest), hi-hat → hi-hat
 kick, (rest), (rest) → kick
 (rest), (rest), (rest) → rest (nothing)

1: Pools

If there is more than one Drum Sound selected in a column, then those sounds form a “pool” of choices from which only one will be chosen at random. If a rest is also selected, then there will be a possibility of a rest or only one of the Drum Sounds. For example, if you had a kick, snare, hi-hat and rest in the same column, there would first be a choice of one of the 3 Drum Sounds (subject to the Random Pool Weighting Curve described previously), then a choice as to whether to play the single chosen Drum Sound or a rest (subject to the separate Random Rest Weighting Curve described previously). This would result in one 4 possible choices:

kick

snare
hi-hat
rest

Keyboard Track [0, 1]

0: Off 1: On

Allows the Drum Pattern to track the input notes if desired, thereby changing keys depending on the chord. **0: Off** is normal for Drum Patterns while **1: On** is normal for Melodic Patterns.

0: Off

The Drum or Melodic Pattern is “fixed” - it doesn’t matter what notes you play on the keyboard. The pattern will always produce the same pitches, according to the settings of the Drum Sound/Note settings. This is most typical for Drum Patterns.

1: On

The pitches of the notes generated “track” the lowest key played on the keyboard (or other input device), related to **C2 (MIDI Note #36)**. This is most useful for Melodic Patterns. In other words, when you play a **C2**, the pattern will be produced using the Note Numbers as specified by the Drum Sound/Note settings, and any other applicable parameters. If you then play an **E2**, the notes being generated will be transposed up by **4 steps**. Assuming the Notes that are assigned are in the **key of C**, this puts the resulting pattern in the **Key of E**. This is often useful in conjunction with the “NTT - Note Table Transposition” parameter, described next.

Note: The “Root Position” parameter (PG p.107) can be used to cause different inversions of the same chord to always transpose the notes as if the chord was played in root position.

NTT On/Off (Note Table Transposition) [0, 1]

0: Off 1: On

Mainly for use with Melodic Patterns, this allows the chords received to shift certain pitches in the Drum Pattern to notes that fit the analyzed chord. Often used in conjunction with Keyboard Track.

0: Off

The different chords played on the keyboard (or other input device) have no effect on the pitches of the notes.

1: On

The Chord Analysis is performed on the input chord, and certain pitches as they are generated may be shifted to other notes to fit the chord. This is useful in conjunction with the “Keyboard Track” parameter described above. If you have created a Melodic pattern that is being transposed, you can also have the tonality of the pattern shift to match different chords as you play them, similar to popular auto-accompaniment keyboards. In other words, you can write a pattern that plays a musical phrase in a major key, and have it change to a minor key when you play minor chords, automatically.

Note: The “Root Position” parameter (PG p.107) can be used to cause different inversions of the same chord to always transpose the notes as if the chord was played in root position.

Link To Next

[0, 1]

0: Off 1: On

The 3 Drum Patterns can be linked together to form longer Drum Patterns; in this case, they do not play simultaneously, but “back-to-back.” Drum Pattern 1 can be linked to Drum Pattern 2. Drum Pattern 2 can be linked to Drum Pattern 3. If both Drum Pattern 1 and 2 are linked, then all 3 are linked. This can be used to create lengthy drum grooves or melodic phrases, have drum kits change for parts of a phrase, have melodic patterns change to using different pitches or octaves, etc.

Notes Played = Rows

[0, 1]

0: Off 1: On

1: On

The number of keys pressed on the keyboard determines which rows of the 3 Drum Patterns are played. If only one key is pressed, then only the notes indicated by the first row of the Drum Pattern (lowest row of the 7 rows specifying drum notes) are generated. If 3 keys are pressed, then only the notes specified by the lowest three rows are generated. This can be used to simulate the Korg Triton Arpeggiator setting “Fixed Tone Mode”: **Trigger As Played**.

Wrap Bottom

[0...127]

Wrap Top

[0...127]

0...127: C-1...G9

Sets an overall range within which notes from all 3 Drum Patterns will be limited. Notes going beyond the range will be transposed by however many octaves necessary to keep them within the specified range. This is mainly intended for use with melodic patterns that are being transposed by using the Keyboard Track feature.

Repeat On/Off Pattern

[0...2]

Allows an individual Drum Pattern to have its Melodic Repeat settings in the Phase Pattern set to one of three states:

0: Off

Melodic Repeat will be turned off in each step of the Phase Pattern, for the specified Drum Pattern.

1: On

Melodic Repeat will be turned on in each step of the Phase Pattern, for the specified Drum Pattern.

2: As Stored

Melodic Repeat will be set to the internally stored settings of the GE, for each Phase Pattern Step. This means that repeats can be on in some steps, and off in others, such as just generating repeated notes in the last bar of a four bar pattern.

Repeat On/Off Combs (Combinations)

[0...8]

Allows all three Drum Patterns to have their Melodic Repeat settings in the Phase Pattern controlled at the same time, in various combinations. This allows you to use a single RT Control (such as a slider in the Real-

Time Controls Editor) to control all three Patterns at the same time. The values 0-8 select one of 9 different combinations, shown in the following table:

Off

Melodic Repeat will be turned off in each step of the Phase Pattern, for the specified Drum Patterns.

On

Melodic Repeat will be turned on in each step of the Phase Pattern, for the specified Drum Patterns.

As Stored

Melodic Repeat will be set to the internally stored settings of the GE, for each Phase Pattern Step. This means that repeats can be on in some steps, and off in others, such as just generating repeated notes in the last bar of a four bar pattern.

Value	Pattern 1	Pattern 2	Pattern 3
0	Off	Off	Off
1	On	Off	Off
2	Off	On	Off
3	Off	Off	On
4	On	On	Off
5	Off	On	On
6	On	Off	On
7	On	On	On
8	As Stored	As Stored	As Stored

Resync Index Templates [-1: As Stored, 0...13]

Controls the selection of one of 12 Resync Index Template settings, which apply different values to each step of the Resync Index Rows [ri] of the Phase Pattern,

Value	Phase Pattern Steps																
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	
-1	as stored																as stored
0																	all off
1	x								x								every 8
2	x				x				x				x				every 4
3	x		x		x		x		x		x		x		x		every 2
4	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	every step
5	x	x			x	x			x	x			x	x			4 step 1
6	x			x	x			x	x			x	x			x	4 step 2
7	x	x		x	x	x			x	x	x		x	x	x	x	4 step 3
8	x	x	x		x	x	x		x	x	x		x	x	x		4 step 4
9	x						x						x				every 6
10	x			x			x			x			x			x	every 3
11	x	x		x	x		x	x		x	x		x	x		x	3 step 1
12	x		x	x		x	x		x	x		x	x		x	x	3 step 2
13	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	every step

-1: As Stored

The Resync Index settings for the specified Drum Pattern will be set to whatever values they are stored to internally in the GE. They could be all On or all Off, or any combination of On and Off.

0...4: Templates based on 2 and 4

5...8: Templates based on 2 and 4 (alternate)

in the specified Drum Pattern's section of the Phase Pattern Drum Activity Grid. This causes the Drum Pattern's playback indexes to resynchronize at various steps of the Phase Pattern.

Index Pattern settings may be used to modify a specified Drum Pattern's playback, often with randomized results, according to settings in the Phase Group and Index Group. When doing so, the use of the Index Pattern can cause playback of the various steps of the Drum Pattern to skip around and play out of order, creating new variations, often with a "free-form" improvisational feel. While quite useful, this can often feel "too syncopated," as the pattern can become completely disconnected from its original placement.

However, as playback of the Phase Pattern enters a particular step, if the Resync Index button [ri] is On, then the selected Drum Pattern's playback index will be reset to the position that it normally would be in if it wasn't being modified by the application of the Index Pattern. This can "resynchronize" the Drum Pattern back to the downbeat every four beats, or every two beats, etc., while allowing it to then begin skipping around again.

As playback of the Phase Pattern enters a particular step, if the Resync Index button [ri] is Off, no resetting of the Drum Pattern's index is performed, and the generation of the Drum Pattern continues from wherever it may be.

The following table illustrates the various values loaded into the Phase Pattern when a Resync Index Template is loaded for a particular Drum Pattern:

9...13: Templates based on 3

The Resync Index settings for the specified Drum Pattern will be set to one of the various patterns of On and Off values, causing the Drum Pattern playback indexes to resynchronize at various steps of the Phase Pattern.

Template Parameters

The two Template Parameters select from one of three banks of Drum Pattern Templates within the current selected Template Bank (shared by all three Drum Patterns), and load the parameters into the selected Drum Pattern Editing Grid and associated parameters. Each Drum Template Bank contains 63 or 64 different Drum Pattern Templates.

A Drum Pattern Template consists of:

- the configuration of the Drum Pattern Grid
- “poly/pools” setting
- the 7 choices in the Drum Sounds menus
- Random Weighting Parameters - Pools (if applicable)
- Random Weighting Parameters - Rest (if applicable)
- the setting of the “Always Column”

Template Bank 1...3 [1...63]

⌘p.968 “Rhythm Group”: “Template”.

Template Bank 1...3 + Restore [0: [As Stored], 1...63]

⌘p.969 “Rhythm Group”: “Template + Restore”.

Direct Index Group

Overview

Direct Index means to take a controller and map it into the Note Series directly, so that notes can be directly indexed and generated in real-time. One use is to take an area of a keyboard and map it into the Note Series, so that when you play the keys you are not generating the true note, but are selecting notes from within the Note Series. You can set up one area of the keyboard to supply the input notes to the Note Series, and another area to perform the Direct Indexing. This can allow you to “solo” with musically correct notes, without really thinking about what you are doing. Another use is to take a controller like a Joystick and map it into the Note Series, so that sweeping the controller sweeps through the Note Series and generates glissandos and

flurries of notes. This can be done in addition to the normal effect that the GE may be programmed to generate.

Note that to perform Directing Indexing, a controller must be selected as a **Source** in 7-7: Dynamic MIDI page, and one of two different options selected as a “Destination”:

- Direct Index
- DI & MdlStop (Direct Index & Module Stop)

For more information, see “Dynamic MIDI Sources & Destinations” on page 1038.

General Parameters

The parameters in this section affect the overall Direct Indexing effect in general.

Index Shift [0...3]

- | | |
|-----------|-----------|
| 0: Top | 2: Center |
| 1: Bottom | 3: Skip |

Selects one of several options for shifting the indexes coming from the controller, if the Note Series at any given time is longer than the range of the selected controller. For example, if you specified an octave of keys (12 keys) as a controller, and there were 24 notes in the Note Series, those 12 potential indexes can be directed to different areas of the Note Series.

If the number of steps in the range of the selected controller is less than or equal to the number of notes in the Note Series, this parameter has no effect and KARMA automatically maps the indexes to the proper notes. If the number of steps is equal, there will be a predictable one-to-one correspondence between the controller and the Direct Index notes. If there are fewer notes in the Note Series than, KARMA automatically maps the indexes in a way that prevents adjacent controller indexes from selecting the same note. In addition, in the case of using a CC to sweep through the Note Series, values that would cause duplicate notes will be filtered out. This means you can comfortably use a CC with a range of 0-127 to sweep through a 15 note Note Series.

0: Top

If the length of the Note Series is greater than the range of the selected controller, the indexes will be shifted to the top, so that the highest Direct Index note will be the highest note in the Note Series.

1: Bottom

If the length of the Note Series is greater than the range of the selected controller, the indexes will be shifted to the bottom, so that the lowest Direct Index note will be the lowest note in the Note Series.

2: Center

If the length of the Note Series is greater than the range of the selected controller, the indexes will be centered around the middle note of the Note Series.

3: Skip

If the length of the Note Series is greater than the range of the selected controller, the indexes will be scaled into the Note Series so that the lowest Direct Index note will be the lowest note in the Note Series, the highest Direct Index note will be the highest note in the Note Series, and the other indexes will be spread out over the Note Series, resulting in one or more notes in the Note Series being skipped (cannot be indexed from the controller).

Trill Mode [0...5]

- | | |
|--------------------|--------------------|
| 0: Off | 3: 3 Note Or More |
| 1: 1 Note Or More | 4: 4 Notes Or More |
| 2: 2 Notes Or More | 5: 5 Notes Or More |

Selects one of several options for producing an automatic randomized trill/arpeggio. When holding down a certain number of Direct Index notes, an automatic randomized trill/arpeggio can be produced. The rate at which the notes are generated is automatically calculated based on the tempo. This can be used to simulate fast soloing riffs while performing Direct Indexing.

0: Off/DynMIDI

No trill effect will be introduced, no matter how many Direct Indexing notes are held down simultaneously.

1...5: 1 Note Or More...5 Notes Or More

Specifies the required number of notes that must be held down before the trill/arpeggio starts. When set to “1 Note Or More,” playing even a single note causes it to start repeating at the automatically calculated rate. Other notes may then be added to become part of the trill/arpeggio.

Held Note Trig Mode [0...3]

0: Off 2: Retrigger
 1: Bend/Retrigger 3: Mute

Selects one of several options for deciding what happens when Direct Index notes are being sustained, and the chord is changed so that the sustained note(s) no longer "fit" with that chord (i.e. are no longer are part of the Note Series). Part of the concept with this parameter is to allow soloing only within a "correct" key or Note Series.

0: Off

Nothing is done. The note(s) remain sustained, even if they are "wrong."

1: Bend/Retrigger

If only one Direct Index note is being sustained, it is bent (with pitch bend) down to the nearest pitch in the new Note Series (if it is no longer present in the Note Series). If more than one note is being sustained, they will all be changed to the nearest notes in the new Note Series and retriggered. If several are sustained, and only one is "incorrect," they will all be retriggered.

2: Retrigger

All sustaining Direct Index notes will be changed to the nearest notes in the new Note Series and retriggered. If several are sustained, and only one is "incorrect," they will all be retriggered.

3: Mute

Any sustaining Direct Index notes not present in the new Note Series will be shut off.

Transpose [-36...+36 (semitones)]

Transposes the pitch of the Direct Indexing notes as they are selected from the Note Series. This separate setting allows you to choose the octave for Direct

Indexing independent of where the rest of the current GE is designed to work. Note that this is completely separate from the "Transpose" setting in the KARMA module parameters, so changing the octave there will have no effect on Direct Indexing.

Vel. Sensitivity (Kbd) [1...127 – bottom of range]

Specifies the lower limit of a scaled velocity range ('n' to 127). Triggers being provided by a velocity sensitive controller will be scaled according to this before being applied to the Note Series. This controls the velocities of the Direct Index notes as they are generated. For example, if the value is 1, then the velocities would be exactly as played with an unmodified range of 1–127 (full sensitivity). If the value is 64, the velocities would be half as sensitive, because any velocity received from 1–127 will be scaled into the range of 64–127. Note that if the controller is a CC such as a joystick, there is no velocity associated with moving it, so the last received keyboard velocity is used, or a default.

Vel. Offset (CCs) [0...200%]

When a CC such as a joystick or ribbon is being used as a Direct Index controller, there is no velocity associated with moving it, so the last received keyboard velocity is used, or a default. Velocity Offset (CCs) specifies an amount by which the velocity of the indexed notes will be offset from the GE's internal velocity setting. This allows you to make them a bit softer or louder than generated notes from the same GE, for example. The value is a percentage of the initial velocity, so values **less than 100** will produce softer indexed notes, while values **greater than 100** will produce louder notes. A value of 0% will effectively stop the generation of indexed notes.

Duration Parameters

The parameters in this section affect the durations of the Direct Index notes. You can be in control of them yourself from the keyboard, or select several different options for automatically generating the durations.

Duration Control [0...2]

Determines whether the durations of the Direct Index notes will be controlled by the other parameters in this section, or by the user (through the controller doing the Direct Indexing). The notes that may be generated normally by the GE are still independently controlled by the settings in the Duration Group.

0: GE 1: Kbd-Poly 2: Kbd-Mono

0: GE

Direct Index notes will have the duration specified by the other two parameters in this section, the "Duration Mode" and the "Duration ms" (if applicable). The actual duration of the controller keys are not taken into account. For example, you might set up an effect with a short duration which then uses Melodic Repeat to generate further notes; setting this to "GE" ensures that the user's release of a key has no effect on the actual durations.

1: Kbd-Poly

Direct Index notes will have the actual duration of the controller keys - pressing a key starts a note and releasing it ends a note. The "Duration Mode" and "Duration ms" become unavailable. This allows the user to control the duration, especially useful for simulating soloing. The controller will act polyphonically - multiple notes can be played and held down simultaneously.

2: Kbd-Mono

Same as 1: Kbd - Poly above, except the keys act monophonically - you cannot play more than one note at a time. Useful for certain types of simulations such as saxophone and synthesizer solos.

Duration Mode [0...3]

0: Poly Extend 2: Mono Extend
 1: Poly Extend/Damped 3: Timed

Selects one of several modes of operation for controlling durations of the Direct Index notes, when the "Duration Control" parameter is set to 0: GE.

0: Poly Extend

Each note will sustain until the next generation of the same note, or until that note is no longer a part of the Note Series (caused by playing a new chord, for example). For example, if the notes to a CMaj chord are sustaining and the chord is changed to a CMinor, only the Es will be shut off.

1: Poly Extend/Damped


The same as above, except all sustaining notes will be damped when the chord changes, not just notes that are no longer in the Note Series.

2: Mono Extend

Each note is sustained until the next note (of any pitch) is generated.


3: Timed (1...5000 ms)

Makes available the "Duration ms" parameter, where you specify in milliseconds the duration of the generated notes. All notes will therefore have the same length. Note that this is independent of the current tempo - if it is set to **50 ms**, it will always be **50 ms**, regardless of tempo.

 Not available if "Duration Control" is not set to **0: GE**.

Duration ms [1...5000 (ms)]

When the "Duration Mode" above is 3: Timed, specifies in milliseconds the duration of the generated notes. All notes will therefore have the same length. Note that this is independent of the current tempo - if it is set to **50ms**, it will always be **50ms**, regardless of tempo.

 Not available if "Duration Control" is not set to **0: GE**, or Mode is not set to **3: Timed**.

Repeat Parameters

Melodic Rpt On/Off [0, 1]

0: Off 1: On

Allows Melodic Repeat to be independently controlled for Direct Indexing. When this is **1: On**, the Direct Index notes will have Melodic Repeat according to the

settings of the parameters in the Melodic Repeat Group. This allows you to have a GE set up where the normally generated effect has Melodic Repeat while Direct Indexing does not, and vice versa, or other variations.

Bend Parameters

This section controls automatic pitch bending effects that may be applied to the Direct-Indexed notes. Most of the following parameters have the same functionality as those described in the Bend Group. However, the bend specified here will only happen for Direct Indexing notes. This means that a GE can have one type of Auto Bend effect for notes that are being generated, and a different Auto Bend effect for Direct Index notes. Alternatively, Direct Indexing notes can have bending while notes generated automatically by the same GE do not, etc.

There are several differences between Direct Index Auto Bend and Auto Bend for generated notes (set in the Bend Group):

- It is not possible for the length of the bend to be set to "Note Duration" since in most cases the duration is not known ahead of time. Therefore, this option is not available in the Bend Group "Length" parameter.
- The **Next and Prev Note** bending options are replaced with **Next and Prev Index** options. The difference is that when notes are being generated, it is possible to calculate ahead of time what will be the next note. With Direct Indexing, it is impossible to know what the next note is since you chose it yourself. Therefore, when set to **Next Index**, it will bend from the currently chosen index in the Note Series to the next adjacent index in the Note series. The same difference applies for **Prev Index**. These differences are explained further below.

Bend On/Off [0, 1]

0: Off 1: On

When set to **0: Off**, Direct Index notes will have no bending, but the GE can still generate Auto Bend according to the Bend Group settings when triggered normally. When set to **1: On**, Direct Index notes will have bending according to the parameters in this Group - the settings in the Bend Group do not affect them (other than Bend Range).

Bend Amount [-12...18]


0: Random	15: Next Index+2
-12...12: -12...+12 semitones	16: Prev Index
13: Next Index	17: Prev Index-1
14: Next Index+1	18: Prev Index-2

 **"Bend Group": "Amount"**.

0: Random

 **"Bend Group": "Amount"**.

-12...12: -12...+12 semitones

 **"Bend Group": "Amount"**.

13: Next Index

Bends each note to the next index in the Note Series (note that this may be an up or down bend depending on how the Note Series is constructed and sorted). For example, if the Note Series contains {C, E, G, B, C...}, then when the **E** is Direct Indexed it will bend to the **G**.

14: Next Index+1

Bends each note to the index in the Note Series that is 2 indexes forward (note that this may be an up or down bend depending on how the Note Series is constructed and sorted). For example, if the Note Series contains {C, E, G, B, C...}, then when the E is Direct Indexed it will bend to the B.

15: Next Index+2

Bends each note to the index in the Note Series that is 3 indexes forward (note that this may be an up or down bend depending on how the Note Series is constructed and sorted). For example, if the Note Series contains {C, E, G, B, C...}, then when the E is Direct Indexed it will bend to the second C.

16: Prev Index

Bends each note to the previous index in the Note Series (note that this may be an up or down bend depending on how the Note Series is constructed and sorted). For example, if the Note Series contains {C, E, G, B, C...}, then when the B is Direct Indexed it will bend to the G.

17: Prev Index-1

Bends each note to the index in the Note Series that is 2 indexes backward (note that this may be an up or down bend depending on how the Note Series is constructed and sorted). For example, if the Note Series contains {C, E, G, B, C...}, then when the B is Direct Indexed it will bend to the E.

18: Prev Index-2

Bends each note to the index in the Note Series that is 3 indexes backward (note that this may be an up or down bend depending on how the Note Series is constructed and sorted). For example, if the Note Series contains {C, E, G, B, C...}, then when the B is Direct Indexed it will bend to the first C.

Bend Shape [0...2]

0: Bend 1: Hammer 2: Hammer Bend

⚙️p.1000 "Bend Group": "Shape"

Bend Alternation [0, 1]

0: Off 1: Alternating

⚙️p.1000 "Bend Group": "Alternation"

Bend Step [0, 1]

0: Smooth 1...12: 1 ST...12 ST

⚙️p.1000 "Bend Group": "Step Mode"

Bend Length [0...25]

0: 64th triplet	9: 8th triplet	18: Whole triplet
1: 64th	10: 8th	19: Whole
2: 64th dotted	11: 8th dotted	20: Whole dotted
3: 32th triplet	12: Quarter triplet	21: 2 bars
4: 32th	13: Quarter	22: 3 bars
5: 32th dotted	14: Quarter dotted	23: 4 bars
6: 16th triplet	15: Half triplet	24: Fixed (ms)
7: 16th	16: Half	25: Note Duration
8: 16th dotted	17: Half dotted	

⚙️p.1000 "Bend Group": "Length"

Bend Fixed-ms [10...5000 (ms)]

⚙️p.1001 "Bend Group": "Fixed-ms"

Bend Start % [0...100 (%)]

⚙️p.1001 "Bend Group": "Start %"

Bend End % [0...100 (%)]

⚙️p.1001 "Bend Group": "End %"

Bend Width % [0...100 (%)]

⚙️p.1001 "Bend Group": "Width %"

Appendices

Using Auto-Bend

Auto-Bend refers to a feature of KARMA that can generate a bend along with every generated note. It can be used to create gliding effects between notes (simulating portamento), to automatically bend each note to a preset step size, to produce guitar “hammer-on” effects (where a fret is pressed with a finger to a new note after the note has already been picked, without restriking the note), ethnic bending, and other unique effects.

Note: There are several other ways of producing Pitch Bend data in KARMA, including using Pitch Bend Envelopes, and generating stepped Pitch Bend with the CCs/Pitch Group. This chapter does not apply to those additional methods.

Next Note/Previous Note Bends

Generated

When the “GE Type” (p.953) is **0: Generated-Riff** or **1: Generated-Gated**, Next Note Bending allows the current note to bend to what will be the next note, the note two away, or the note three away. Previous Note Bending allows the current note to bend to what was the previous note, the note two notes previous, or the note three notes previous.

When beginning a riff with **Previous Note bends** selected, since the first notes have not actually been played yet, KARMA extrapolates what they would have been based on the settings of various parameters. Most of the time this will produce a correct bend.

When using **Next Note bend** with Random Modes, KARMA actually does know what the next Note(s) will be, even though they are “Random”.

If the note to be bent to is the same note as the current note (a bend of 0) KARMA automatically chooses a bend to another note nearby to maintain the illusion of continuous bending.

Note: The maximum bend size is controlled by the Bend Range setting (usually 12 semitones), even if the next/previous note is farther away.

Also, although KARMA knows what the next notes will be while it is playing a riff, it can’t know when you are going to change a chord and start a new riff. Therefore, the last notes before a chord change may not bend to the correct notes at the start of a new riff, since they will bend to what would be the next note if you hadn’t changed chords. Most of the time this is not a problem and still sounds musically correct.

When using Next/Prev Note Bending with Clusters, Clusters will appear to bend from their bottom note to whatever the next/previous note is.

Real-Time

When the “GE Type” (p.953) is **3: Real-Time**, only **Previous Note bending** is available, since KARMA cannot know which note you will play next. However, by using the Bend Direction parameter, you can bend either “To” the previous note, or “From” the previous

note to the one you are playing now. The Bend Shape you are using probably determines which one makes more sense. For example, for Hammer-ons you will probably want to bend “To” the previous note (because the Hammer Shape bends it back afterwards); while for the Bend Shape, you will probably want to bend “From” the previous note to the one you have played now, since that is where the bend will end up to the ear. However, it’s up to you!

Length Of Bends

“GE Type” 0: Generated-Riff, 1: Generated-Gated or 2: Generated-Drum

Bend Group “Length” is 0...23: Note Values

The bend length is determined by the chosen note value and will be the same regardless of the actual duration or rhythm of the notes. For example, if the Bend Group “Length” is **7: 16th**, then the overall Bend will be within a 16th note, even if you are generating a pattern with quarter notes, eighth notes, and 16th notes mixed together. This allows each bend to be the same length, yet maintain a relationship to tempo, since slowing down the tempo will also lengthen the bend, for example. This also allows the durations of the notes to be varied in real-time without changing the position or length of the bends.

Bend Group “Length” is 24: Fixed-ms

The overall bend is determined by a fixed value in milliseconds, and will be the same length regardless of the tempo setting. For example, this allows an absolute bend length to be determined that does not change with the tempo, so that a guitar line with a bend in it will play slower at a slower tempo, but not bend any slower. This also allows the durations of the notes to be varied in real-time without changing the position or length of the bends.

Bend Group “Length” is 25: Note Duration

The length of the bend is a percentage of the note’s duration. Therefore, if you have the Duration Group parameters set to produce very short durations, then very short bends (almost inaudible) will be produced. However, with normal length durations, using this mode allows the bend to be scaled with each note - longer notes get longer bends, shorter notes get shorter bends, etc. Changing the durations of the notes in real-time changes the length and position of the bends.

Note that a bend will never be longer than the rhythm of the generated note itself, even if you are creating overlapping notes. In other words, the start of a new note stops the current bend, and potentially starts another one. The diagram in the next section illustrates the resulting bend when the shape is “Bend,” and shows the difference between using Note Duration and one of the other “Bend Length” settings.

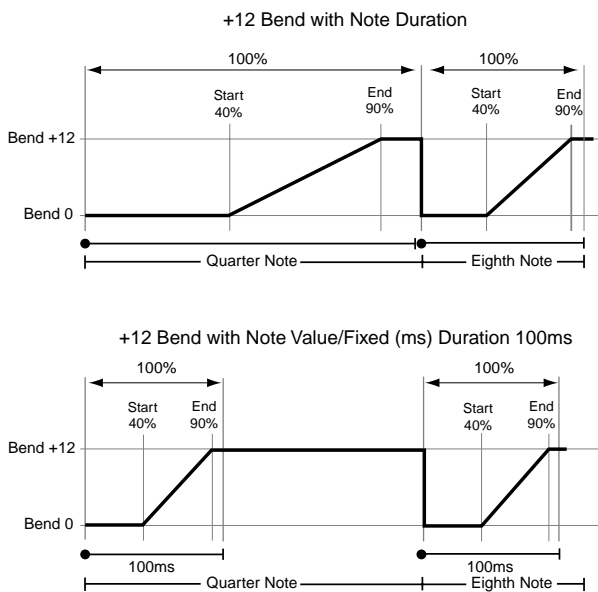
“GE Type” 3: Real-Time

Since the duration of the note is determined by actually playing the keyboard, Bend Group “Length” 25: **Note Duration** is not available for this GE Type, and will act the same as 7: **16th** if selected. The other Bend Length settings operate as described above.

The Different Bend Shapes

Bend

When the “Bend” Shape is selected in the Shape Parameter, the Start Parameter specifies where in the note’s duration the bend will start, and the End Parameter specifies where in the note’s duration the bend will end. The following diagram illustrates the resulting bend when the shape is “Bend,” and also the difference between Note Duration and Fixed/Note Values settings.



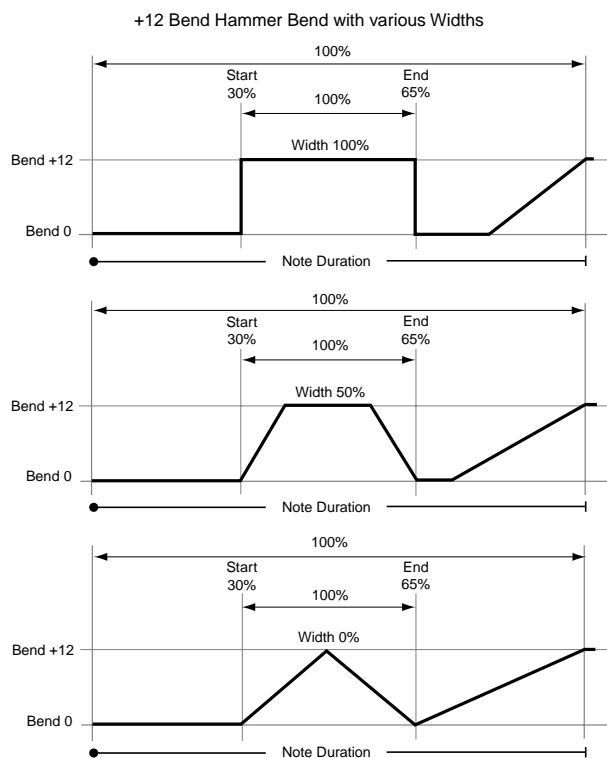
Hammer, Hammer Bend

When the “Hammer” or “Hammer Bend” Shape is selected, the Start and End Parameters function a bit differently. Start specifies where in the note’s duration the 1st bend will start and go to the bend’s highest value (Hammer-On), and End specifies where in the note’s duration the 2nd bend will start and return to zero (Hammer-Off). Additionally, a 3rd bend is generated for Hammer Bends.

Also, when the “Hammer” or “Hammer Bend” Shape is selected, the Width Parameter is available. Width is a percentage of the amount of time between the Start and End points, and therefore controls how long the Hammer-On and Hammer-Off bends will be. You can also think of Width as being the amount of time the bend stays at it’s highest value before returning to zero. A Width of 100% gives you a Square Shape, while a Width of 0% gives you a Triangle Shape.

In a Hammer Bend, the 3rd bend starts at a point in the note’s duration following the End setting, and is determined by a ratio of the Width. Even when Width is at 100% and the Hammer-On and Hammer-Off Bends are instantaneous, the final 3rd bend will still be an audible bend.

The following diagrams illustrate the shape of a Hammer Bend. A Hammer is the same thing, without the final 3rd bend at the end. Hammers and Hammer Bends follow the same behavior with Duration as discussed in the previous section Length Of Bends.



Random Weighting Curves

Weighting Curve Shapes and Their Effects

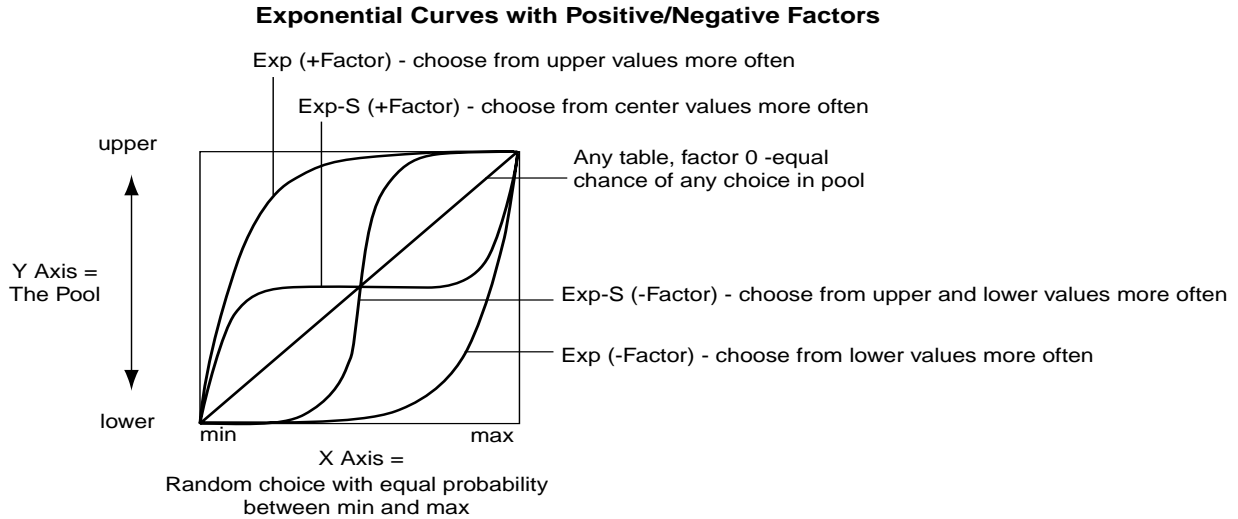
When using the various grid-based Patterns, more than one value selected in a column creates a “pool” of random choices. Different areas of the pool may be selectively favored using a Weighting Curve. 4 different shapes are available, which act to favor certain areas of the pool over others when each random choice is made. The actual shape of the curve depends on the setting of the “Factor” parameter.

Exponential (Exp)

With a **positive Factor (+)**, choices will be exponentially weighted towards the upper values in the pool. With a **negative Factor (-)**, choices will be exponentially weighted towards the lower values in the pool.

Logarithmic (Log)

With a **positive Factor (+)**, choices will be logarithmically weighted towards the upper values in the pool. With a **negative Factor (-)**, choices will be exponentially weighted towards the lower values in the pool.



Exponential S (Exp-S)

With a **positive Factor (+)**, choices will be exponentially weighted towards the center values in the pool, and away from the lower and upper values in the pool. With a **negative Factor (-)**, choices will be exponentially weighted towards the lower and upper values in the pool, and away from the values in the center of the pool.

Logarithmic S (Log-S)

With a **positive Factor (+)**, choices will be logarithmically weighted towards the center values in the pool, and away from the lower and upper values in the pool. With a **negative Factor (-)**, choices will be logarithmically weighted towards the lower and upper values in the pool, and away from the values in the center of the pool.

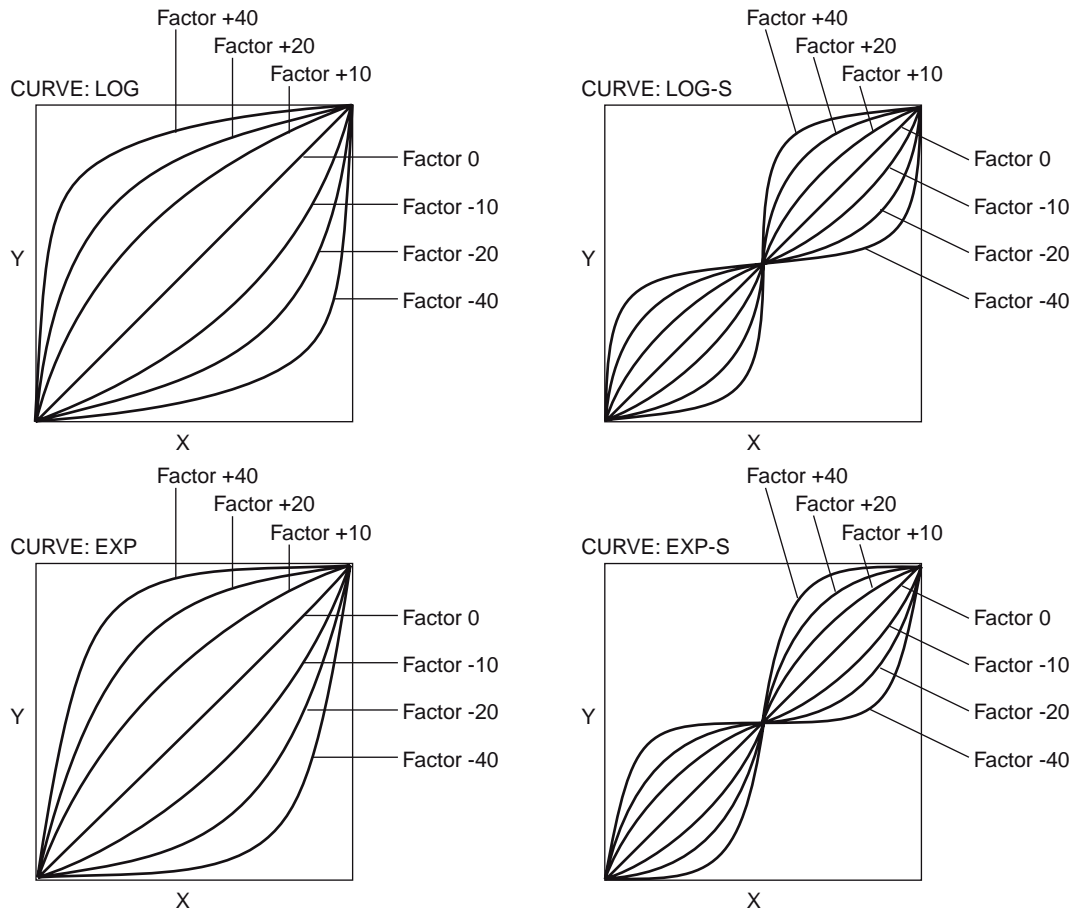
Using negative Factors not only inverts but rotates the curve.

The following table summarizes the effect of the Factor field on the curves and the pools:

Pool values that receive priority:		
Weighting Curve	Factor	
	+ (positive)	- (negative)
Exp/Log	upper	lower
Exp-S/Log-S	center	lower/upper

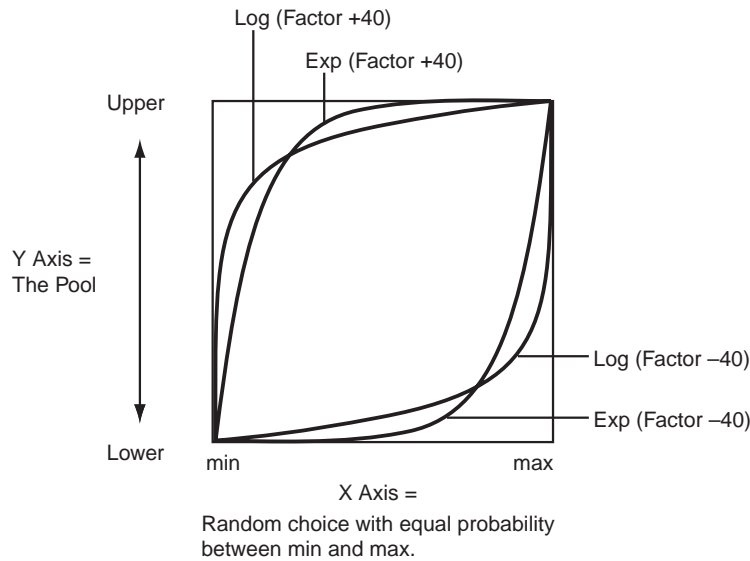
Comparison of Exponential and Logarithmic Curves

Exponential Curves and Logarithmic Curves have similar shapes. They are different, however, as the following diagram illustrates:



X Axis = random choice with equal probability between min and max. Y Axis = the Pool.

This characteristic can be used to even more finely tune the effect you are trying to achieve. For example, the top and bottom curves in both the Log and Exp diagrams (Factor 40 and -40) above are shown together below:



With a Positive Factor (+40):

Exponential Curve (Exp)

75% chance of a choice from the upper 10% of the pool;
25% chance of a choice from the lower 90% of the pool.

Logarithmic Curve (Log)

90% chance of a choice from the upper 25% of the pool;
10% chance of a choice from the lower 75% of the pool.

In general, as the positive factor increases, the Exp Curve will produce choices more from the very highest part of the pool, with a choice from the remaining portion more likely to occur than with the Log Curve. In contrast, the Log Curve will produce choices more from the mid high to highest part of the pool, with a choice from the remaining portion less likely to occur than with the Exp Curve.

Therefore, while both curves will weight the random choices toward the upper values in the pool, the Log Curve provides less of a chance of the lower and center values ever occurring, while allowing a more even distribution among the upper values. The Exp Curve provides more certainty that the highest values will be chosen, while still allowing a more even distribution among the center and lower values than the Log Curve.

With a Negative Factor (-40):

Exponential Curve (Exp)

75% chance of a choice from the lower 10% of the pool;
25% chance of a choice from the upper 90% of the pool.

Logarithmic Curve (Log)

90% chance of a choice from the lower 25% of the pool;
10% chance of a choice from the upper 75% of the pool.

In general, as the negative factor decreases, the Exp Curve will produce choices more from the very lowest part of the pool, with a choice from the remaining portion more likely to occur than with the Log Curve. In contrast, the Log Curve will produce choices more

from the mid low to lowest part of the pool, with a choice from the remaining portion less likely to occur than with the Exp Curve.

Therefore, while both curves will weight the random choices toward the lowest values in the pool, the Log Curve provides less of a chance of the higher and center values ever occurring, while allowing a more even distribution among the lower values. The Exp Curve provides more certainty that the lowest values will be chosen, while still allowing a more even distribution among the center and upper values than the Log Curve.

⚠ A Factor of 0 with any shaped curve yields a linear table (straight diagonal line), and each of the values in the pool will have an equal chance of getting chosen.

Appendices

Alternate Modulation Sources (AMS)

Alternate Modulation Overview

Alternate Modulation lets you use controllers, envelopes, LFOs, etc. to modulate Program parameters. They're called "Alternate Modulation" because they are in addition to the many dedicated modulation routings, such as Filter EG to Filter Cutoff, or LFO to Pitch.

You can use one controller to modulate multiple parameters simultaneously. You can also create complex modulation setups in which (for example) an envelope modulates the frequency of an LFO, and that LFO is then used to modulate a filter.

As shown in the diagrams below, the parameters you can control via alternate modulation will depend on the program type (HD-1, AL-1, CX-3 etc.). For each of these destination parameters, you can select an AMS (Alternate Modulation Source) to modulate it.

HD-1 Programs provide 48 types (88 destinations) for alternate modulation.

The EXi Common section provides 7 alternate modulation destinations, the AL-1 provides 92, and the CX-3 provides 20, and the STR-1 provides 131 (not counting the AMS mixers). For information on other EXi, please see their individual documentation.

AMS Mixers

The AMS Mixers combine two AMS sources into one, or process an AMS source to make it into something new.

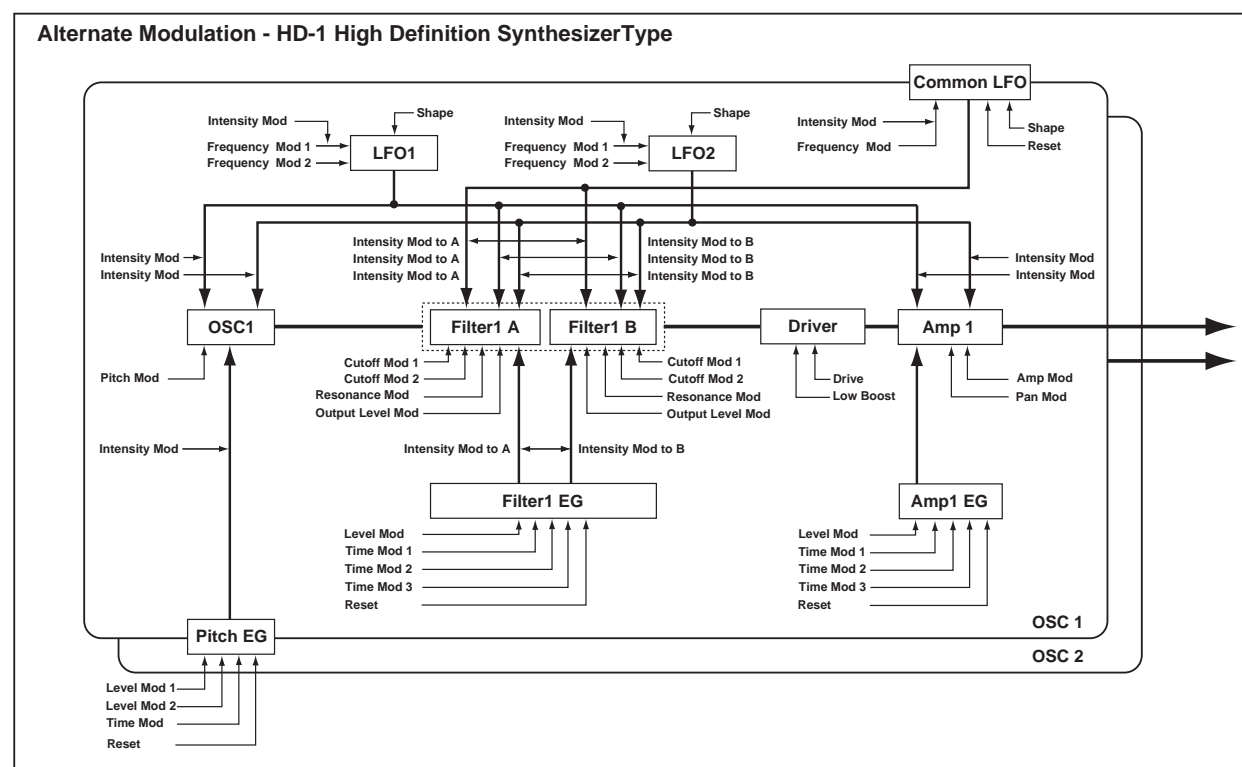
For instance, they can add two AMS sources together, or use one AMS source to scale the amount of another. You can also use them to change the shapes of LFOs and EGs in various ways, modify the response of realtime controllers, and more.

The AMS Mixer outputs appear in the list of AMS sources, just like the LFOs and EGs.

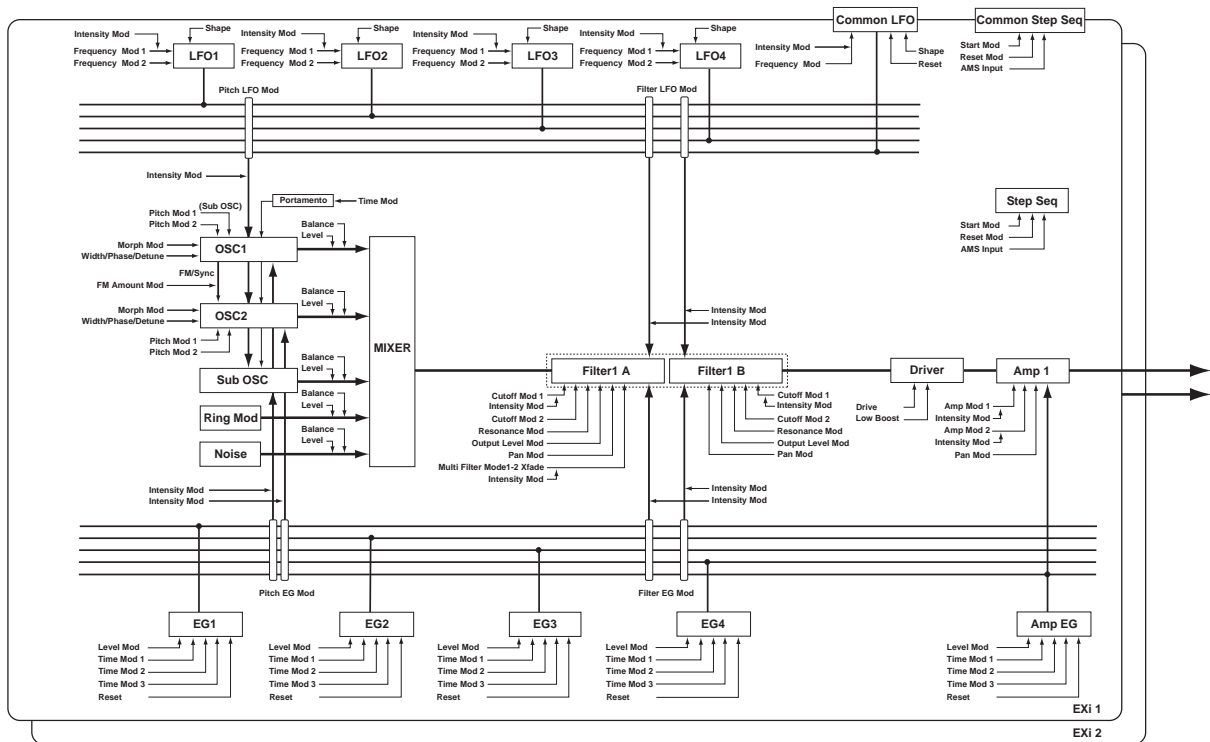
The original, unmodified inputs to the AMS Mixers are still available as well. For instance, if you use LFO 1 as an input to a AMS Mixer, you can use the processed version of the LFO to control one AMS destination, and the original version to control another.

Finally, you can cascade two or more AMS Mixers together, by one as an input to another.

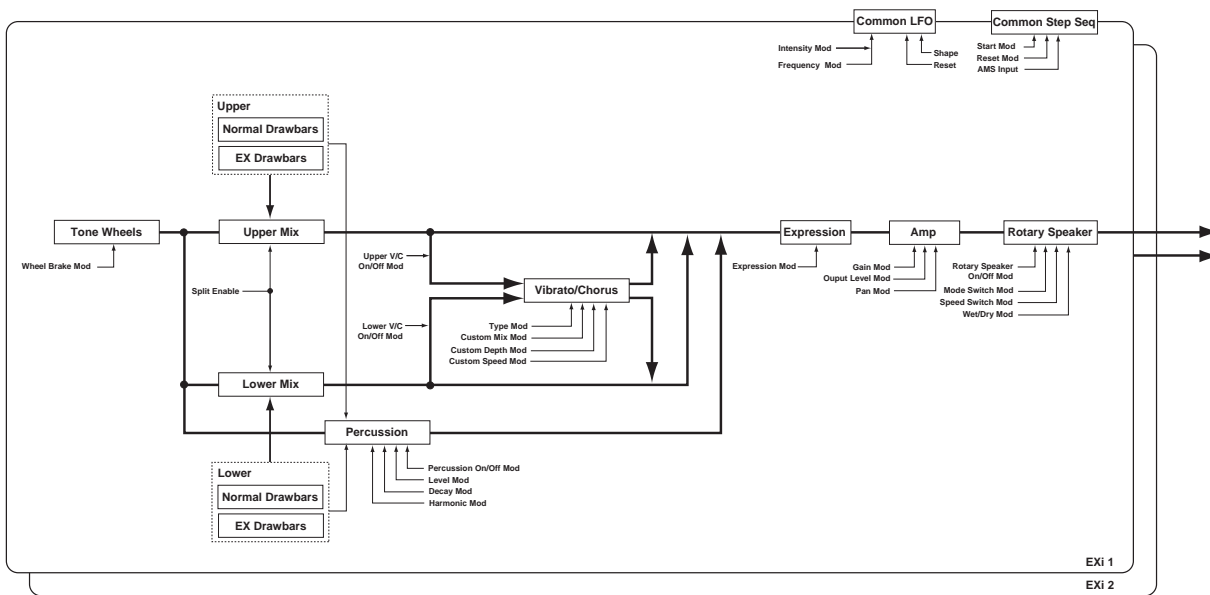
For more information, see "6-1: OSC 1 AMS Mixer" on page 90, and "Using the AMS Mixers" on page 63 of the Operation Guide.



Alternate Modulation - EXi AL-1 Analog Synthesizer Type



Alternate Modulation - EXi CX-3 Tonewheel Organ Type



Alternate Modulation Source (AMS) List

Physical and MIDI controllers

Off

This means that no modulation source is selected.

Note Number

This is the note's MIDI note number, from 0 (C-2) to 127 (G9).

Velocity

This is the note's MIDI note-on velocity.

Exponential Velocity

This is MIDI note-on velocity through an exponential curve. The curve means that low velocities won't have very much effect, and the difference between two lower velocity values won't be very noticeable.

On the other hand, high velocities produce increasingly greater effects, and the difference between any two higher velocity values will be more pronounced.

Poly After Touch

Polyphonic aftertouch allows a different aftertouch value for each note. This can be received from external MIDI devices or generated by the internal sequencer. The OASYS keyboard itself does not generate poly aftertouch, however.

After Touch

This receives MIDI Aftertouch, as well as aftertouch generated by pressing down on the OASYS keyboard.

JS X

This is the horizontal movement of the main joystick. It also receives MIDI Pitchbend.

JS+Y (CC#01)

This is the vertical movement of the main joystick, upwards from the center. It also receives MIDI CC#01 (mod wheel).

JS-Y (CC#02)

This is the vertical movement of the main joystick, downwards from the center. It also receives MIDI CC#02 (breath controller).

JS +Y & AT/2 (Joy Stick +Y & After Touch/2)

The effect will be controlled by the joystick +Y (Vertical upward) and by after touch. In this case, the effect of after touch will be only half of the specified intensity.

JS -Y & AT/2 (Joy Stick -Y & After Touch/2)

The effect will be controlled by the joystick -Y (Vertical downward) and by after touch. In this case, the effect of after touch will be only half of the specified intensity.

Foot Pedal (CC#04)

This AMS source receives MIDI CC#04. It can also be generated by a foot pedal connected to the rear-panel ASSIGNABLE PEDAL input, if the Global **Foot Pedal**

Assign parameter is set to Foot Pedal (CC#04). For more information, see "Foot Pedal Assignments" on page 1036.

Ribbon (CC#16)

This is the side-to-side movement of the ribbon controller, which corresponds to MIDI CC#16.

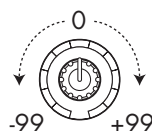
Value Slider (CC#18)

You can use the value slider as a modulation source, but only when the following are true:

- You're on the Program mode P0-Main page, and the big Program name is selected, or
- You're on the Combination mode P0- Prog Select/Mixer page, and the big Combination name is selected.

In these cases only, the value slider sends MIDI CC#18, and can be used as a modulation source.

Knob Mod.5 (CC#17)



This AMS source always responds to MIDI CC#17. A MIDI value of 0 (far left) causes the maximum negative modulation; 64 (center) means no modulation; and 127 (far right) causes the maximum positive modulation. (You can invert this response, if desired, by using a negative AMS intensity.)

It also usually corresponds to Knob 5 (USER 1) on the Control surface- but this depends on the Modulation Knob Assign settings for each individual Program, Combi, and Song.

Basically, there are two separate things: a physical knob named Knob 5, and an AMS source named "Knob Mod.5 (CC#17)." This provides a great deal of flexibility—but it's also easy to link the two together. To do so:

1. Go to the current mode's **Controllers page**.
2. Set **Knob 5's Modulation Knob Assign to Knob Mod.5 (CC#17)**.

For more information, see "1-8: Set Up Controllers" on page 46, and "Realtime Knobs 5-8 Assignments" on page 1034.

Knob Mod.6 (CC#19)

This AMS source always responds to MIDI CC#19, and will usually also correspond to Knob 6 (USER 2). For more information, see "Knob Mod.5 (CC#17)" on page 1021.

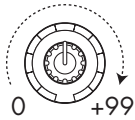
Knob Mod.7 (CC#20)

This AMS source always responds to MIDI CC#20, and will usually also correspond to Knob 7 (USER 3). For more information, see "Knob Mod.5 (CC#17)" on page 1021.

Knob Mod.8 (CC#21)

This AMS source always responds to MIDI CC#21, and will usually also correspond to Knob 8(USER 4). For more information, see “Knob Mod.5 (CC#17)” on page 1021.

Knob Mod5 [+](CC#17)



This is similar to “Knob Mod.5 (CC#17)” on page 1021, except that the range goes from 0 at the far left to +99 at the far right, corresponding to MIDI CC values of 0 and 127 respectively.

For more information, see “Knob Mod.5 (CC#17)” on page 1021.

Knob Mod6 [+](CC#19)

This is similar to “Knob Mod.6 (CC#19)” on page 1021, except that the range goes from 0 at the far left to +99 at the far right, corresponding to MIDI CC values of 0 and 127 respectively.

For more information, see “Knob Mod.5 (CC#17)” on page 1021.

Knob Mod7 [+](CC#20)

This is similar to “Knob Mod.7 (CC#20)” on page 1021, except that the range goes from 0 at the far left to +99 at the far right, corresponding to MIDI CC values of 0 and 127 respectively.

For more information, see “Knob Mod.5 (CC#17)” on page 1021.

Knob Mod8 [+](CC#21)

This is similar to “Knob Mod.8 (CC#21)” on page 1022, except that the range goes from 0 at the far left to +99 at the far right, corresponding to MIDI CC values of 0 and 127 respectively.

For more information, see “Knob Mod.5 (CC#17)” on page 1021.

Damper (CC#64)

This is the Damper pedal, also sometimes called the sustain pedal. It corresponds to MIDI CC#64.

When using Korg’s optional half-damper pedal, the DS-1H, this AMS source is continuous—not just on/off.

Porta. SW (CC#65)

This is the MIDI portamento switch (CC#65), which also enables and disables portamento.

Sostenuto (CC#66)

This is the MIDI sostenuto pedal (CC#66).

Soft (CC#67)

This is the MIDI oft pedal (CC#67).

SW1 Mod. (CC#80)

This isCC#80, which is the default for assignable front-panel switch 1 (SW1). To use SW1 and SW2 as AMS sources:

1. Go to the Set Up Controllers page.
2. Under Panel Switch Assign, assign SW1 to SW1 Mod. (CC#80) and SW2 to SW2 Mod. (CC#81).

These assignments are stored separately for each Program, Combination, and Song.

For more information, see “SW1/2 Assignments” on page 1033.

SW2 Mod. (CC#81)

This isCC#81, which is the default for assignable front-panel switch 2 (SW2). For more information, see “SW1 Mod. (CC#80),” above.

Foot Switch (CC#82)

This AMS source receives MIDI CC#82. It can also be generated by a foot switch connected to the rear-panel ASSIGNABLE SWITCH input, if the Global Foot Pedal Assign parameter is set to Foot Switch (CC#82). For more information, see “Foot Switch Assignments” on page 1035.

Controller (CC#83)

MIDI control change (CC#83)

VJS +X Mod.(CC#85)

This is MIDI CC#85, which is the default assignment for horizontal movement of the vector joystick, to the right of the center point.

To use the vector joystick as an AMS source, go to the Vector Control page or Vector CC page for each program, combination, or song, and set the “Vector CC Control” parameters as below:

- +X: VJS +X Mod. (CC#85)
- X: VJS -X Mod. (CC#86)
- +Y: VJS +Y Mod. (CC#87)
- Y: VJS -Y Mod. (CC#88)

Note: If “VJS X/Y Mode” is Positive or Negative, you’ll be able to use either + or -, not both.

VJS -X Mod.(CC#86)

This is the horizontal movement of the vector joystick, to the left of the center point. It corresponds to MIDI CC#86.

For more information, see “VJS +X Mod.(CC#85),” above.

VJS +Y Mod.(CC#87)

This is the vertical movement of the vector joystick, upwards from the center point. It corresponds to MIDI CC#87.

For more information, see “VJS +X Mod.(CC#85),” above.

VJS -Y Mod.(CC#88)

This is the vertical movement of the vector joystick, downwards from the center point. It corresponds to MIDI CC#88.

For more information, see “VJS +X Mod.(CC#85),” above.

Tempo

This lets you use the system tempo as a modulation source. 120 is the center, for a value of 0; 60BPM is -99, and 240BPM is +99.

Note that this is different from actually syncing to tempo; for that purpose, use the dedicated synchronization functions for the LFOs, effects, etc.

Gate1 and Gate1+Damper

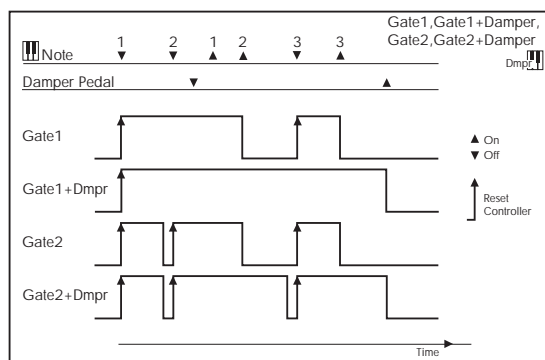
Gate 1 is triggered by a new note after all notes have been released, such as at the beginning of a phrase. Gate 1+Damper is similar, except that it is triggered by a new note-on after all notes and the damper are released.

You can use this to reset the Common LFO and Common Step Sequencer. For instance, to create an effect similar to the per-voice LFO and Step Sequencer's **Key Sync Off** setting, use **Gate 1 + Damper** as the reset source.

Gate2 and Gate2+Damper

Gate 2 is similar to Gate 1, but it triggers with every new note-on, even in the middle of a legato phrase. Gate2+Damper includes the damper pedal in the equation, as shown in the diagram below.

Note: When used as a reset controller for Common LFO and Common Step Sequencer, Gate2 and Gate2+Damper will have the same effect.



HD-1

The HD-1 supports all of the "Physical and MIDI controllers," as described on page 1021, in addition to the AMS sources below.

AMS Mixer1&2

These are the outputs of the oscillator's AMS Mixers. For more information, see "6-1: OSC 1 AMS Mixer" on page 90.

Wave Seq AMS Out1&2

These are the modulation outputs of the oscillator's Wave Sequence. For more information, see "Modulating Program parameters per step" on page 158 of the Operation Guide.

Pitch EG

This is the output of the Pitch EG, which is shared between both oscillators. For more information, see "2-9: Pitch EG" on page 57.

Filter EG

This is the output of the oscillator's Filter EG. For more information, see "3-4: Filter1 EG" on page 69.

Amp EG

This is the output of the oscillator's Amp EG. For more information, see "4-3: Amp1 EG" on page 79.

LFO1 &2

These are the outputs of the oscillator's two LFOs. For more information, see "5-1: OSC1 LFO1" on page 84.

Common LFO

This is the output of the Common LFO, which is shared by all voices of both oscillators. For more information, see "5-9: Common LFO" on page 88.

Filter Key Track

This is the output of the oscillator's Filter Key Track generator. For more information, see "3-2: Filter1 Modulation" on page 64.

Amp Key Track

This is the output of the oscillator's Amp Key Track generator. For more information, see "4-2: Amp1 Modulation" on page 76.

Common Key Track1&2

These are the outputs of the two Common Key Track generators, which are shared between both oscillators. For more information, see "6-9: Common Keyboard Track" on page 97.

EXi Common

EXi programs support all of the "Physical and MIDI controllers," as described on page 1021, in addition to the AMS sources below, plus any AMS sources provided by the specific EXi instruments.

Common Step Seq

This is the output of the Common Step Sequencer, which is shared by all voices of both EXi. For more information, see "5-1: Common Step Seq" on page 170.

Common LFO

This is the output of the Common LFO, which is shared by all voices of both EXi. For more information, see "5-2: Common LFO" on page 173.

Common Key Track1&2

These are the outputs of the two Common Key Track generators, which are shared between both EXi. For more information, see "5-2: Common LFO" on page 173.

EXi AL-1

The AL-1 supports all of the "EXi Common" AMS sources, in addition to the AMS sources below.

AMS Mixer1&2

These are the outputs of the two AMS Mixers. For more information, see "6-1: OSC 1 AMS Mixer" on page 90.

Step Sequencer

This is the output of the per-voice Step Sequencer. For more information, see “8–1: Step Sequencer” on page 207.

EG1 (Filter), EG2 (Pitch), and EGs 3 & 4

These are the outputs of the four assignable EGs. For more information, see “7–1: EG 1 (Filter)” on page 203.

Amp EG

This is the output of the dedicated Amp EG. For more information, see “6–3: Amp EG” on page 200.

LFO1 ...4

These are the outputs of the four assignable LFOs. For more information, see “8–2: LFO 1” on page 209.

Filter Key Track and Amp Key Track

These are the outputs of the Filter and Amp Key Track generators, respectively. For more information, see “5–3: Filter Modulation” on page 269 and “6–2: Amp Modulation” on page 274.

EXi CX-3

The CX-3 supports all of the “EXi Common” AMS sources, in addition to the AMS sources below.

AMS Mixer1&2

These are the outputs of the two AMS Mixers. For more information, see “6–1: OSC 1 AMS Mixer” on page 90.

EXi STR-1

The STR-1 supports all of the “EXi Common” AMS sources, in addition to the AMS sources below.

AMS Mixer1...4

These are the outputs of the four AMS Mixers. For more information, see “6–1: OSC 1 AMS Mixer” on page 90.

EG1 (Filter), EG2 (Pitch), and EGs 3 & 4

These are the outputs of the four assignable EGs. For more information, see “7–1: EG 1 (Filter)” on page 203.

Amp EG

This is the output of the dedicated Amp EG. For more information, see “6–3: Amp EG” on page 200.

LFO1 ...4

These are the outputs of the four assignable LFOs. For more information, see “8–2: LFO 1” on page 209.

Filter Key Track and Amp Key Track

These are the outputs of the Filter and Amp Key Track generators, respectively. For more information, see “5–3: Filter Modulation” on page 192 and “6–2: Amp Modulation” on page 198.

Damping String Track and Disp. String Track

These are the String Track generators for Damping and Dispersion, which can be used as AMS sources elsewhere in the STR-1. For more information, see “String Track” on page 256.

String Track1 & 2

These are the assignable String Track generators 1 and 2. For more information, see “9–9: String Track” on page 280.

Fret Position

The Fret Position is mostly used to shift the relationship between incoming notes and the String Track generators, but is also available as an AMS source. For more information, see “9–9a: Fret Position” on page 281)

Fret Number

This AMS source models the current position on the neck. For more information, see “Fret Number AMS Source” on page 281.

EXi MS-20EX

The MS-20EX supports all of the “EXi Common” AMS sources, in addition to the AMS sources below.

AMS Mixer1...4

These are the outputs of the four AMS Mixers. For more information, see “6–1: OSC 1 AMS Mixer” on page 90.

EG3...6

These are the outputs of the four assignable EGs. For more information, see “7–1: EG 1 (Filter)” on page 203.

MG Tri and MG Pulse

The MS-20EX MG always generates both the triangle/sawtooth and pulse/square waveforms, simultaneously. For more information, see “5–1b: MODULATION GENERATOR (MG)” on page 293.

LFO1 ...4

These are the outputs of the four assignable LFOs. For more information, see “8–2: LFO 1” on page 209.

EXi PolysixEX

The PolysixEX supports all of the “EXi Common” AMS sources, in addition to the AMS sources below.

AMS Mixer1...4

These are the outputs of the four AMS Mixers. For more information, see “6–1: OSC 1 AMS Mixer” on page 90.

Polysix EG

This is the output of the original Polysix ADSR envelope. For more information, see “4–1d: EG” on page 319.

EG2...3

These are the outputs of the two assignable EGs (in addition to the original Polysix EG). For more information, see “7–1: EG 1 (Filter)” on page 203.

MG and MG + Delay

These are the delayed and un-delayed outputs of the original Polysix MG. For more information, see “4–1b: MG (Modulation Generator)” on page 318.

LFO1 ...2

These are the outputs of the two assignable LFOs. For more information, see “8–2: LFO 1” on page 209.

EXi MOD-7

The MOD-7 supports all of the “EXi Common” AMS sources, in addition to the AMS sources below.

AMS Mixer1...8

These are the outputs of the eight AMS Mixers. For more information, see “Program P9: Step Sequencer, LFO 1-4, and AMS Mixers” on page 374.

EG1...9

These are the outputs of the nine assignable EGs. For more information, see “8–1: EG 1” on page 370.

Amp EG

This is the output of the dedicated Amp EG. For more information, see “7–5: Amp EG” on page 369.

LFO1 ...4

These are the outputs of the four assignable LFOs. For more information, see “8–2: LFO 1” on page 209.

Filter Key Track and Amp Key Track

These are the outputs of the Filter and Amp Key Track generators, respectively. For more information, see “5–3: Filter Modulation” on page 192 and “6–2: Amp Modulation” on page 198.

Step Sequencer

This is the output of the per-voice Step Sequencer. For more information, see “8–1: Step Sequencer” on page 207.

Alternate Modulation settings

When you operate an AMS (Alternate Modulation Source), the modulation destination will be affected as shown in the table below.

By using alternate modulation, you can create complex systems of modulation in which EG, LFO, keyboard tracks, and controllers work together.

- You can apply complex change to an LFO or EG, for example by using the pitch/filter/amp EG to control the frequency or intensity of an LFO that modulates the pitch/filter/amp, or by using LFO2 to control the frequency of LFO1.
- The tone, EG, and LFO etc. can be controlled not only by velocity or joystick, but also from a switch, knob, or pedal etc.

- Panning can be controlled in realtime from a controller, EG, or LFO etc.
- You can use the filter EG to control pitch or volume at the same time that it controls the filter.
- Controllers etc. can be used to control EG levels or times. This lets you shape the EG in realtime.
- Filter/amp keyboard tracking or note number can be used to control the EG or LFO according to the keyboard pitch that is played.
- Pitch, tone, EG or LFO can be controlled by the tempo of the KARMA or sequencer.

HD-1 AMS

AMS source & value range										EXT(+/-) *1 -Max... 0...+Max	
Parameter	AMS Int.	Amp EG 0...99	Pitch & Filter EGs -99... 0...+99	LFO1 & 2 -99... 0...+99	Common LFO -99... 0...+99	Filter & Amp Key Track -99... 0...+99	Common Key Track 1 & 2 -99... 0...+99	Wave Seq AMS Out 1 & 2 -99... 0...+99	Note Number C-2... C4...C9	EXT (Tempo) *2 =...60...120 ...240...	EXT(+) *3 0...127
Pitch *4	+12.00	0...+1 Octave	-1...0...+1 Octaves (Filter EG as AMS; dedicated parameter for Pitch EG)	dedicated parameter	-1...0...+1 Octaves				dedicated parameter	-1...0...+1 Octaves	0...+1 Octave
Pitch EG Int.	+12.00	-	-	-	-1...0...+1 Octaves				-1...0...+1 Octaves		0...+1 Octave
Pitch LFO1/2 Int.	+12.00	0...+1 Octave	-1...0...+1 Octaves	-	-1...0...+1 Octaves						0...+1 Octave

Filter Frequency	+99	0...+10 Octaves	-10...0...+10 Octaves (Pitch EG as AMS; dedicated parameter for Filter EG)	dedicated parameters						-10...0...+10 Octaves		0...+10 Octaves
Filter Resonance	+99	0...+99	-99...0...+99									0...+99
Filter EG Int.	+99	-	-	-	-99...0...+99	-	-	-99...0...+99	-	-	-99...0...+99	0...+99
Filter LFO1/2 Int.	+99	0...+99	-99...0...+99	-	-99...0...+99							0...+99
Filter Output Level A/B	+99	0...+99	-99...0...+99									0...+99
Drive		0...+99	-99...0...+99									0...+99
Low Boost		0...+99	-99...0...+99									0...+99
Amp	+99	-	0...1x...8x	dedicated parameter	0...1x...8x	dedicated parameter	-	0...1x...8x	-	0...1x...8x	0...1x...8x	
Amp LFO1/2 Int.	+99	0...+99	-99...0...+99	-	-99...0...+99							0...+99
Pan	+50	0...+63	-63...0...+63									0...+63
EG Level	+66	-	-	-	-99...0...+99			-	-99...0...+99			0...+99
EG Time	+49	-	-	-	1/64x...1x...64x			-	1/64x...1x...64x			1x...64x
LFO 1 Frequency *5	+99	1x...64x	1/64x...1x...64x	1/64x...1x...64x (LFO2 only)	1/64x...1x...64x							1x...64x
LFO 2 Frequency *5	+99	1x...64x	1/64x...1x...64x	-	1/64x...1x...64x							1x...64x
Common LFO Frequency *5	+99	-	-	-	-	1/64x...1x...64x	-	1/64x...1x...64x			1x...64x	
Wave Sequence Start Step	+63	-	-	-	-63...0...+63	-	-	-	-63...0...+63			0...+63
Wave Sequence Position	+63	0...+63	-63...0...+63									0...+63
Wave Sequence Step Duration	400%	1x...4x	1/100x...1x...4x				-	1/100x...1x...4x				1x...4x

Notes for the table

*1 EXT(+/-): JS X, Ribbon (CC#16), KnobMod.5 (CC#17), KnobMod.6 (CC#19), KnobMod.7 (CC#20), KnobMod.8 (CC#21)

*2 When Tempo is selected as an AMS source, the base value is ♩=120.

For example if the Pitch AMS is set to Tempo, and Intensity is set to 12.00, doubling the tempo value (♩=120 → 240) will raise the pitch one octave, and halving the tempo (♩=120 → 60) will lower the pitch one octave. The stated modulation results are for tempo values between 60bpm and 240bpm. As the tempo decreases from 60 to 0bpm, AMS modulation will have increasingly negative effects; as it increases from 240 to 250bpm, modulation will have increasingly positive effects.

*3 EXT(+): Velocity, Exponential Velocity, Poly After Touch, After Touch, JS+Y (CC#01), JS-Y (CC#02), JS+Y & AT/2, JS-Y & AT/2, Foot Pedal (CC#04), Value Slider (CC#18), KnobMod5. [+], KnobMod6. [+], KnobMod7. [+], KnobMod8. [+], Damper (CC#64), Porta.SW (CC#65), Sostenuto (CC#66), Soft (CC#67), SW1 Mod. (CC#80), SW2 Mod. (CC#81), Controller (CC#83), VJS +X Mod. (CC#85), VJS -X Mod. (CC#86), VJS +Y Mod. (CC#87), VJS -Y Mod. (CC#88).

*4 A dedicated parameter is also provided for controlling Pitch from the Ribbon.

*5 It is possible to control LFO "Frequency" by using Tempo AMS and "Intensity." However if you use the Frequency MIDI/Tempo Sync function (Program 5-1c), the LFO frequency can be synchronized to the tempo and note value.

The effects of AMS on various parameters, and example applications

Using as HD-1 program as an example, we'll describe some examples of using alternate modulation.

Pitch (Program 2-2a)

Pitch can be controlled by the wave sequence's AMS Out, Common LFO, filter/amp EG, controllers, or tempo etc.

- If you select Filter EG or Amp EG as the **AMS** and set "Intensity" to +12.00, the pitch will change up to ± 1 octave in synchronization with the EG.
- If you select Tempo as the **AMS** and set "Intensity" to +12.00, doubling the tempo (based on \downarrow =120bpms) will raise the pitch one octave, and halving the tempo will lower the pitch one octave.

Pitch EG Intensity (Program 2-2b)

Pitch EG intensity can be controlled by the wave sequence's AMS Out, Common LFO, keyboard tracking, controllers, or tempo.

- If you select JS +Y:CC#01 as the **AMS** and set "Intensity" to +12.00, moving the joystick in the +Y direction will gradually increase the effect of the Pitch EG to a maximum of ± 1 octave. If "Intensity" has a negative value, the effect of the Pitch EG will be inverted.

Pitch LFO 1/2 Intensity (Program 2-2c)

Pitch modulation intensity of the LFO1/2 can be controlled by the wave sequence's AMS Out, Common LFO, an EG, keyboard tracking, controllers, or tempo etc.

- If you select EG as the **AMS**, the pitch change width of LFO modulation etc. can be controlled in synchronization with the level changes of the EG. With positive (+) settings of "Intensity," the vibrato effect will gradually deepen as the EG level rises, or gradually lessen as the EG level decreases. With negative (-) settings of "Intensity," the LFO phase will be inverted.
- If you select a controller such as SW1 or 2 as the **AMS**, you can press the SW1 or SW2 switch when desired to turn on the vibrato effect.

Filter (Cutoff) Frequency (Program 3-1b)

The cutoff frequency of filter A/B can be controlled by the wave sequence's AMS Out, pitch/amp EG, Common keyboard tracking, controllers, or tempo. Set **AMS** and "Intensity" for Filter A or B.

- If you select JS X or Ribbon:CC#16 as the **AMS** and set "Intensity" to a positive (+) value, moving the joystick or ribbon controller toward the right will raise the cutoff frequency, and moving it toward the left will lower the cutoff frequency. Negative (-) settings will have the opposite effect.
- If you select the same controller as an **AMS** and set separate intensities for Filter A (Low Pass Filter) "Intensity" and Filter B (High Pass Filter) "Intensity," you can operate a single controller to simultaneously control the cutoff frequencies of both filters.

Resonance (Program 3-1b)

You can use the wave sequence's AMS Out, EG, LFO, keyboard tracking, controllers, or tempo etc. to control the resonance level.

- If you select Filter Key Track or Amp Key Track as the **AMS**, you can use the filter or amp keyboard tracking settings to control the resonance level. For example if the amp keyboard tracking parameters "Ramp Bottom-Low" and "Ramp High-Top" are set to positive (+) values, Amp Key Track is selected as the **AMS**, and "Intensity" is set to a positive (+) value, playing toward either end of the keyboard will cause amp keyboard tracking to increase the volume, and **AMS** to raise the resonance level.
- You can select a controller as the **AMS**, and apply resonance when desired by operating the controller.
- You can select Common LFO, LFO1 or 2 as the **AMS**, and use the LFO to control the resonance level.

Output Level (Program 3-1b)

You can use the wave sequence's AMS Out, EG, LFO, keyboard tracking, controllers, or tempo etc. to control the output level of Filter A/B.

- Set the Filter Routing to Parallel, and specify the desired Type and other settings for Filter A and Filter B. Set the **AMS** to LFO for Filter A and Filter B, and set the LFO to +99 and -99 respectively. The output of Filter A and Filter B will be cyclically faded-in/out by the LFO.

Filter EG Intensity (Program 3-2b)

Filter EG intensity can be controlled by the Common LFO, Common keyboard tracking, a controller or tempo etc. You can use "Intensity to A" and "Intensity to B" to independently specify the intensity for Filter A and B.

- If you select JS -Y (CC#02) as the **AMS** and set "Intensity to A" and "Intensity to B" to a positive (+) value, moving the joystick in the -Y direction will gradually increase the effect of the Filter EG. If you set "Intensity to A" and "Intensity to B" to a negative (-) value, the effect of the Filter EG will be inverted.
- If you select Ribbon:CC#16 as the **AMS** and set "Intensity to A" and "Intensity to B" to a positive (+) value, operating the ribbon controller toward the right will gradually increase the effect of the Filter EG. Operating the ribbon controller toward the left will gradually increase the effect of the Filter EG with an inverted phase.

Filter LFO1/2 Intensity (Program 3-3a)

The LFO 1/2 filter modulation intensity can be controlled by the wave sequence's AMS Out, EG, Common LFO, keyboard tracking, controller, or tempo etc. You can use **Intensity to A** and **Intensity to B** to independently specify the intensity for Filter A and B.

- If you select EG as the **AMS**, the auto-wah effect produced by LFO modulation will be controlled by the changes in EG level. If you set **Intensity to A** and **Intensity to B** to a positive (+) value, the wah effect will deepen as the EG level rises, and will

lessen as the EG level falls. With negative (–) values of **Intensity to A** and **Intensity to B**, the phase of the LFO will be inverted.

- If you use a controller such as SW1 or 2 as the **AMS**, you can apply the auto-wah effect when desired by pressing the SW1 or SW2 switch.

Filter Common LFO1/2 (Program 3–3b)

You can use the wave sequence’s AMS Out, EG, LFO, keyboard tracking, controllers, or tempo etc. to control the Common LFO filter modulation intensity. You can use **Intensity to A** and **Intensity to B** to specify the intensity separately for Filter A and B.

- You can set **AMS** to a controller, and operate the controller only when desired to control the depth of the filter sweep produced by the Common LFO.

Driver Drive (Program 4–1a)

Driver Low Boost (Program 4–1a)

You can use the wave sequence’s AMS Out, EG, LFO, keyboard tracking, controllers, and tempo etc. to control the driver’s boost and low boost. Although you can use separate AMS to control these two parameters, it is also effective to control them simultaneously by using controllers such as the REALTIME KNOB. (It is particularly effective to control the filter resonance at the same time. This is also nice for synth bass sounds.)

- If you set **AMS** to Knob Mod.5, and set “Intensity” to a positive (+) value, turning REALTIME KNOB 5 toward the right will raise the drive and low boost level, and turning the knob toward the left will lower these parameters. If you set “Intensity” to a negative (–) value, the opposite result will occur.
- If you set **AMS** to Common LFO, LFO 1, or 2, the drive amount will be controlled cyclically by the LFO.

Amp (Program 4–2b)

The volume can be controlled by the wave sequence’s AMS Out, pitch/filter EG, Common LFO, controllers, or tempo etc.

- If an EG or controller that changes with a positive (+) value (EXT(+)) is selected as the **AMS**, setting the “Intensity” to +99 will allow you to increase the volume to a maximum of eight times that of the current volume.
- If an EG, LFO, or controller that changes with a ± value (Pitch EG, Filter EG, LFO, KT, EXT(+–)) is selected as the **AMS**, setting the “Intensity” to +99 will allow you to increase the volume to a maximum of eight times that of the current volume (for positive (+) changes of the **AMS**), or to decrease the volume to zero (for negative (–) changes of the **AMS**).
- In addition to the time-variant changes in volume produced by the amp EG, you can also make the volume change in synchronization with the pitch/filter EG. Select Pitch EG or Filter EG as the **AMS**, and adjust “Intensity.” If you wish to cancel the effect of the Amp EG and use the pitch/filter EG to control the volume, set all levels of the Amp EG to +99.

Amp LFO1/2 Intensity (Program 4–2c)

The amp modulation intensity of LFO 1/2 can be controlled by the wave sequence’s AMS Out, EG, Common LFO, keyboard tracking, controllers, or tempo etc.

- If you select EG as the **AMS**, the depth of the tremolo effect produced by LFO modulation will change in synchronization with the changes in EG level. If you set “Intensity” to a positive (+) value, the tremolo effect will deepen as the EG level rises, and lessen as the EG level falls. If “Intensity” is set to a negative (–) value, the phase of the LFO will be inverted.
- If select a controller such as SW1 or 2 as the **AMS**, you can apply the tremolo effect by pressing the SW1 or SW2 switch when desired.

Pan (Program 4–1c)

The oscillator pan can be controlled by the wave sequence’s AMS Out, EG, LFO, keyboard tracking, controllers, or tempo etc.

- If you select Note Number as the **AMS** and set “Intensity” to +50, panning will be controlled by the keyboard position: center at the C4 note, far right at C6 or above, and far left at C2 or below.
- If EG is selected as the **AMS**, the oscillator pan will be controlled in synchronization with the changes in EG level. If “Intensity” is set to a positive (+) value, the pan will move toward the right as the EG level increases, and toward the left as the EG level decreases. If “Intensity” is set to a negative (–) value, the opposite effect will occur.

EG Reset —

Pitch EG (Program 2–9a)

Filter EG (Program 3–4a)

Amp EG (Program 4–3a)

You can use the wave sequence’s AMS Out, EG, LFO, keyboard tracking, controllers, or tempo etc. to control EG Reset. Use the Threshold setting to specify the AMS value at which result will occur.

- By setting **AMS** to Common LFO, you can reset the envelope cyclically at the interval of the Common LFO. The result is just as if the shape specified by the envelope were being used as a special LFO.
- You can reset the envelope by setting **AMS** to a controller such as JS+Y, and operating the controller when desired, producing a one-shot filter envelope sweep.

EG Level —

Pitch EG (Program 2–9c)

Filter EG (Program 3–4c)

Amp EG (Program 4–3c)

EG levels can be controlled by the wave sequence’s AMS Out, Common LFO, keyboard tracking, controllers, or tempo etc.

You can specify an “Intensity” value for each EG segment (“Start,” “Attack,” “Break”). If you set the “Intensity” value to +66, you will be able to control the respective level over a maximum range of ±99.

- Set **AMS** to Velocity for Amp EG Level Modulation, Intensity “Start” to +00, “Attack” to +66, and “Break” to -66.
Set all Amp EG levels to +00. As you play with increasing velocity, the EG levels will change more greatly. At the maximum velocity, the Start Level will stay at +00, but the Attack Level will change to +99 and the Break Level will change to -99.

EG Time —

Pitch EG (Program 2–9d)

Filter EG (Program 3–4d)

Amp EG (Program 4–3d)

EG times can be controlled by the wave sequence’s AMS Out, Common LFO, keyboard tracking, controllers, or tempo etc.

You can specify an “Intensity” value for each EG segment (“Attack,” “Decay,” “Slope,” “Release”). EG times are determined by the Alternate Modulation value when the preceding point is reached. For example, the Alternate Modulation value at the moment the envelope reaches the attack level will determine the decay time.

If “Intensity” is set to a value of 8, 17, 25, 33, 41, or 49, the corresponding time can be multiplied by a maximum of 2, 4, 8, 16, 32, or 64 times (or divided by 1/2, 1/4, 1/8, 1/16, 1/32, 1/64).

- Select JS +Y:CC#01 for “AMS,” and set “AMS Intensity” to +8, “At” to +, “Dc” to -, and “Sl” and “RI” to 0. When you move the joystick in the +Y direction, the Attack Time will be lengthened by a maximum of 2 times. The Decay Time will be shortened by a maximum of 1/2. The Slope and Release times will not change.

LFO Frequency (Program 5–1a)

The frequency of LFO 1, 2 or Common LFO can be controlled by the wave sequence’s AMS Out, EG, keyboard tracking, controllers, or tempo etc. You can also use the LFO2 frequency to modulate LFO1, or use the Common LFO frequency to modulate LFO 1/2.

If “Intensity” is set to a value of 16, 33, 49, 66, 82, or 99, the corresponding frequency can be multiplied by a maximum of 2, 4, 8, 16, 32, or 64 times (or divided by 1/2, 1/4, 1/8, 1/16, 1/32, 1/64).

- Select JS +Y:CC#01 for “AMS,” and set “Intensity” to +16. When you move the joystick in the +Y direction, the LFO frequency will be increased by a maximum of 2 times. If you set “Intensity” to -16 and move the joystick in the +Y direction, the LFO frequency will be decreased by up to 1/2.

LFO Frequency AMS Intensity

You can use the wave sequence’s AMS out, EG, keyboard tracking, controllers, or tempo etc. to control the intensity of the AMS that controls the frequency of the LFO 1, 2, or Common LFO.

For example if you’re using the pitch EG to modulate the LFO frequency, you could use a separate AMS to control the depth of this effect.

- Set **AMS** to a controller such as SW 1 or 2, so that the pitch EG will lightly control the LFO frequency

when the switch is off, and more deeply when the switch is on.

LFO Shape

You can use a wave sequence’s AMS Out, EG, keyboard tracking, controllers, or tempo etc. to control the shape of the LFO 1, 2, or Common LFO waveform. You can also use the LFO2 frequency to modulate LFO1, or use the Common LFO frequency to modulate LFO 1/2.

- You can control the LFO waveform by setting **AMS** to a controller such as JS+Y, and operating the controller when desired.

Common LFO Reset (Program 5–9a)

You can use a controller or tempo etc. to reset the Common LFO.

- By setting **AMS** to Gate 1, you can make the Common LFO reset when a note is played from a state in which all notes are off. For example, this will ensure that a filter sweep always starts from the same place.
- You can set **AMS** to a controller such as JS+Y, and operate the controller when you want to reset the LFO.

Dynamic Modulation Sources (Dmod)

Overview

You can control certain effect parameters using the joystick, vector joystick, ribbon controller, etc. “on the fly.”

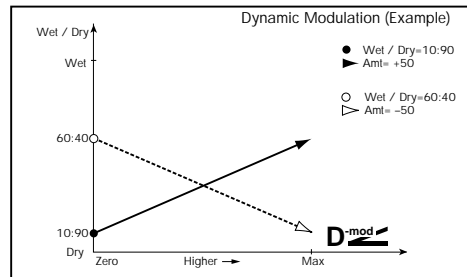
These parameters can also be controlled by KARMA, the Vector joystick and EG, or the sequencer.

Controlling effects in this way is referred to as Dynamic Modulation. For example, you can use After Touch to speed up the LFO of the chorus and flanger, or you can use the ribbon controller to sweep a wah effect. This lets you take full advantage of the effects as part of the expressive potential of your instrument.

Most of the parameters for dynamic modulation consist of parameter values for **Source** and **Amount**. The **Source** field selects the modulation source, and **Amount** sets the modulation intensity. When the **Source** is at its maximum value (for instance, when JS+Y is moved all the way up), the actual degree of the effect will be the parameter value plus the **Amount**.

For example, let’s say that **Wet/Dry** = 10:90, **Source** = After Touch, and **Amount** = +50.

With no After Touch, the wet/dry balance is 10:90 (mostly dry). As you apply After Touch, the balance will change to include more of the effect sound, and less of the dry sound. When After Touch is at its maximum, the wet/dry balance will be 60:40 (more wet than dry).



See the individual effects descriptions for explanations of other dynamic modulation parameters. Parameters which can be controlled through dynamic modulation are marked by the **D-mod** symbol.

Dmod and MIDI

MIDI In Program and Sampling modes, dynamic modulation is always controlled via the global MIDI Channel.

In Combination and Sequencer modes, dynamic modulation is controlled via the MIDI channel independently specified by the “Ch” for IFX1–12, MFX1, 2, and TFX1, 2.

Dynamic Modulation Source List

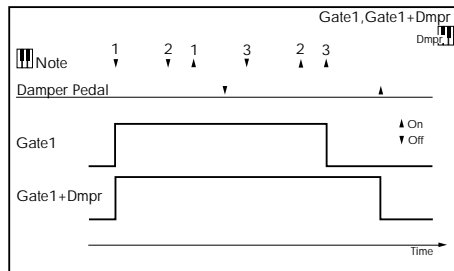
Off	dynamic modulation is not used
Gate1	note on/off p.1031
Gate1+Damper	note on + damper on/off p.1031
Gate2	note on/off (retrigger) p.1031
Gate2+Damper	note on + damper on/off (retrigger) p.1031
Note Number	note number
Velocity	Velocity
Exponential Velocity	exponential velocity p.1031
After Touch	after touch (Channel After Touch)
JS X	joystick X (horizontal) direction
JS+Y (CC#01)	joystick +Y (Vertical upward) direction (CC#01)
JS-Y (CC#02)	joystick -Y (Vertical downward) direction (CC#02)
Foot Pedal (CC#04)	assignable foot pedal (CC#04) p.1031
FX Control1 (CC#12)	MIDI effect control 1 (CC#12)
FX Control2 (CC#13)	MIDI effect control 2 (CC#13)
Ribbon (CC#16)	ribbon controller (CC#16)
Value Slider (CC#18)	value slider (CC#18) p.1031
Knob Mod.5 (CC#17)	realtime control knob 5 (knob modulation 5 CC#17) p.1031

Knob Mod.6 (CC#19)	realtime control knob 6 (knob modulation 6 CC#19) p.1031
Knob Mod.7 (CC#20)	realtime control knob 7 (knob modulation 7 CC#20) p.1031
Knob Mod.8 (CC#21)	realtime control knob 8 (knob modulation 8 CC#21) p.1031
Knob Mod.5 [+]	realtime control knob 5 [+] p.1031
Knob Mod.6 [+]	realtime control knob 6 [+] p.1031
Knob Mod.7 [+]	realtime control knob 7 [+] p.1031
Knob Mod.8 [+]	realtime control knob 8 [+] p.1031
Damper (CC#64)	damper pedal (CC#64)
Porta. SW (CC#65)	portamento switch (CC#65)
Sostenuto (CC#66)	sostenuto pedal (CC#66)
Soft (CC#67)	soft pedal (CC#67)
SW1 Mod. (CC#80)	assignable panel switch 1 (SW1 modulation CC#80) p.1033
SW2 Mod. (CC#81)	assignable panel switch 2 (SW2 modulation CC#81) p.1033
Foot Switch (CC#82)	assignable foot switch (CC#82) p.1035
Controller (CC#83)	MIDI Control Change (CC#83)
VJS +X Mod.(CC#85)	Vector joystick +X (VJS modulation +X CC#85) p.1031
VJS -X Mod.(CC#86)	Vector joystick -X (VJS modulation -X CC#86) p.1031

VJS +Y Mod.(CC#87)	Vector joystick +Y (VJS modulation +Y CC#87) <small>see p.1031</small>
VJS -Y Mod.(CC#88)	Vector joystick -Y (VJS modulation -Y CC#88) <small>see p.1031</small>
Tempo	tempo (internal clock or external MIDI clock tempo data) <small>see p.1032</small>

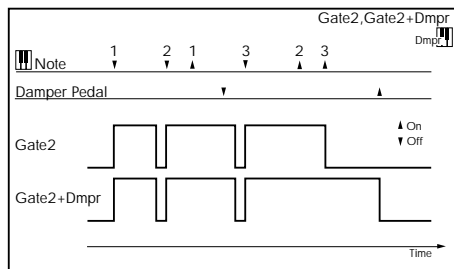
Gate 1, Gate1+Damper

The effect is at maximum during note-on, and will stop when all keys are released. With Gate1 + Damper, the effect will remain at maximum even after the keys are released, as long as the damper (sustain) pedal is pressed.



Gate2, Gate2+Damper

This is essentially the same as for Gate 1 or Gate 1 + Damper. However when Gate 2 or Gate 2 + Damper are used as a dynamic modulation source for the EG of 050: Stereo Envelope Flanger etc. or the AUTOFADE of 055: Stereo Vibrato, a trigger will occur at each note-on. (In the case of Gate 1 and Gate 1 + Damper, the trigger occurs only for the first note-on.)



Exponential Velocity

Modulation will be applied exponentially according to the velocity value. Weak velocity values will produce little effect, but the effect will increase rapidly as the velocity values rise.

Foot Pedal (CC#04)

If you wish to use the assignable foot pedal as a dynamic modulation source, set "Foot Pedal Assign" (Global P2: Controller 2-1a) to Foot Pedal (CC#04). (See "Foot Pedal Assignments" on page 1036)

A foot controller etc. connected to the ASSIGNABLE PEDAL jack can be used to control an effect.

Value Slider: CC#18

When Program mode P0 Main "Program Select" or Combination mode P0 Main "Combination Select" are selected, the VALUE slider will function as a controller corresponding to CC#18.

Knob Mod.5 (CC#17)

Knob Mod.6 (CC#19)

Knob Mod.7 (CC#20)

Knob Mod.8 (CC#21)

If you want to use REALTIME KNOBS 5-8 as AMS, set the Set Up Controllers page "Modulation Knob Assign" parameters to assign "Knob5" to Knob Mod.5 (CC#17), "Knob6" to Knob Mod.6 (CC#19), "Knob7" to Knob Mod.7 (CC#20), and "Knob8" to Knob Mod.8 (CC#21) ("Realtime Knobs 5-8 Assignments" on page 1034) for each program, combination, song, or for Sampling mode.

You can control the effect by operating REALTIME KNOBS 5-8.

Moving the knob to the 12 o'clock position will produce an AMS effect of 0. If "Amount" is set to a positive (+) value, rotating the knob toward the right will produce a positive change in the effect, and rotating it toward the left will produce a negative change. (With negative (-) settings, the opposite effect will result.)

Knob Mod.5 [+] (CC#17 [+])

Knob Mod.6 [+] (CC#19 [+])

Knob Mod.7 [+] (CC#20 [+])

Knob Mod.8 [+] (CC#21 [+])

These differ from Knob Mod.5 (CC#17)-Knob Mod.8(CC#21) in the knob position and direction of the effect. If "Amount" is set to a positive (+) value, rotating the knob to the far left will produce an effect of 0 as the dynamic modulation source. Rotating the knob toward the right will apply an effect only in the positive direction. (With negative (-) settings, the opposite effect will result.)

SW1 Mod. (CC#80)

SW2 Mod. (CC#81)

If you wish to use the SW1 or SW2 switch as a dynamic modulation source, make settings in Program, Song, or Sampling modes to set the Set Up Controllers page parameter "Panel Switch Assign" to the following values respectively: "SW1" to SW1 Mod. (CC#80), or "SW2" to SW2 Mod. (CC#81) ("SW1/2 Assignments" on page 1033).

The effect will be controlled when you operate the SW1 or SW2 switch.

Foot Switch (CC#82)

If you wish to use an assignable foot switch as a dynamic modulation source, set "Foot Switch Assign" (Global 2-1a) to Foot SW (CC#82) ("Foot Switch Assignments" on page 1035).

The effect will be controlled when you operate a foot switch etc. connected to the ASSIGNABLE SWITCH jack.

VJS +X Mod.(CC#85)

VJS -X Mod.(CC#86)

VJS +Y Mod.(CC#87)

VJS -Y Mod.(CC#88)

If you want to use the vector joystick as a dynamic modulation source, go to the Vector Control page or Vector CC page for each program, combination, or song, and set the "Vector CC Control" parameters "+X," "-X," "+Y," and "-Y" respectively to VJS +X Mod. (CC#85), VJS -X Mod. (CC#86), VJS +Y Mod.

(CC#87), and VJS -Y Mod. (CC#88). (If "VJS X/Y Mode" is Positive or Negative, you'll be able to use either + or -, not both.)

Operate the vector joystick to apply modulation.

Note: Dynamic modulation via the vector joystick is not available in Sampling mode.

Tempo

The resulting modulation will be zero at 120 BPM, the maximum positive value at 240 BPM, and the maximum negative value at 60 BPM.

Many effects LFOs and delays can also be synchronized to tempo. For more information, see "Tempo Synchronization" on page 789

Controller Assignments

SW1/2 Assignments

Switch assignments are saved separately with each Program, Combination, and Song. In Sampling mode, assignments apply to the entire mode. For more information, see:

- HD-1 Programs: “1–8: Set Up Controllers” on page 46
- EXi Programs: “4–8: Set Up Controllers” on page 169
- Combinations: “1–8: Set Up Controllers” on page 412
- Sequencer mode: “1–8: Set Up Controllers” on page 517
- Sampling mode: “4–8: Set Up Controllers” on page 653

List of SW 1/2 assignments

The following functions can be assigned to SW1 and SW2.

Off

This setting disables the switch.

SW1 Mod. (CC#80) and SW2 Mod. (CC#81)

This lets you use the switch as an AMS or Dmod source. Note that you’ll also need to assign SW1 Mod or SW2 Mod to control the desired parameter within the Program or Effect.

Each time the switch is turned on or off, it transmits the corresponding MIDI CC (80 or 81); Off is 0, and On is 127.

Portamento SW (CC#65)

This turns Portamento on and off. When the LED is lit, Portamento is on.

Each time the switch is turned on or off, it transmits MIDI CC#65; Off is 0, and On is 127.

With single Programs, this simply enables and disables Portamento, regardless of the of the Program’s stored **Portamento Enable** setting.

With double HD-1 or EXi Programs, it’s slightly more complex. If Portamento is either enabled for both OSC 1 and 2 (or EXi 1 and 2), or off for both, then the Portamento Switch controls both OSC or EXi.

If Portamento is enabled for only one of the two, only that element will be affected by the switch; for the other element, Portamento will always be off.

Octave Down

When the switch is on (LED lit), the pitch will be transposed down by one octave.

Octave Up

When the switch is on (LED lit), the pitch will be transposed up by one octave.

Lock functions

The Lock functions let you use SW1 or SW2 to “lock” the current position of the joystick or ribbon controller, or the current aftertouch value. This leaves your hands free to play on the keyboard, or to use other controllers.

For instance, let’s say that JS+Y is assigned to create a filter sweep, and that SW2 is assigned to JS+Y Lock. You can then:

1. **Move the joystick to open up the filter.**
2. **Press SW2 to turn on JS+Y Lock.**
3. **Release the joystick.**

Since SW2 is locking JS+Y, the filter remains open, even though the joystick has physically snapped back to its center position.

Note that Lock affects only the physical controls. Even if Lock is On, incoming MIDI messages can still change the joystick, ribbon, and aftertouch values.

For more information, see “Using the Lock function” on page 51 of the Operation Guide.

JS X Lock

Locks the effect of the joystick X axis.

JS Y Lock

Locks the effect of the joystick Y axis (both + and – directions).

JS+Y Lock

Locks the effect of the joystick +Y direction.

JS–Y Lock

Locks the effect of the joystick –Y direction.

Ribbon Lock

Locks the effect of the ribbon controller.

JS X & Ribbon Lock

Simultaneously locks the effects of the joystick X direction and the ribbon controller.

JS Y & Ribbon Lock

Simultaneously locks the effects of the joystick Y direction and the ribbon controller.

JS+Y & Ribbon Lock

Simultaneously locks the effects of the joystick +Y direction and the ribbon controller.

JS–Y & Ribbon Lock

Simultaneously locks the effects of the joystick –Y direction and the ribbon controller.

After Touch Lock

Locks the effect of after touch.

Chord SW

This enables and disables Chord mode. For more information, see “Using Chord mode” on page 54 of the Operation Guide.

Realtime Knobs 5–8 Assignments

Knob assignments are saved separately with each Program, Combination, and Song. In Sampling mode, assignments apply to the entire mode. For more information, see:

- HD-1 Programs: “1–8: Set Up Controllers” on page 46
- EXi Programs: “4–8: Set Up Controllers” on page 169
- Combinations: “1–8: Set Up Controllers” on page 412
- Sequencer mode: “1–8: Set Up Controllers” on page 517
- Sampling mode: “4–8: Set Up Controllers” on page 653

Knobs and MIDI CCs

Some of the assignments include MIDI CCs, which are transmitted whenever the knob is moved. Note that the MIDI CCs can still be received even if they are not assigned to a physical controller.

List of Knob 5-8 assignments

The following functions can be assigned to REALTIME KNOBS 5–8.

Off

This setting disables the knob.

Knob Mod. 5–8 (CC#s17, 19, 20, 21)

These settings let you use the knob as an AMS or Dmod source. Note that you’ll also need to assign the knob to control the desired parameter within the Program or Effect.

Master Volume

This controls the overall volume, and transmits the Universal System Exclusive Master Volume message [F0H, 7FH, nn, 04, 01, vv, mm, F7H]. You can use this to adjust the volumes of all Tracks or Timbres at the same time, while preserving their relative balance.

For more information, see the diagram under “Master Volume Slider” on page 22.

Portamento Time (CC#05)

This controls the portamento time. Note that a different controller, CC#65, turns Portamento on and off; see “Portamento SW (CC#65)” on page 1033.

Volume (CC#07)

Controls the volume, and transmits CC#7.

Post IFX Pan (CC#08)

Controls the panning after the last Insert Effect in the chain, and transmits CC#8.

Pan (CC#10)

Controls stereo pan, and transmits CC#10.

Expression (CC#11)

Expression is a secondary volume control, which you can use to scale level without affecting the main volume settings or CC#7 values.

When used one at a time, MIDI Volume and Expression affect level in exactly the same way: a MIDI value of 127 is equal to Program’s main Level setting, and lower values reduce the volume.

If both CC#7 and CC#11 are used simultaneously, the one with the *lower* value determines the maximum volume, and the one with the *higher* value scales down from that maximum.

FX Control 1 & 2 (CC#s12 & 13)

These assignments are intended for Effect Dynamic Modulation (Dmod). Note that you’ll also need to assign FX Control 1 or 2 to control the desired parameter within the Effect.

LFP Cutoff (CC#74)

This scales the cutoff frequency of all of the filters at once. For instance, in the HD-1, it affects both Filters A and B.

Resonance (CC#71)

This scales the resonance of all of the filters at once. For instance, in the HD-1, it affects both Filters A and B.

Filter EG Int. (CC#79)

This scales the effect of the Filter EG on the cutoff frequency. It affects all of the filters at once; for instance, in the HD-1, it affects both Filters A and B.

F/A Attack (CC#73)

This scales the attack times of the Filter and Amp EGs, along with other related parameters.

When the CC value is above 64, this also affects the Amp EG’s Start and Attack Levels, Start Level AMS, and Attack Time AMS, as described below:

Between values of 65 and 80, the Start Level, Start Level AMS, and Attack Time AMS will change from their programmed values to 0. Over the same range, the Attack Level will change from its programmed value to 99.

F/A Decay (CC#75)

This scales the decay and slope times of the Filter and Amp EGs.

F/A Sustain (CC#70)

This scales the sustain levels of the Filter and Amp EGs.

F/A Release (CC#72)

This scales the release times of the Filter and Amp EGs.

Pitch LFO1 Spd (CC#76)

This scales LFO1's frequency.

Pitch LFO1 Dep (CC#77)

This scales the effect of LFO1 on the Pitch.

Pitch LFO1 Dly (CC#78)

This scales LFO1's fade-in time.

SW 1 Mod. & SW 2 Mod (CC#s 80 & 81)

Normally, these are used for the two assignable switches - but you can assign them to the knobs instead, if you like.

Foot Switch (CC#82)

You can use this general-purpose controller as an AMS or Dmod source. Note that you'll also need to assign **Foot Switch (CC#82)** to control the desired parameter within the Program or Effect.

MIDI CC#83 (CC#83)

You can use this general-purpose controller as an AMS or Dmod source. Note that you'll also need to assign **Controller #83** to control the desired parameter within the Program or Effect.

MFx Send 1 & 2 (CC#s 93 & 91)

These control the send levels to Master Effects 1 and 2, respectively.

CC#s 93 and 91 actually control send levels in two different places: the sends directly from the Program OSC or EXi, and the send levels of the last Insert Effect in the chain which matches the CC's MIDI channel.

MIDI CC#00-95 and 102-119

These settings let you transmit any MIDI CC, except for registered and non-registered parameters (CCs 96-101). If you choose a CC which is used by AMS, Dmod, or the standard CC routings, then it will affect the corresponding OASYS parameters.

Knobs 1-4

REAL TIME KNOBS 1-4 have preset assignments, as below:

Knob 1: LPF CUTOFF (Filter Cutoff: CC#74)

This scales the cutoff frequency of all of the filters at once. For instance, in the HD-1, it affects both Filters A and B.

Knob 2: RESONANCE (Filter Resonance: CC#71)

This scales the resonance of all of the filters at once. For instance, in the HD-1, it affects both Filters A and B.

Knob 3: EG INTENSITY (Filter EG Intensity: CC#79)

This scales the effect of the Filter EG on the cutoff frequency. It affects all of the filters at once; for instance, in the HD-1, it affects both Filters A and B.

Knob 4: EG RELEASE (Filter, Amplifier EG Release: CC#72)

This scales the release times of the Filter and Amp EGs.

Foot Switch Assignments

You can connect a footswitch (such as the optional Korg PS-1) to the rear-panel ASSIGNABLE SWITCH input, and then use it to control a wide variety of functions, as described below.

This setting is made globally, on the Global P2-1 Controller page.

Foot Switch and MIDI CCs

Some of the assignments include MIDI CCs, which are transmitted each time the switch is turned on or off (Off = 0, and On = 127). Note that the MIDI CCs can still be received even if they are not assigned to a physical controller.

RT Knobs 5-8 and SW1/2 are special cases, since these can themselves be assigned to different MIDI CCs. If the footswitch is assigned to duplicate these controls, it will also use their CC assignments.

List of Foot Switch assignments

Off

This setting disables the switch.

Foot Switch (CC#82)

This lets you use the switch as an AMS or Dmod source. Note that you'll also need to assign Foot Switch (CC#82) to control the desired parameter within the Program or Effect.

Portamento SW (CC#65)

This controls portamento on/off. For more information, see "Portamento SW (CC#65)" on page 1033.

Sostenuto (CC#66)

This controls the sostenuto effect, which holds only the notes being played at the moment that the footswitch is turned on.

Soft (CC#67)

Turns the soft pedal effect on and off.

Program Up

This lets you use the switch to increment the current Program or Combination number, for hands-free patch changes. Note that this is only active while on the Program P0:Play or Combination P0:Play pages, respectively.

When you use this control, the OASYS will also transmit the corresponding MIDI Program Change and Bank Select messages.

Program Down

This decrements the current Program or Combination number, for hands-free patch changes. For more information, see “Program Up,” above.

Song Start/Stop

The switch can be used to start/stop the sequencer. Simultaneously, a MIDI Start or Stop message will be transmitted.

Song Punch In/Out

If Sequencer P0: Preference “Recording Setup” (0–5a) is set to Manual Punch In, the switch can be used to punch-in and punch-out when recording on the sequencer.

Tap Tempo

This duplicates the function of the front-panel TAP TEMPO button, for setting the system tempo in real-time.

KARMA ON/OFF

The foot switch will turn the KARMA function on/off.

KARMA LATCH ON/OFF

The foot switch will turn KARMA LATCH on/off.

KARMA SCENE

The foot switch will cycle through KARMA scenes. The next scene will be selected each time you press the foot switch.

JS+Y (CC#01)

The switch will control the effect produced by joystick movement in the +Y direction (Vertical upward).

JS–Y (CC#02)

The switch will control the effect produced by joystick movement in the –Y direction (Vertical downward).

Ribbon (CC#16)

The switch duplicates the effect of the ribbon controller.

Value Slider (CC#18)

The switch will control the effect of the VALUE slider.

RT Knob 1–8

The switch duplicates the function of the selected REALTIME KNOB. When the switch is on, it produces the same effect as when the knob is rotated fully to the right; when it is Off, it produces the same effect as when the knob is rotated fully to the left.

SW1, 2

The footswitch duplicates the function of the selected front-panel switch.

KARMA RTC Slider 1–8

The foot switch will control the effect of the KARMA CONTROLS (slider).

KARMA RTC SW 1–8

The foot switch will control the effect of the KARMA SWITCHES.

PAD 1–8

This lets you trigger any of the Pads from the foot switch. When playing notes, the footswitch triggers the pad as if it had been hit at maximum velocity. Note that this can also be used to select a chord, when Chord mode is on.

Value Inc

The switch will duplicate the function of the front-panel Inc \triangle button. For more information, see “Using a footswitch to select Programs” on page 49 of the Operation Guide.

Value Dec

The switch will duplicate the function of the front-panel Dec ∇ button.

Chord SW

This enables and disables Chord mode. For more information, see “Using Chord mode” on page 54 of the Operation Guide.

Foot Pedal Assignments

You can connect a pedal (such as the optional Korg XVP-10 or EXP-2) to the rear-panel ASSIGNABLE PEDAL input, and then use it to control a wide variety of functions, as described below.

This setting is made for the entire OASYS, on the Global P2–1 Controller page.

A note on MIDI CCs

Some of the assignments include MIDI CCs, which are transmitted whenever the knob is moved. Note that the MIDI CCs can still be received even if they are not assigned to a physical controller.

RT Knobs 5–8 and SW1/2 are special cases, since these can themselves be assigned to different MIDI CCs. If the footswitch is assigned to duplicate these controls, it will also use their CC assignments.

List of Foot Pedal assignments

Off

This setting disables the pedal.

Master Volume

This controls the overall volume, and transmits the Universal System Exclusive Master Volume message [FOH, 7FH, nn, 04, 01, vv, mm, F7H]. You can use this to adjust the volumes of all Tracks or Timbres at the same time, while preserving their relative balance.

For more information, see the diagram under “Master Volume Slider” on page 22.

Foot Pedal (CC#04)

You can use this general-purpose controller as an AMS or Dmod source. Note that you'll also need to assign **Foot Pedal (CC#04)** to control the desired parameter within the Program or Effect.

Portamento Time (CC#05)

Controls the speed at which portamento will change the pitch.

Volume (CC#07)

Control the volume of a Program, Combination, or of a MIDI track in Sequencer modes.

Post IFX Pan (CC#08)

Control the pan after passing through the Insert Effect.

Pan (CC#10)

Control the pan of a Program, of a timbre in a Combination, or of a MIDI track in Sequencer modes.

Expression (CC#11)

Expression is a secondary volume control, which you can use to scale level without affecting the main volume settings or CC#7 values. For more information, see "Expression (CC#11)" on page 1034.

FX Control 1 & 2 (CC#s12 & 13)

These assignments are intended for Effect Dynamic Modulation (Dmod). Note that you'll also need to assign **FX Control 1** or **2** to control the desired parameter within the Effect.

MFX Send 1 & 2 (CC#s 93 & 91)

These control the send levels to Master Effects 1 and 2, respectively.

CC#s 93 and 91 actually control send levels in two different places: the sends directly from the Program OSC or EXi, and the send levels of the last Insert Effect in the chain which matches the CC's MIDI channel.

JS+Y (CC#01)

This duplicates the function of JS+Y. Whatever JS+Y is assigned to control, the pedal will control as well.

JS-Y (CC#02)

This duplicates the function of JS-Y. Whatever JS-Y is assigned to control, the pedal will control as well.

Ribbon (CC#16)

This duplicates the function of the ribbon controller. Whatever the ribbon is assigned to control, the pedal will control as well.

Value Slider (CC#18)

Pedal operation will control the effect of the VALUE slider.

RT Knob 1-8

This duplicates the function of the selected REAL TIME KNOB. Whatever the knob is assigned to control, the pedal will control as well.

KARMA RTC Slider1-8

This duplicates the function of the selected KARMA SLIDER. Whatever the slider is assigned to control, the pedal will control as well.

Dynamic MIDI Sources & Destinations

Dynamic MIDI Sources

The sources (Dynamic MIDI Sources) are organized into the following groups

JS +Y #01...JS X: Controller group

Short Note...Black Note: Note group

Velocity...Vel Out Z: Velocity Group

Depending on the combination of source and destination (Dynamic MIDI Destinations), the selected destination may not function as you intend. Refer to the explanations of combining sources and destinations in each section of "Dynamic MIDI Destinations," and make sure to select sources and destinations that are appropriate for each other.

Off: No source will be selected.

Controller Group:

For the Controller Group, the Range Bottom and Top fields will be available. The Range fields can be used to choose only a portion of the normal 0–127 range if desired. This depends on whether the actual Source is a continuous controller or a switch. For example, if you choose JS+Y (CC#01) and set the range to be 110–127, then only when the joystick reaches the farthest position away from yourself would the selected Destination be affected. In most cases, you should leave them set to 0–127 for normal operation, unless you are trying to achieve a special calculated effect in only a portion of the controller's range.

The following Controller Group Sources correspond to the KARMA ON/OFF switch, KARMA LATCH switch, KARMA SCENE 1–8, KARMA SLIDERS 1–8, KARMA SWITCH 1–8, Pads 1–8, and the CCs they are set to respond to in the Global 2–1: Controller/Scale. Shown are the default CC settings. If the Global 1–1b: MIDI Filter "Enable Control Change" is checked and a MIDI CC Message is received on the assigned controller, it will control the Dynamic MIDI Assignment as well as the associated control.

Two settings are "special," in that they refer to groups of controls: KARMA Scene-Any, and Pads-Any. When these are selected, the operation of any KARMA SCENE switch or any Pads 1–8 respectively can be intercepted and used as a Dynamic MIDI Source.

While all of the Real-Time Controls are able to be assigned in their normal operation to do various things, there are times where using them through Dynamic MIDI can be useful. For example, the KARMA SCENE switches can be used to retrigger the groove at a scene change, stop any melodic repeats so that they don't overlap the scene change, or change a parameter value in the Real-Time Parameters of a GE, etc. Pads can be set to repeatedly trigger modules each time they are pressed, yet the module can be in "1st" Trigger Mode, so that playing the keyboard doesn't retrigger the start of the groove. And the Latch switch could be used to change the Key Zone range or the Latch Mode for a module's envelopes.

Furthermore, by running a KARMA SLIDER through Dynamic MIDI and into Real-Time Parameter Control, rather than assigning it to an Real-Time Parameter directly, you can choose only a portion of the slider's range to affect the parameter. For example, if you selected KARMA SLIDER 1 as a Dynamic MIDI Source, and set the Bottom/Top to 110/127, then only at the end of the slider will the slider's values affect any destination parameters assigned through Real-Time Parameters Control.

JS+Y (CC#01)

The +Y direction (away from yourself) of the joystick (CC#01) will be the source.

JS-Y (CC#02)

The -Y direction (toward yourself) of the joystick (CC#02) will be the source.

Pedal (CC#04)

The assignable foot pedal (CC#04) will be the source.

The function of the assignable pedal connected to the ASSIGNABLE PEDAL jack must be assigned as Foot Pedal (CC#04) for the Global 2–1: Controller/Scale page "Foot Pedal Assign" parameter.

Damper (CC#64)

The damper pedal will be the source.

Porta. SW (CC#65)

The portamento switch (CC#65) will be the source.

Foot Switch (CC#82)

The assignable foot switch (CC#82) will be the source.

The function of the assignable foot switch connected to the ASSIGNABLE SWITCH jack must be assigned as Foot Switch (CC#82) for the Global 2–1: Controller/Scale page "Foot SW Assign" parameter.

MIDI (CC#83)

MIDI control change CC#83 will be the source.

Ribbon (CC#16)

The ribbon controller (CC#16) will be the source.

VJS X (CC#118)

The X (horizontal) direction of the vector joystick (CC#118) will be the source.

Note: If you want to use the ±X axis of the vector joystick as a source, set the Global P2–1c: MIDI CC# Assign-Vector Joystick/Pads parameter "VJS X" to CC#118.

VJS Y (CC#119)

The Y direction (vertical) of the vector joystick (CC#119) will be the source.

Note: If you want to use the ±X axis of the vector joystick as a source, set the Global P2-1c: MIDI CC# Assign-Vector Joystick/Pads parameter “VJS X” to CC#119.

VJS +X Mod. (CC#85)

The +X direction (the left direction) of the vector joystick (CC#85) will be the source.

Note: If you want to use the +X axis of the vector joystick as a source, set the P1-5b: Vector CC Control parameter “+X” to CC#85 for the desired program, combination, or song.

VJS -X Mod. (CC#86)

The -X direction (the right direction) of the vector joystick (CC#86) will be the source.

Note: If you want to use the -X axis of the vector joystick as a source, set the P1-5b: Vector CC Control parameter “-X” to CC#86 for the desired program, combination, or song.

VJS +Y Mod. (CC#87)

The +Y direction (away from yourself) of the vector joystick (CC#87) will be the source.

Note: If you want to use the +Y axis of the vector joystick as a source, set the P1-5b: Vector CC Control parameter “+Y” to CC#87 for the desired program, combination, or song.

VJS -Y Mod. (CC#88)

The -Y direction (toward from yourself) of the vector joystick (CC#88) will be the source.

Note: If you want to use the -Y axis of the vector joystick as a source, set the P1-5b: Vector CC Control parameter “-Y” to CC#88 for the desired program, combination, or song.

KARMA On/Off*

The KARMA ON/OFF switch will be the source.

KARMA Latch*

The corresponding KARMA LATCH switch will be the source.

KARMA Slider 1...8*

The corresponding KARMA SLIDER 1-8 will be the source.

KARMA SWITCH 1...8*

The KARMA SWITCH 1-8 will be the source.

KARMA Scene 1...9, KARMA Scene-Any

*The KARMA SCENE 1-9 will be the source.

If you choose KARMA Scene-Any, the switch you operated will be the source.

***Note:** If a MIDI control change is assigned in the Global 2-1: Controller/Scale page, this will be controlled by reception of the assigned MIDI control change.

Pad 1...8, Pad-Any (CC110...117, Note Number)

The Pads 1-8 will be the source.

If you choose Pad-Any, the pad you operated will be the source.

Note: If a MIDI control change or Note Number is assigned in the Global 2-1: Controller/Scale page, this will be controlled by reception of the assigned MIDI control change or Note Number. The default values are shown.

AfterT

Aftertouch (channel aftertouch) will be the source.

JS X

The X (horizontal) direction of the joystick will be the source.

For JS X, **Polarity** (7-7b) allows you to select +/- or -/+ in addition to the usual + or - operations.

When the controller is moved all the way to the left or right (or top or bottom), the value will change as follows. The example shown below is for when Tempo is selected as the destination. (Original tempo is ♩=100 BPM, “Bottom/Top”: 000/127)

+: Far left (0) -> far right (maximum)
100 BPM -> 200 BPM

-: Far left (0) -> far right (maximum)
100 BPM -> 50 BPM

+/-: Far left (minimum) -> center (0) -> far right (maximum)
50 BPM -> 100 BPM -> 200 BPM

-/+: Far left (maximum) -> center (0) -> far right (minimum)
200 BPM -> 100 BPM -> 50 BPM

Note Group:

When using the Note Group Sources, **Bottom** and **Top**(7-7b) refer to MIDI Note Numbers C-1...G9:

000: C-1...012: C0...024: C1...036: C2...
045: C3...060: C4...072: C5...084: C6...
096: C7...108: C8...120: C9...127: G9

Short Note

Use **Bottom** and **Top** (7-7b) to specify the range of note numbers. Only notes within the specified range with a duration of less than 45 ms between note-on and note-off will be the source.

Note

Use **Bottom** and **Top** (7-7b) to specify the range of note numbers. Notes within the specified range will be the source. (⚡Short Note)

Note Inside Zone

Notes within the key zone of the KARMA module (Program 7-1b, Combination 7-1c, Sequencer 7-1c) will be the source.

Use “Input” to specify the applicable KARMA module.

Note Outside Zone

Notes outside the key zone of the KARMA module (Program 7-1b, Combination 7-1c, Sequencer 7-1c) will be the source.

Use “Input” to specify the applicable KARMA module.

White Note

Use **Bottom** and **Top** (7–7b) to specify the range of note numbers. Only the white notes (C, D, E, F, G, A, B) within the specified range will be the source.

Black Note

Use **Bottom** and **Top** (7–7b) to specify the range of note numbers. Only the black notes (C#, D#, F#, G#, A#) within the specified range will be the source.

Velocity Group:

Velocity

Velocity values will be the source. Use **Bottom** and **Top** (7–7b) to specify the velocity range.

Dynamic MIDI Destinations

The KARMA function allows you to hook up nearly any Source to any Destination. Depending on the combination of source and destination, the selected destination may not function as you intend. Refer to the explanations of combining sources and destinations in each of the following sections, and make sure to select sources and destinations that are appropriate for each other.

The Momentary, Toggle, Continuous indication shown at the right of each destination name indicate the source operating modes (“Action”) that are valid for each destination function. (☞p.36 Program 7–7b: “Action”)

Off

No function

RT Parm Control [Momentary, Toggle, Continuous]

Use this when using a source to control GE Real-Time Parameters (7–5) or Perf Real-Time Parameters (7–6). Set the “Assign” of GE Real-Time Parameters or Perf Real-Time Parameters to DynaMIDI1...DynaMIDI8, which indicates the row of the Dynamic MIDI page that is to be used. (☞p.33 7–5b: “Assign” DynaMIDI1...DynaMIDI8)

Note: You should normally select a source from the JS+Y (CC#01)...JS X controller group.

☛ This will operate irrespective of the module. The Combination and Sequencer mode, Perf Real-Time Parameters “A/B/C/D” (7–6) settings will be ignored.

Setting examples

Joystick operations in the +Y direction will control GE Parameter1. (Program mode)

Dynamic MIDI 1 Source (7–7b):	JS+Y (CC#01)
Dynamic MIDI 1 Bottom (7–7b):	000
Dynamic MIDI 1 Top (7–7b):	127
Dynamic MIDI 1 Action (7–7b):	Continuous
Dynamic MIDI 1 Destination (7–7b):	RTParm Ctrl
Dynamic MIDI 1 Polarity (7–7b):	+
GE RT Parameter 1 Assign (7–5b)	Dyn1

Velocity Inside Zone

Velocity values of notes within the key zone of the KARMA module (Program 7–1b, Combination 7–1c, Sequencer 7–1c) will be the source.

Use **Bottom** and **Top** (7–7b) to specify the velocity range. Use “Input” to specify the applicable KARMA module.

Velocity Outside Zone

Velocity values of notes outside the key zone of the KARMA module (Program 7–1b, Combination/Sequencer 7–1c) will be the source.

Use **Bottom** and **Top** (7–7b) to specify the velocity range. Use “Input” to specify the applicable KARMA module.

Tempo [Momentary, Toggle, Continuous]

Control the KARMA tempo.

Note: You will normally select the JS+Y (CC#01)...JS X controller group as the source.

☛ This will operate irrespective of the module. The Combination and Sequencer mode, Perf Real-Time Parameters “A/B/C/D” (7–6) settings will be ignored.

- When **Polarity** is +, you can use the controller to speed up the tempo. When the value of the controller selected as the source is at the value specified for “Bottom,” the tempo will be at the regular specified setting. When the value of the controller selected as the source is at the value specified for “Top,” the tempo will be double the regular tempo. (The tempo will not be faster than the maximum tempo of ♩=300 BPM.)
- When **Polarity** is –, you can use the controller to slow down the tempo. When the value of the controller selected as the source is at the value specified for “Bottom,” the tempo will be at the regular specified setting. When the value of the controller selected as the source is at the value specified for “Top,” the tempo will be half the regular tempo. (The tempo will not be slower than the minimum tempo of ♩=35 BPM.)

Note/Env Latch [Momentary, Toggle]

Control “Note Latch” of the KARMA module.

When you select Note/Env Latch as the **Destination** and turn “A/B/C/D” (7–6: Perf Real-Time Parameters) On (checked), you will be able to use the damper pedal etc. to control note latch independently of the “Note Latch” (7–4b) setting of each KARMA module, or the setting of the LATCH SWITCH.

Note: You will normally select the JS+Y (CC#01)...JS X controller group as the source.

Note: If you turn latch on using this setting, the operation of Envelope 1, 2, and 3 will also be affected. Regardless of the Envelope “Latch” (7–4b) settings for each KARMA module, you can use a damper pedal etc.

to turn latch on so that the currently-operating Envelope1, 2, or 3 will continue to be held even after you release the keyboard or the Pad 1–8.

Examples of use

Setting 1 (Program mode)

Note Latch (7–4b): **On** (normally leave this **On** for a program)

Dynamic MIDI 1 **Source** (7–7b): **Damper (CC#64)**
 Dynamic MIDI 1 **Bottom** (7–7b): **000**
 Dynamic MIDI 1 **Top** (7–7b): **127**
 Dynamic MIDI 1 **Action** (7–7b): **Momentary**
 Dynamic MIDI 1 **Destination** (7–7b): **Note/Env Latch**
 Dynamic MIDI 1 **Polarity** (7–7b): **+**

When the KARMA LATCH switch is on, latch will always be on.

When the KARMA LATCH switch is off, pressing the connected damper pedal will turn latch on, and releasing it will turn latch off.

Setting 2 (Combination mode)

A **Note Latch** (7–4b): **On**
 B **Note Latch** (7–4b): **Off**
 Dynamic MIDI 1 **Source** (7–7b): **Damper(CC#64)**
 Dynamic MIDI 1 **Bottom** (7–7b): **000**
 Dynamic MIDI 1 **Top** (7–7b): **127**
 Dynamic MIDI 1 **Action** (7–7b): **Momentary**
 Dynamic MIDI 1 **Destination** (7–7b): **Note/Env Latch**
 Dynamic MIDI 1 **A** (7–7b): **On (checked)**
 Dynamic MIDI 1 **B** (7–7b): **On (checked)**
 Dynamic MIDI 1 **Polarity** (7–7b): **+**

When the KARMA LATCH switch is on, latch will be on for KARMA Module A, and latch will be off for KARMA module B.

When the KARMA LATCH switch is off, pressing the connected damper pedal will turn latch on for both modules A and B, and releasing the pedal will turn latch off for both modules A and B.

Auto Transpose On/Off **[Momentary]**

Controls on/off of the auto transpose function.

Note: You will normally select the JS+Y (CC#01)...JS X controller group as the source.

Auto Transpose Range **[Continuous]**

Controls the amount of transposition for the auto transpose function.

When “AutoTranspose On/Off” is **on**, playing chord data for each KARMA module within the keyboard range specified as the “Auto Transpose Range” source will automatically transpose the current chord, rather than enter a new chord.

Note: Select the source from the Short Note...Black Note note group. The **Polarity** (7–7b) setting will be ignored. If you select a source from the JS+Y (CC#01)...JSX controller group or the Velocity...Velocity Outside Zone velocity group, it will not be possible to control the transpose amount of the auto transpose function.

Examples of use

Settings (Program mode)

Dynamic MIDI 1 **Source** (7–7b): **KARMA Switch 1**
 Dynamic MIDI 1 **Bottom** (7–7b): **000**
 Dynamic MIDI 1 **Top** (7–7b): **127**
 Dynamic MIDI 1 **Action** (7–7b): **Momentary**
 Dynamic MIDI 1 **Destination** (7–7b): **AutoTranspose On/Off**
 Dynamic MIDI 1 **Polarity** (7–7b): **+**
 Dynamic MIDI 2 **Source** (7–7b): **Note**
 Dynamic MIDI 2 **Bottom** (7–7b): **000 (C-1)**
 Dynamic MIDI 2 **Top** (7–7b): **060 (C4)**

Dynamic MIDI 2 **Action** (7–7b): **C**
 Dynamic MIDI 2 **Destination** (7–7b): **AutoTranspose Range**

Dynamic MIDI 2 **Polarity** (7–7b): **+**

1. Turn on the KARMA function, and play the keyboard. Play a Cmaj7 chord.

The KARMA function will generate a phrase according to the selected GE and the settings of the KARMA module.

2. Turn on KARMA SWITCH 1.

The auto transpose function will be turned on. The Cmaj7 chord will be remembered.

3. When you play a note number in the range specified by Bottom and Top (7–7b), the Cmaj7 chord will be transposed with that note as the root.

If you play D3, the KARMA function will generate a phrase based on Dmaj7. If you play E3, the phrase will be based on Emaj7.

4. Turn off KARMA SWITCH 1. The auto transpose function will be turned off, and the KARMA function will resume normal operation.

Module Stop **[Momentary]**

Controls KARMA module stop.

Operating the selected source controller when the KARMA function is operating will stop the playback of the KARMA Module. (The KARMA function will remain on.) When you apply a trigger (for example by playing the keyboard), the module will resume functioning.

Melodic Repeat Stop **[Momentary]**

Allows additional notes generated by the “Melodic Repeat” feature to be stopped. This is valid only when the GE selected by the KARMA module uses the “Melodic Repeat” function.

Example

Some GEs (but not all of them) utilize “Melodic Repeat” to generate additional repeated notes from the notes that are generated. The repeated notes created by “Melodic Repeat” will normally continue playing their specified number for repeats even when you turn off the KARMA ON/OFF switch.

If you want the repeated notes to stop immediately when you turn the KARMA function off, use the KARMA ON/OFF switch to control Repeat Stop.

Settings (Program mode)

Dynamic MIDI 1 Source (7-7b):	KARMA On/Off
Dynamic MIDI 1 Bottom (7-7b):	000
Dynamic MIDI 1 Top (7-7b):	127
Dynamic MIDI 1 Action (7-7b):	Momentary
Dynamic MIDI 1 Destination (7-7b):	Repeat Stop
Dynamic MIDI 1 Polarity (7-7b):	-

Module Stop & Repeat Stop [Momentary]

Combines the effects of Module Stop and Melodic Repeat Stop (above), so that all note generation from the assigned module(s) will be immediately terminated.

Note: You can use a source from any of the three groups, but typically it will be the Controller Group.

Module Pause [Momentary, Toggle]

Operating the selected source controller when the KARMA function is operating will pause the playback of the KARMA Module.

When the KARMA module parameter “Run” (Combination/Sequencer 7-1c) is turned Off (unchecked), the KARMA module will continue operating internally without pausing. This means that when “Run” is turned On (checked), the phrase or pattern will not resume from where the phrase or pattern had stopped, but rather the phrase or pattern will continue playing from the moment at which the setting was turned On. In contrast, Dynamic MIDI Module Pause makes the phrase or pattern resume playing from where it was stopped.

Example

Move the joystick in the +Y direction to pause and then resume the phrase produced by the currently-operating KARMA module.

Settings (Program mode)

Dynamic MIDI 1 Source (7-7b):	JS+Y (CC#01)
Dynamic MIDI 1 Bottom (7-7b):	000
Dynamic MIDI 1 Top (7-7b):	127
Dynamic MIDI 1 Action (7-7b):	Momentary
Dynamic MIDI 2 Destination (7-7b):	Module Pause
Dynamic MIDI 2 Polarity (7-7b):	+

When you move the joystick all the way in the +Y direction, the phrase will pause. When you return the joystick to the center, the phrase will resume playing.

Chord Scan [Continuous]

Control the chord analysis that controls the phrase or pattern generated by the KARMA module.

Normally, each KARMA module detects chords by notes that are input in the key zone (Program 7-1a, Combination/Sequencer 7-1b) specified for each module. Instead of this key zone, you can control chord detection using the note range specified by the **Bottom** and **Top** (7-7b) of the source.

Chord analysis affects the operation of the following GE parameters. (ⓂGE Guide)

- Note Series Group: “Chord Shift”
- Note Series Group: “Note Type” Scalic or Scalic 2
- Note Series Group: “Filter Notes”
- CCs/Pitch Group: “Chord Shift”

- Repeat Group: “Chord Shift”
- Drum Group: “NTT (Note Table Transposition) On/Off”

⚠ For KARMA modules affected by the Chord Scan specified here, the key zone note input specified for each module will not be used for chord detection on that module.

Note: Select the Note, Note Inside Zone, or Note Outside Zone note group as the source. The **Polarity** (7-7b) setting will be ignored. Chord analysis cannot be controlled if you select a source from the JS+Y (CC#01)...JS X controller group, a note group other than the above, or the Velocity...Velocity Outside Zone Velocity group.

Example

Select a GE of “GE Type” 3: Real-Time (ⓂVNL), and use the keyboard to input the chord that will control the phrase or notes being played by Melodic Repeat.

Settings (Program mode)

Dynamic MIDI 1 Source (7-7b):	Note Outside Zone
Dynamic MIDI 1 Action (7-7b):	Continuous
Dynamic MIDI 1 Destination (7-7b):	Chord Scan
KeyZone Btm (7-1a):	C4
KeyZone Top (7-1a):	C9

Play the high range of the keyboard above C4 (specified as the key zone) to trigger phrases and notes produced by the KARMA function. At this time, play the lower range of the keyboard to control the chord of the phrase or notes in realtime. (Playing the lower range of the keyboard will not produce sound, but will only control the chord.) This allows you to play the lower range of the keyboard to vary the chord while “Melodic Repeat” is producing an extended phrase, letting you control the development of the phrase.


Smart Scan [Continuous]

As with Chord Scan, this controls the chord analysis that controls the phrase or pattern generated by the KARMA module.

Normally, each KARMA module will detect chords from notes that are input in the key zone specified for each module (Program 7-1a, Combination/Sequencer 7-1b). Instead of this key zone, you can use notes in the range specified by the source **Bottom** and **Top** (7-7b) to control chord detection.

Note input by key zone or chord detection by Chord Scan requires one or more notes, while Smart Scan requires three or more notes to be input in a given area. In general when you perform using both hands, the chord will change when you play three or more notes in either hand. For example if you press C4 for key zone note input or Chord Scan, the chord will be detected as C maj. In contrast, Smart Scan will not detect a chord when you press C4, but will (for example) detect C Maj when you simultaneously press C4/E4/G4.

In addition, Smart Scan takes into consideration the keyboard location and number of notes that are played, allowing more sophisticated and intuitive control of the timing of chord detection and the bass note handling.

 Note input in the key zone specified for each module will not be used for normal chord detection on KARMA modules for which Smart Scan is operating. If Smart Scan and Chord Scan are specified simultaneously, the Chord Scan note range will also be handled as the Smart Scan note range.

Note: Select a source from the Note, Note Inside Zone, or Note Outside Zone note group. The **Polarity** (7-7b) settings will be ignored. Chord analysis can not be controlled if you select the source from the JS+Y (CC#01)...JS X controller group, a note group other than listed above, or the Velocity...Velocity Outside Zone Velocity group.

Example

Play a chord in either the left hand or right hand to control the phrase or pattern generated by the KARMA module. In this example, we will use the right hand to play a solo phrase, and the left hand to play a bass riff etc. in realtime without changing the chord. This example assumes a GE is setup full-range over the entire keyboard, with Thru In Zone turned on.

Settings (Program mode)

Dynamic MIDI 1 Source (7-7b):	Note
Dynamic MIDI 1 Bottom (7-7b):	000
Dynamic MIDI 1 Top (7-7b):	127
Dynamic MIDI 1 Action (7-7b):	Continuous
Dynamic MIDI 1 Destination (7-7b):	Smart Scan

Using your left hand, play three or more notes to control the chord. If you wish to use your right hand to play a solo part in the high keyboard range, the chord will not change as long as you keep a certain distance from the left hand and play only two notes or less.

In the same way, use your right hand to play three or more notes in the upper range of the keyboard to control the chord. You can use your left hand to play a bass line in the lower range of the keyboard without changing the chord.

Chord detection will not occur while the KARMA module is receiving damper on. When you press the damper pedal, chord detection will be locked, and notes you add while the damper is on will not change the chord.

Clock Advance [Momentary, Toggle, Continuous]

This lets you use a controller such as the joystick or note-on/off operations to trigger the clock by which the KARMA function operates, thus using Manual Advance to advance the phrase or pattern.

Set the "Clock Advance Mode" (7-3b) of the KARMA module being controlled to Dyn, Auto+Dyn1, or Auto+Dyn2.

Note: If you select the source from the Short Note...Black Note note group or Velocity...Velocity Outside Zone Velocity group, set **Action** (7-7b) to C. (p.36)

Examples

Setting 1 (Program mode)

Control by joystick operations.

Dynamic MIDI 1 Source (7-7b):	JS+Y (CC#01)
Dynamic MIDI 1 Bottom (7-7b):	000

Dynamic MIDI 1 Top (7-7b):	127
Dynamic MIDI 1 Action (7-7b):	Momentary
Dynamic MIDI 1 Destination (7-7b):	Clock Advance
Dynamic MIDI 1 Polarity (7-7b):	+
Clock Advance Mode (7-3b):	Dyn

Setting 2 (Program mode)

Use note-on/off played in the upper range of the keyboard to advance the phrase generated by playing chords in the lower range of the keyboard (specified by the key zone).

Dynamic MIDI 1 Source (7-7b):	Note Outside Zone
Dynamic MIDI 1 Action (7-7b):	Continuous
Dynamic MIDI 1 Destination (7-7b):	Clock Advance
Dynamic MIDI 1 Polarity (7-7b):	+
Clock Advance Mode (7-3b):	Dyn
KeyZone Btm (7-1a):	C-1
KeyZone Top (7-1a):	B3
KeyZone Thru In Z (7-1a):	Off (unchecked)
KeyZone Thru Out Z (7-1a):	Off (unchecked)

Trigger Notes & Envs [Momentary, Toggle, Continuous]


Trigger Notes [Momentary, Toggle, Continuous]

Trigger Env 1 [Momentary, Toggle, Continuous]

Trigger Env 2 [Momentary, Toggle, Continuous]

Trigger Env 3 [Momentary, Toggle, Continuous]

Control triggering of GE phrases and/or Envelopes 1/2/3 of the KARMA module. With Trigger Notes & Envs, GE phrases and Envelopes 1/2/3 will all be triggered. Other settings allow these to be triggered individually.

 If you are using a GE that does not use envelopes, the envelope-related settings made here will be ignored. (VNL)

Direct Index [Continuous]

Direct index is a function that uses controllers or notes to specify which notes of the GE Phrase will be generated.

Note: Normally you will select a source from the JS+Y (CC#01)...JS X controller group or the Short Note...Black Note note group.

The GE uses note data from the keyboard to internally create a "Note Series" from which phrases and patterns are generated according to a variety of internal parameter settings. You can use a controller to "sweep" the Note Series directly, or directly index any note in it with the note-on/off operation assigned here.

Direct Index & Mdl Stop [Continuous]

Simultaneously with controlling **Direct Index** (described above), this also controls the Module Stop function. The currently-running KARMA module will stop when the first Direct Indexed note is generated.

Note: Normally you should select a source from the JS+Y (CC#01)...JS X controller group or the Short Note...Black Note note group.

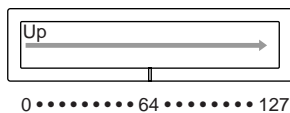
Use this when you wish to stop the phrase or pattern played by the KARMA module and simultaneously switch to realtime note generation by Direct Index.

Direct Index 1 Way [Continuous]

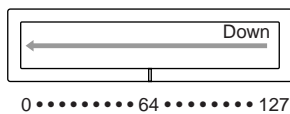
The same as Direct Index (above), but only functions in one direction of the selected controller. In other words, if you were to assign a joystick to the normal Direct Index setting above, the notes would sweep as you move the joystick in one direction, and then sweep back again as you return the joystick in the other direction. With Direct Index 1 Way, the release does not cause any note generation in the return direction - it only indexes in one direction of movement. This is also quite useful with the Ribbon #16 setting, since unless "Ribbon Lock" is turned on, releasing the finger at one end of the ribbon will "snap back" to the center value, creating spurious notes on release (unless this setting is used).

The **Polarity** setting choose which direction it operates in. The following example shows the Dynamic MIDI Source set to "Ribbon #16". (Moving in the opposite direction from what is shown produces no action.)

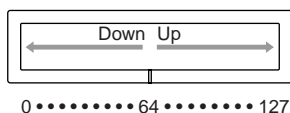
Polarity = +:



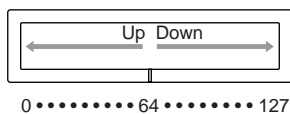
Polarity = -:



Polarity = +/-:



Polarity = -/+:



Note: Normally you should select a source from the JS+Y (CC#01)...JS X controller group.

Dir.Idx 1 Way & Mdl Stop [Continuous]

Simultaneously with controlling Direct Index 1 Way (described above), this also controls the Module Stop function. The currently-running KARMA module will stop when the first Direct Indexed note is generated.

Note: Normally you should select a source from the JS+Y (CC#01)...JS X controller group,

Use this when you wish to stop the phrase or pattern played by the KARMA module and simultaneously switch to realtime note generation by Direct Index.

BufferLatch [Momentary, Toggle]

When on, allows input notes to be added to the group of input notes that is causing the KARMA phrase to be generated, even if you release the notes while playing them.

Note: Normally you should select a source from the JS+Y (CC#01)...JS X controller group.

Normally, playing a single C4 note will input just C4 to the KARMA module, controlling the phrase or pattern. If you release the C4 and then play a single B4 note, just B4 will be input to the KARMA module. However, if you turned Buffer Latch on when you played the single C4 note, the KARMA module will maintain the C4 even when you release the keyboard, so that when you play a single B4 note, the B4 will be added. C4 and B4 will be input to the KARMA module, controlling the phrase or pattern.

Example

Settings (Program mode)

Dynamic MIDI 1 Source (7-7b): **Damper(CC#64)**
 Dynamic MIDI 1 Bottom (7-7b): **000**
 Dynamic MIDI 1 Top (7-7b): **127**
 Dynamic MIDI 1 Action (7-7b): **Momentary**
 Dynamic MIDI 1 Destination (7-7b): **BufferLatch**
 Dynamic MIDI 1 Polarity (7-7b): **+**
 Receive MIDI Filter Damper (CC#64) (7-2a): **Off (unchecked)**

1. With the KARMA function on, play the keyboard. Hold down the damper pedal, and play C4. The chord will be detected as Cmaj, and a phrase based on Cmaj will be played.
2. While continuing to hold down the damper pedal, play B4. The chord will be detected as Cmaj7. If you were not using Buffer Latch, the chord would be detected as Bmaj.
3. Notes will be added until you release the damper pedal and play the keyboard.

Since Receive MIDI Filter "Damper (CC#64)" is turned **Off (unchecked)** in this example, the damper pedal will not produce the conventional damper effect when the KARMA function is **on**.

Use this when you want to add notes in this way to modify the phrase or pattern.

MIDI transmission from OASYS controllers

The following tables show the relation between the MIDI messages that are transmitted when the OASYS's controllers are operated, and the AMS (alternate modulation source) or DMS (dynamic modulation source) that correspond to each MIDI message.

indicates a fixed function, and * indicates an assignable function.

When one of the OASYS's controllers is operated, the corresponding or the assigned control change will be transmitted.

If you choose KARMA RTC Slider 1–8, KARMA RTC SW 1–8, or PAD 1–8, its MIDI control change message will be transmitted according to the settings in Global P2– Controller (2–1b).

The following sections describe operation in each mode.

Appendices

MIDI Messages and physical controllers

CC#	MIDI messages	VJS	VJS-CC Control	Realtime Knob 5-8	KARMA					Pads 1-8	Foot Switch	Foot Pedal	Available for AMS	Available for Dmod
					On/Off	Latch	Scene	SW 1-8	Sliders 1-8					
	Note-off													
	Note-on (note number)												*	*
	Note-on (velocity)												*	*
	Program change													
	Channel after touch												*	*
	Poly after touch												*	*
	Pitch Bend												*	*
0	Bank select (MSB)	*	*	*	*	*	*	*	*	*				
1	Modulation 1	*	*	*	*	*	*	*	*	*	*	*	*	*
2	Modulation 2	*	*	*	*	*	*	*	*	*	*	*	*	*
3	-	*	*	*	*	*	*	*	*	*				
4	Foot controller	*	*	*	*	*	*	*	*	*		*	*	*
5	Portamento time	*	*	*	*	*	*	*	*	*		*		
6	Data entry (MSB)	*	*	*	*	*	*	*	*	*				
7	Volume	*	*	*	*	*	*	*	*	*		*		
8	Post Insert Effect panpot	*	*	*	*	*	*	*	*	*		*		
9	-	*	*	*	*	*	*	*	*	*				
10	Panpot	*	*	*	*	*	*	*	*	*		*		
11	Expression	*	*	*	*	*	*	*	*	*		*		
12	Effect control 1	*	*	*	*	*	*	*	*	*		*		*
13	Effect control 2	*	*	*	*	*	*	*	*	*		*		*
14	KARMA On/Off button	*	*	*	(*)	*	*	*	*	*	(1)			
15	-	*	*	*	*	*	*	*	*	*				
16	Ribbon controller	*	*	*	*	*	*	*	*	*		*	*	*
17	Knob modulation 5	*	*	*	*	*	*	*	*	*		*	*	*
18	Controller (CC#18)	*	*	*	*	*	*	*	*	*		*	*	*
19	Knob modulation 6	*	*	*	*	*	*	*	*	*		*	*	*
20	Knob modulation 7	*	*	*	*	*	*	*	*	*		*	*	*
21	Knob modulation 8	*	*	*	*	*	*	*	*	*		*	*	*
22	KARMA Slider 1	*	*	*	*	*	*	*	(*) SL1	*	(1)	(1)		
23	KARMA Slider 2	*	*	*	*	*	*	*	(*) SL2	*	(1)	(1)		
24	KARMA Slider 3	*	*	*	*	*	*	*	(*) SL3	*	(1)	(1)		
25	KARMA Slider 4	*	*	*	*	*	*	*	(*) SL4	*	(1)	(1)		
26	KARMA Slider 5	*	*	*	*	*	*	*	(*) SL5	*	(1)	(1)		
27	KARMA Slider 6	*	*	*	*	*	*	*	(*) SL6	*	(1)	(1)		
28	KARMA Slider 7	*	*	*	*	*	*	*	(*) SL7	*	(1)	(1)		
29	KARMA Slider 8	*	*	*	*	*	*	*	(*) SL8	*	(1)	(1)		
30	KARMA SCENE 1-8 buttons	*	*	*	*	*	(*)	*	*	*	(1)			
31	KARMA LATCH On/Off button	*	*	*	*	(*)	*	*	*	*	(1)			
32	Bank select (LSB)	*	*	*	*	*	*	*	*	*				
33... 37	-	*	*	*	*	*	*	*	*	*				
38	Data entry (LSB)	*	*	*	*	*	*	*	*	*				
39... 63	-	*	*	*	*	*	*	*	*	*				
64	Damper	*	*	*	*	*	*	*	*	*		*	*	*
65	Portamento On/Off	*	*	*	*	*	*	*	*	*		*	*	*
66	Sostenuto	*	*	*	*	*	*	*	*	*		*	*	*
67	Soft pedal	*	*	*	*	*	*	*	*	*		*	*	*
68... 69	-	*	*	*	*	*	*	*	*	*				
70	Sustain level	*	*	*	*	*	*	*	*	*		*	*	*
71	Filter resonance level	*	*	*	*	*	*	*	*	*		*	*	*
72	Release time	*	*	*	*	*	*	*	*	*		*	*	*
73	Attack time	*	*	*	*	*	*	*	*	*		*	*	*
74	Filter cutoff frequency	*	*	*	*	*	*	*	*	*		*	*	*
75	Decay time	*	*	*	*	*	*	*	*	*		*	*	*
76	LFO1 speed	*	*	*	*	*	*	*	*	*		*	*	*
77	LFO1 depth (pitch)	*	*	*	*	*	*	*	*	*		*	*	*
78	LFO1 delay	*	*	*	*	*	*	*	*	*		*	*	*

MIDI transmission from OASYS controllers Dynamic MIDI Destinations

CC#	MIDI messages	VJS	VJS-CC Control	Realtime Knob 5-8	KARMA					Pads 1-8	Foot Switch	Foot Pedal	Available for AMS	Available for Dmod
					On/Off	Latch	Scene	SW 1-8	Sliders 1-8					
79	Filter EG intensity	*	*	*	*	*	*	*	*	*	*	*	*	*
80	SW1 modulation On/Off	*	*	*	*	*	*	*	*	*	*	*	*	*
81	SW2 modulation On/Off	*	*	*	*	*	*	*	*	*	*	*	*	*
82	Foot switch On/Off	*	*	*	*	*	*	*	*	*	*	*	*	*
83	Controller (CC#83)	*	*	*	*	*	*	*	*	*	*	*	*	*
84	-	*	*	*	*	*	*	*	*	*	*	*	*	*
85	Vector joystick modulation +X	*	*	*	*	*	*	*	*	*	*	*	*	*
86	Vector joystick modulation -X	*	*	*	*	*	*	*	*	*	*	*	*	*
87	Vector joystick modulation +Y	*	*	*	*	*	*	*	*	*	*	*	*	*
88	Vector joystick modulation -Y	*	*	*	*	*	*	*	*	*	*	*	*	*
89...	-	*	*	*	*	*	*	*	*	*	*	*	*	*
90	-	*	*	*	*	*	*	*	*	*	*	*	*	*
91	Effect depth 1 (send 2 level)	*	*	*	*	*	*	*	*	*	*	*	*	*
92	Effect depth 2 (Insert Effect 1-12 On/Off)	*	*	*	*	*	*	*	*	*	*	*	*	*
93	Effect depth 3 (send 1 level)	*	*	*	*	*	*	*	*	*	*	*	*	*
94	Effect depth 4 (master effect 1, 2 On/Off)	*	*	*	*	*	*	*	*	*	*	*	*	*
95	Effect depth 5 (total effect 1, 2 On/Off)	*	*	*	*	*	*	*	*	*	*	*	*	*
96	Data increment	*	*	*	*	*	*	*	*	*	*	*	*	*
97	Data decrement	*	*	*	*	*	*	*	*	*	*	*	*	*
98	NRPN(LSB)	*	*	*	*	*	*	*	*	*	*	*	*	*
99	NRPN(MSB)	*	*	*	*	*	*	*	*	*	*	*	*	*
100	RPN(LSB)	*	*	*	*	*	*	*	*	*	*	*	*	*
	0: Bend range	*	*	*	*	*	*	*	*	*	*	*	*	*
	1: Fine tune	*	*	*	*	*	*	*	*	*	*	*	*	*
	2: Coarse tune	*	*	*	*	*	*	*	*	*	*	*	*	*
101	RPN(MSB) 0	*	*	*	*	*	*	*	*	*	*	*	*	*
102	KARMA SW1	*	*	*	*	*	*	#SW1	*	*	*	*(1)	*	*
103	KARMA SW2	*	*	*	*	*	*	#SW2	*	*	*	*(1)	*	*
104	KARMA SW3	*	*	*	*	*	*	#SW3	*	*	*	*(1)	*	*
105	KARMA SW4	*	*	*	*	*	*	#SW4	*	*	*	*(1)	*	*
106	KARMA SW5	*	*	*	*	*	*	#SW5	*	*	*	*(1)	*	*
107	KARMA SW6	*	*	*	*	*	*	#SW6	*	*	*	*(1)	*	*
108	KARMA SW7	*	*	*	*	*	*	#SW7	*	*	*	*(1)	*	*
109	KARMA SW8	*	*	*	*	*	*	#SW8	*	*	*	*(1)	*	*
110	PAD1 trigger velocity	*	*	*	*	*	*	*	*	[*]PAD1				
111	PAD2 trigger velocity	*	*	*	*	*	*	*	*	[*]PAD2				
112	PAD3 trigger velocity	*	*	*	*	*	*	*	*	[*]PAD3				
113	PAD4 trigger velocity	*	*	*	*	*	*	*	*	[*]PAD4				
114	PAD5 trigger velocity	*	*	*	*	*	*	*	*	[*]PAD5				
115	PAD6 trigger velocity	*	*	*	*	*	*	*	*	[*]PAD6				
116	PAD7 trigger velocity	*	*	*	*	*	*	*	*	[*]PAD7				
117	PAD8 trigger velocity	*	*	*	*	*	*	*	*	[*]PAD8				
118	Vector joystick X	[*](X)	*	*	*	*	*	*	*	*	*	*	*	*
119	Vector joystick Y	[*](Y)	*	*	*	*	*	*	*	*	*	*	*	*
Universal exclusive														
	Master volume			*								*		
	Master balance													
	Master fine tune													
	Master coarse tune													

(1): When a KARMA controller is assigned to a CC# indicated by [*] (Global P2- Controller)

#: Fixed
*: Assignable

[*]: The vector joystick, KARMA realtime controls, and chord trigger controllers can be assigned to CC#00–119. CC#s indicated by [*] will be assigned automatically when you execute the Global P2–Controller page menu command “Reset Controller MIDI Assign” with the CC Default setting.

The CC Default settings are the CC#s recommended as the CC# for each of these controllers. Normally you should use these settings when assigning CC#s.

Fixed assignments

The following physical controls have fixed assignments to MIDI CCs:

Joystick +Y	Modulation 1 (CC#1)
Joystick -Y	Modulation 2 (CC#2)
Joystick X	Pitch Bend
Value Slider	CC#18
Realtime Knob 1	Filter cutoff frequency (CC#74)
Realtime Knob 2	Filter resonance (CC#71)
Realtime Knob 3	Filter EG intensity (CC#79)
Realtime Knob 4	Release time (CC#72)
SW1	SW1 modulation On/Off (CC#80)
SW2	SW2 modulation On/Off (CC#81)
Ribbon Controller	Ribbon controller (CC#16)
Damper pedal	Damper (CC#64)

Program mode

When one of the OASYS’s controllers is operated, a control change message will be transmitted on the global MIDI channel (**MIDI Channel** Global 1–1a).

- ⚡ If the REALTIME KNOBS 1–8 or the assignable pedal has been set to **Master Volume**, the universal system exclusive message Master Volume will be transmitted.

Combination mode

When one of the OASYS’s controllers is operated, a control change message will be transmitted on the global MIDI channel (**MIDI Channel** Global 1–1a).

Simultaneously, the message will also be transmitted on the MIDI channel (**MIDI Channel** Combination 2–1a) of any timbre whose **Status** (Combination 0–1b, 2–1a) is EXT or EX2.

When one of the OASYS’s controllers is operated, its effect will apply to any timbre whose **Status** is INT and whose **MIDI Channel** setting is either Gch or the same as the global MIDI channel.

- ⚡ In the case of Master Volume, the universal exclusive message Master Volume will be transmitted only on the global MIDI channel.
- ⚡ You can make settings for MIDI Filter (Combination P3) to enable or disable control changes and controllers for each timbre. When checked, the above operations will be enabled.

Effect dynamic modulation can be controlled when the **Ch** (Channel) setting for IFX1–12, MFX1, 2, or TFX 1, 2 is either set to Gch or to the same channel as the global MIDI channel. (In the case of All Routed, control is possible on the MIDI channel of any routed timbre.)

KARMA modules A, B, C, and D can be controlled if the Input Channel and Output Channel (Combination 7–1c) settings specified for each module are Gch or match the global channel.

Sequencer mode

When one of the OASYS’s controllers is operated, its effect will apply to the MIDI track 1–16 that is selected by **Track Select** (Sequencer 0–1a).

If the **Status** (Sequencer 2–1a) of the track selected by **Track Select** is EXT, EX2, or BTH, a control change message will be transmitted on the MIDI channel specified by **MIDI Channel** (Sequencer 2–1a).

If the **Status** is INT or BTH, operating one of the OASYS’s controllers will affect only that MIDI track. Simultaneously, the same effect will also apply to any MIDI track with the same **MIDI Channel** setting.

- ⚡ In the case of Master Volume, the universal exclusive message Master Volume will be transmitted.
- ⚡ You can make settings for MIDI Filter (Sequencer P3) to enable or disable control changes and controllers for each track. When checked, the operations effective for a **Status** of INT or BTH will be enabled. Tracks whose **Status** is EXT, EX2, or BTH will transmit control changes regardless of this setting.

Effect dynamic modulation can be controlled when the **Ch** (Sequencer 8–7a, 9–2a, 9–3, 9–4) setting for IFX1–12, MFX1, 2, or TFX1, 2 matches the MIDI channel of the track selected by **Track Select**. (In the case of All Routed, control is possible on the MIDI channel of all routed tracks.)

If one of the OASYS’s controllers is operated during realtime recording, the corresponding or assigned control change will be recorded.

KARMA modules A, B, C, and D can be controlled if the Input Channel and Output Channel (Sequencer 7–1c) settings specified for each module are Tch or match the MIDI channel of the MIDI track selected by Track Select.

Sampling mode

When one of the OASYS’s controllers is operated, a control change message will be transmitted on the global MIDI channel (**MIDI Channel** Global 1–1a).

- ⚡ In the case of Master Volume, the universal exclusive message Master Volume will be transmitted.
- ⚡ It is not possible to make AMS settings in Sampling mode.

OASYS and MIDI CCs

Responses to standard MIDI controllers

The following table shows how the OASYS responds to MIDI control change messages, and the relation between settings and controller movements on the OASYS.

CC# 0	Bank select (MSB)	0...127	bank select message MSB	*1
1	Modulation 1	0...127	corresponds to joystick movement in the +Y direction (Vertical upward)	
2	Modulation 2	0...127	corresponds to joystick movement in the -Y direction (Vertical downward)	
3	-	-	-	
4	Foot controller	0...127	corresponds to when the assignable pedal function is set to Foot Pedal	
5	Portamento time	0...127	portamento time	
6	Data entry (MSB)	0...127	MSB of RPN and NRPN data	*2
7	Volume	0...127	volume	*3
8	Post Insert Effect pan	0...127	pan after the Insert Effect	
9	-	-	-	
10	Panpot	0...127	pan	
11	Expression	0...127	volume	*3
12	Effect control 1	0...127	corresponds to effect dynamic control source FX Control1	
13	Effect control 2	0...127	corresponds to effect dynamic control source FX Control2	
14	KARMA ON/OFF control	0...63(Off), 64...127(On)	Equivalent to on/off when CC#14 is assigned to the KARMA ON/OFF switches	*7
15	-	-	-	
16	Ribbon controller	0...127	corresponds to ribbon controller operation	
17	Knob modulation 5	0...127	corresponds to when Knob Mod.5 is assigned as the REALTIME knob 5-8	
18	Controller (CC#18)	0...127	for control of Alternate Modulation or Effect Dynamic Modulation	*8
19	Knob modulation 6	0...127	corresponds to when Knob Mod.6 is assigned as the REALTIME knob 5-8	
20	Knob modulation 7	0...127	corresponds to when Knob Mod.7 is assigned as the REALTIME knob 5-8	
21	Knob modulation 8	0...127	corresponds to when Knob Mod.8 is assigned as the REALTIME knob 5-8	
22	KARMA Slider 1	0...127	Equivalent to when CC#22 is assigned to KARMA realtime control slider 1	*7
23	KARMA Slider 2	0...127	Equivalent to when CC#23 is assigned to KARMA realtime control slider 2	*7
24	KARMA Slider 3	0...127	Equivalent to when CC#24 is assigned to KARMA realtime control slider 3	*7
25	KARMA Slider 4	0...127	Equivalent to when CC#25 is assigned to KARMA realtime control slider 4	*7
26	KARMA Slider 5	0...127	Equivalent to when CC#26 is assigned to KARMA realtime control slider 5	*7
27	KARMA Slider 6	0...127	Equivalent to when CC#27 is assigned to KARMA realtime control slider 6	*7
28	KARMA Slider 7	0...127	Equivalent to when CC#28 is assigned to KARMA realtime control slider 7	*7
29	KARMA Slider 8	0...127	Equivalent to when CC#29 is assigned to KARMA realtime control slider 8	*7
30	KARMA SCENE 1-8 buttons	0...7(Scene1...8), 8...127(Invalid)	Equivalent to when CC#14 is assigned to the KARMA SCENE 1-8 switches	*7
31	KARMA LATCH On/Off control	0...63(Off), 64...127(On)	Equivalent to on/off when CC#14 is assigned to the KARMA LATCH switch	*7

Appendices

32	Bank select (LSB)	0...127	LSB of bank select message	*1
33...37	–	–	–	
38	Data entry (LSB)	0...127	LSB of RPN or NRPN data	*2
39...63	–	–	–	
64	Damper	0...127	damper effect	
65	Portamento On/Off	0...63(Off), 64...127(On)	turn the portamento effect on/off	
66	Sostenuto On/Off	0...63(Off), 64...127(On)	turn the sostenuto effect on/off	
67	Soft	0...127	soft pedal effect	
68...69	–	–	–	
70	Sustain level	0...127	sustain levels of the filter EG and amp EG	*4
71	Filter resonance level	0...127	resonance level of the filter	*4
72	Release time	0...127	cutoff frequency of the high pass filter	*4
73	Attack time	0...127	release times of the filter EG and amp EG	*4
74	Filter cutoff frequency	0...127	cutoff frequency of the low pass filter	*4
75	Decay time	0...127	decay times/slope times of the filter EG and amp EG	*4
76	LFO1 speed	0...127	LFO1 speed	*4
77	LFO1 depth	0...127	pitch LFO1 intensity	*4
78	LFO1 delay	0...127	LFO1 delay	*4
79	Filter EG intensity	0...127	filter EG intensity	*4
80	SW1 modulation On/Off	0...63(Off), 64...127(On)	corresponds to on/off when the SW1 function is set to SW1 Mod.	
81	SW2 modulation On/Off	0...63(Off), 64...127(On)	corresponds to on/off when the SW2 function is set to SW2 Mod.	
82	Foot switch On/Off	0...63(Off), 64...127(On)	corresponds to on/off when the function of the assignable foot switch is set to Foot SW	
83	Controller (CC#83)	0...127	for controlling Alternate Modulation or Effect Dynamic Modulation	
84	–	–	–	
85	Vector joystick modulation +X	0...127	Equivalent to when the vector joystick CC control function is set to VJS +X Mod	
86	Vector joystick modulation –X	0...127	Equivalent to when the vector joystick CC control function is set to VJS –X Mod	
87	Vector joystick modulation +Y	0...127	Equivalent to when the vector joystick CC control function is set to VJS +Y Mod	
88	Vector joystick modulation –Y	0...127	Equivalent to when the vector joystick CC control function is set to VJS –Y Mod	
89...90	–	–	–	
91	Effect depth 1 (send 2 level)	0...127	send 2 level	
92	Effect depth 2 (Insert Effect 1–12 On/Off)	0...63(Off), 64...127(On)	turn Insert Effect 1...12 on/off	*5
93	Effect depth 3 (send 1 level)	0...127	send 1 level	
94	Effect depth 4 (master effect 1, 2 On/Off)	0...63(Off), 64...127(On)	master effect 1, 2 on/off	*5
95	Effect depth 5 (total effect 1, 2 On/Off)	0...63(Off), 64...127(On)	total effect 1, 2 on/off	*5
96	Data increment	0		
97	Data decrement	0		
98	NRPN(LSB)	–	LSB of NRPN	
99	NRPN(MSB)	–	MSB of NRPN	
100	RPN(LSB)	0	selects the pitch bend range	*2
		1	controls Fine Tune	*2
		2	controls Coarse Tune	*2
101	RPN(MSB)	0	MSB of RPN	
102	KARMA realtime control SW1 On/Off	0...63(Off), 64...127(On)	Equivalent to on/off when CC#102 is assigned to KARMA realtime control SW1	*7

103	KARMA realtime control SW2 On/Off	0...63(Off), 64...127(On)	Equivalent to on/off when CC#103 is assigned to KARMA realtime control SW2	*7
104	KARMA realtime control SW3 On/Off	0...63(Off), 64...127(On)	Equivalent to on/off when CC#104 is assigned to KARMA realtime control SW3	*7
105	KARMA realtime control SW4 On/Off	0...63(Off), 64...127(On)	Equivalent to on/off when CC#105 is assigned to KARMA realtime control SW4	*7
106	KARMA realtime control SW5 On/Off	0...63(Off), 64...127(On)	Equivalent to on/off when CC#106 is assigned to KARMA realtime control SW5	*7
107	KARMA realtime control SW6 On/Off	0...63(Off), 64...127(On)	Equivalent to on/off when CC#107 is assigned to KARMA realtime control SW6	*7
108	KARMA realtime control SW7 On/Off	0...63(Off), 64...127(On)	Equivalent to on/off when CC#108 is assigned to KARMA realtime control SW7	*7
109	KARMA realtime control SW8 On/Off	0...63(Off), 64...127(On)	Equivalent to on/off when CC#109 is assigned to KARMA realtime control SW8	*7
110	PAD1 trigger velocity	0...127	Equivalent to when CC#110 is assigned to PAD 1	*7
111	PAD2 trigger velocity	0...127	Equivalent to when CC#111 is assigned to PAD 2	*7
112	PAD3 trigger velocity	0...127	Equivalent to when CC#112 is assigned to PAD 3	*7
113	PAD4 trigger velocity	0...127	Equivalent to when CC#113 is assigned to PAD 4	*7
114	PAD5 trigger velocity	0...127	Equivalent to when CC#114 is assigned to PAD 5	*7
115	PAD6 trigger velocity	0...127	Equivalent to when CC#115 is assigned to PAD 6	*7
116	PAD7 trigger velocity	0...127	Equivalent to when CC#116 is assigned to PAD 7	*7
117	PAD8 trigger velocity	0...127	Equivalent to when CC#117 is assigned to PAD 8	*7
118	Vector joystick X	0...127	Equivalent to when CC#118 is assigned to the vector joystick X-axis	*8
119	Vector joystick Y	0...127	Equivalent to when CC#119 is assigned to the vector joystick Y-axis	*8

You can assign any control change number (CC#00–119) to the REALTIME KNOBS 5–8 or vector joystick CC control. Transmitted values will be in the range 0...127.

You can assign any control change number (CC#00–119) to the KARMA Realtime Control switches and sliders. Sliders 1–8 will transmit values of 0...127, scenes will transmit values of 0...7, and others will transmit values of 0 (Off) or 127 (On).

*1 In the OASYS sequencer, bank select messages are normally specified as part of program change events. In some cases, however, this may be insufficient when changing banks on an external device. In such cases, you can use CC#00 and CC#32 to specify the banks.

For information on the relation between bank select numbers and the banks of your external device, refer to the owner's manual for your external device.

*2 Unlike conventional control changes, pitch bend range, fine tune, and coarse tune settings are made using Registered Parameter Control (RPC) messages. In Program, Combination, Sequencer, and Sampling modes, you can use RPC messages to control the bend range and tuning for each program, Timbre (Combination), or Track (Sequencer).

The procedure is to use a Registered Parameter Number (RPN) message to select the parameter that you wish to edit, and then use Data Entry to input a value for that parameter. To select the parameter, use CC#100 (with a value of 00...02) and CC#101 (with a value of 00). use CC#06 and CC#38 to enter the data.

The data entry values for each parameter and the corresponding settings are as follows.

RPN=0 (Pitch bend range)

CC#06	CC#38	Parameter value (Semitone steps)
00	00	0
01	00	+ 1
⋮	⋮	⋮
12	0	+12

RPN=1 (Fine tune)

CC#06	CC#38	Parameter value (1 cent steps)
32	00	-50
⋮	⋮	⋮
48	00	-25
⋮	⋮	⋮
64	00	0
⋮	⋮	⋮
96	00	+50

RPN=2 (Coarse tune)

CC#06	CC#38	Parameter value (Semitone steps)
40	00	-24
⋮	⋮	⋮
52	00	-12
⋮	⋮	⋮
64	00	0
⋮	⋮	⋮
88	00	+24

For example, if in Sequencer mode you wish to set a MIDI track on channel 1 to a transpose (coarse tuning) value of -12, you would first transmit [B0, 64, 02] (64H=CC#100) and [B0, 65, 00] (65H=CC#101) to the OASYS to select the RPN coarse tune. Then you would set this to -12 by transmitting [B0, 06, 34] (06H=CC#6), 34H=52 (corresponds to -12), and [B0, 26, 00] (26H=CC#38, 00H=0).

*3 The volume of the OASYS is determined by multiplying Volume (CC#07) with Expression (CC#11). In Sequencer mode when you stop the song playback and return the location to the beginning of the track, the Volume will be set to the starting value, and the Expression will be set to the maximum value (127).

*4 A value of 64 will correspond to the value specified by the program parameter. 0 is the minimum, and 127 is the maximum. Changing from 63-1 or from 65-126 will adjust the effect from the program parameter setting toward the minimum value or maximum value.

For details about the specific parameters controlled by these CCs, please see "Parameters controlled by MIDI CCs #70-79" on page 1052.

*5 Controlled on the global MIDI channel.

*6 Corresponds to the operation of the VALUE slider as a controller when you've selected Program P0: "Program Select" or Combination P0: "Combination Select."

*7 When you assign a CC# to a KARMA CONTROLS slider or switch and operate that controller of the OASYS, the specified CC# will be transmitted and the OASYS will be controlled at the same time. When this CC# is received, the result will be the same as if you operated the OASYS itself.

The CC# settings for each slider and switch are made in the Global P2- Controller page. Normally you will turn this Off. Use these settings if you need to assign control change messages, for example when you want to record KARMA CONTROLS slider or switch operations on the internal sequencer or an external MIDI sequencer, or to control the KARMA function from an external MIDI device.

Each knob and key can be assigned to any desired MIDI control change message CC#00-119, but normally you will choose the Global P2 page menu command **Reset Controller MIDI Assign** and use the CC Default settings.

This table shows the operations for the CC Default settings. The CC Default settings are the CC#s recommended for use with these controllers. Normally, you will assign these CC#s.

*8 The X-axis and Y-axis of the vector joystick can each be assigned a desired CC#. These settings are made in the Global P2- Controller page. You can assign them to any desired MIDI control change message CC#00-119, but normally you will use CC#118 and CC#119 which are the default settings. Choose the Global P2 page menu command **Reset Controller MIDI Assign** and use the CC Default settings.

When you assign the desired CC# to the X-axis and Y-axis of the vector joystick and operate it, the specified CC# will be transmitted and the OASYS will be controlled at the same time. When this CC# is received, the result will be the same as if you operated the OASYS itself.

This table shows the operations for the default settings of CC#118 and CC#119. The CC Default settings are the CC#s recommended for use with these controllers. Normally, you will assign these CC#s.

Note: The above operations are for when Global MIDI

Vector MIDI Out is set to **Vector Joystick**. If "**Vector MIDI Out** is set to **Vector CC Control**, the CC#

specified here will not be transmitted. Nor will the OASYS respond when this CC# is received. Instead, the CC# specified by the Vector CC Control function for +X, -X, +Y, and -Y will be transmitted. For more information, see "Vector MIDI Out" on page 711.

Parameters controlled by MIDI CCs #70-79

MIDI CCs#70-79 have fixed assignments to control basic Program parameters, for quick and simple control of timbre. You can use these CCs from MIDI, or from the front-panel controls.

Realtime Knobs 1-4 are always assigned to four of these CCs, as shown below:

Knob 1	CC#74-Filter Cutoff
Knob 2	CC#71-Filter Resonance
Knob 3	CC#79-EG Intensity
Knob 4	CC#72-EG Release Time

Knobs 5-8 can be assigned to various functions, including any of the CCs#70-79.

The specific parameters controlled by the CCs will vary depending on the synth algorithm being used, as shown in the tables below:

- "HD-1" on page 1053
- "AL-1 and STR-1" on page 1053
- "CX-3" on page 1053
- "MS-20EX" on page 1054

- "PolysixEX" on page 1054
- "MOD-7" on page 1054

These CCs modulate the underlying parameters, instead of editing them directly. In most cases, a value of 64 (knob pointing straight up) is equal to the programmed parameter value; turning the CC down to 0 reduces the parameter to its minimum value, and turning the CC up to 127 increases the parameter to its maximum value. In other cases, such as some EG parameters, the action of the CC may be more complex.

In Program mode, these modulated values can be stored back into the parameters, if desired. Just use the **Write Program** menu command, and the modulation will be converted into the underlying parameter values, over-writing the previous settings. After doing this, the CCs will be reset to 64.

In Sampling mode, these CCs will modulate their parameters just as in Program mode. You can use the **Convert MS to Program** menu command to save the current state as a Program, in which case the modulation will be converted into the underlying parameter values.

In Combination and Sequencer modes, the CCs will modulate the parameters for all Timbres or Tracks on a given MIDI channel. However, edits made in this way cannot be saved back into a Program.

HD-1

CC#	Internal parameters controlled by the CC
70 (Sustain level)	Filter EG 1/2 Sustain (see page 70) Amp EG 1/2 Sustain (see page 79)
71 (Filter resonance)	Filter A/B, 1/2 Resonance (see page 63)
72 (Release time)	Filter EG 1/2 Release (see page 70) Amp EG 1/2 Release (see page 80)
73 (Attack time)	EG Times: Filter EG 1/2 Attack (see page 70) Amp EG 1/2 Attack (see page 80) Amp EG 1/2 Time Modulation: Attack (see page 81) EG Levels: Amp EG 1/2 Level Start (see page 79) Amp EG 1/2 Level Attack (see page 79) Amp EG 1/2 Level Modulation: Start (see page 81)
74 (Filter cutoff frequency)	Filter A/B, 1/2 Frequency (see page 62)
75 (Decay time)	Filter EG 1/2 Decay (see page 70) Filter EG 1/2 Slope (see page 70) Amp EG 1/2 Decay (see page 80) Amp EG 1/2 Slope (see page 80)
76 (LFO1 speed)	LFO 1 Frequency (see page 85)
77 (LFO1 Pitch intensity)	Pitch LFO1 Intensity (see page 56)
78 (LFO1 delay)	LFO 1 Delay (see page 86)
79 (Filter EG intensity)	Filter EG 1/2 Intensity to A (see page 66) Filter EG 1/2 Intensity to B (see page 67)

AL-1 and STR-1

70 (Sustain level)	EG 1 (Filter) Sustain (see page 204) Amp EG Sustain (see page 200)
71 (Filter resonance)	Filter A&B Resonance (see page 191)
72 (Release time)	EG 1 (Filter) Release (see page 204) Amp EG Release (see page 201)
73 (Attack time)	EG Times: EG 1 (Filter) Attack (see page 204) Amp EG Attack (see page 201) Amp EG Time Modulation: Attack (see page 201) EG Levels: Amp EG Start (see page 200) Amp EG Attack (see page 200) Amp EG Level Modulation: Start (see page 201)
74 (Filter cutoff frequency)	Filter A&B Frequency (see page 191)
75 (Decay time)	EG 1 (Filter) Decay (see page 204) EG 1 (Filter) Slope (see page 204) Amp EG Decay (see page 201) Amp EG Slope (see page 201)
76 (LFO1 speed)	LFO1 Frequency (see page 210)
77 (LFO1 Pitch intensity)	Pitch LFO Intensity (see page 185)
78 (LFO1 delay)	LFO1 Delay (see page 211)
79 (Filter EG intensity)	Filter A&B EG Intensity (see page 194)

CX-3

70...79	No supported parameters
---------	-------------------------

MS-20EX

70 (Sustain level)	EG2 SUSTAIN LEVEL (see page 295)
71 (Filter resonance)	LPF PEAK (see page 291)
72 (Release time)	EG2 RELEASE TIME (see page 295)
73 (Attack time)	EG2 ATTACK TIME (see page 295)
74 (Filter cutoff frequency)	LPF FREQUENCY (see page 291)
75 (Decay time)	EG2 DECAY TIME (see page 295)
76 (LFO1 speed)	LFO1 Frequency (see page 210)
77 (LFO1 Pitch intensity)	FREQUENCY MODULATION MG/T.EXT (see page 290)
78 (LFO1 delay)	LFO1 Delay (see page 211)
79 (Filter EG intensity)	LPF EG2/EXT (see page 291)

PolysixEX

70 (Sustain level)	PolysixEX EG SUSTAIN (see page 319)
71 (Filter resonance)	VCF RESONANCE (see page 318)
72 (Release time)	PolysixEX EG RELEASE (see page 319)
73 (Attack time)	PolysixEX EG ATTACK (see page 319)
74 (Filter cutoff frequency)	VCF CUTOFF (see page 318)
75 (Decay time)	PolysixEX EG DECAY (see page 319)
76 (LFO1 speed)	LFO1 Frequency (see page 210)
77 (LFO1 Pitch intensity)	VIBRATO INT (see page 317)
78 (LFO1 delay)	LFO1 Delay (see page 211)
79 (Filter EG intensity)	VCF EG INTENSITY (see page 318)

MOD-7

70 (Sustain level)	EG 8 (Filter) Sustain (see page 371) Amp EG Sustain (see page 200)
71 (Filter resonance)	Filter A&B Resonance (see page 191)
72 (Release time)	EG 8 (Filter) Release (see page 371) Amp EG Release (see page 201)
73 (Attack time)	EG Times: EG 8 (Filter) Attack (see page 371) Amp EG Attack (see page 201) Amp EG Time Modulation: Attack (see page 201) EG Levels: Amp EG Start (see page 200) Amp EG Attack (see page 200) Amp EG Level Modulation: Start (see page 201)
74 (Filter cutoff frequency)	Filter A&B Frequency (see page 191)
75 (Decay time)	EG 8 (Filter) Decay (see page 371) EG 8 (Filter) Slope (see page 204) Amp EG Decay (see page 201) Amp EG Slope (see page 201)
76 (LFO1 speed)	LFO1 Frequency (see page 210)
77 (LFO1 Pitch intensity)	EG 8 (Filter) Sustain (see page 371) Amp EG Sustain (see page 200)
78 (LFO1 delay)	Filter A&B Resonance (see page 191)
79 (Filter EG intensity)	Filter A&B EG Intensity (see page 194)

MIDI applications

About MIDI

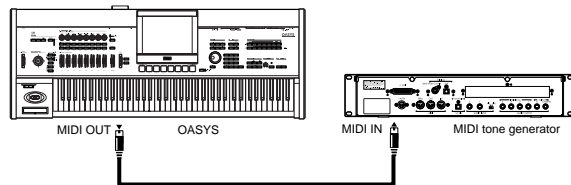
MIDI stands for Musical Instrument Digital Interface, and is a world-wide standard for exchanging various types of musical data between electronic musical instruments and computers. When MIDI cables are

used to connect two or more MIDI devices, performance data can be exchanged between the devices, even if they were made by different manufacturers.

Connecting MIDI devices & computers

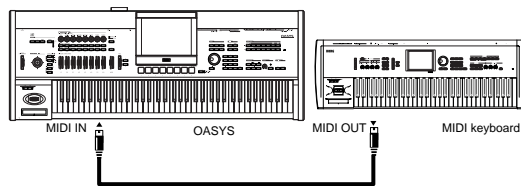
Controlling an external MIDI tone generator from the OASYS

When you wish to use the OASYS's keyboard, controllers, and sequencer etc. to play an external MIDI tone generator, use a MIDI cable to connect the OASYS's MIDI OUT connector to the MIDI IN connector of the external MIDI tone generator.



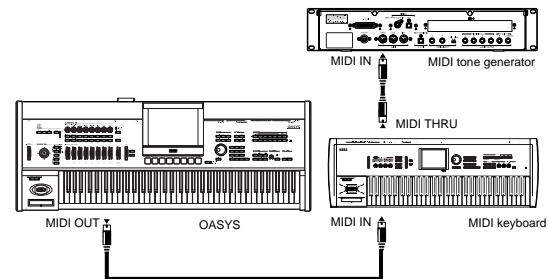
Controlling the OASYS's tone generator from an external MIDI device

When you wish to play or control the OASYS's tone generator from an external MIDI keyboard or sequencer etc., use a MIDI cable to connect the MIDI OUT connector of the external MIDI device to the MIDI IN connector of the OASYS.

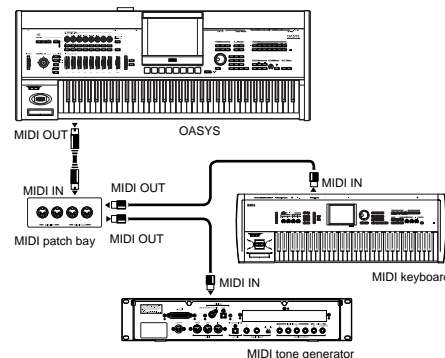


Controlling two or more external MIDI tone generators from the OASYS

You can use the MIDI THRU jack to simultaneously control multiple MIDI devices. (This type of connection should be used to connect no more than three devices. If you wish to connect a larger number of MIDI devices, we recommend that you use a MIDI patch bay as shown in the second diagram below.)



You can also use a MIDI patch bay to control multiple MIDI devices.



The "Convert Position" setting

On the OASYS, **Key Transpose**, **Velocity Curve** and **After Touch Curve** (Global 0–1a) allow you to transpose the pitch, adjust the velocity sensitivity, and adjust the after touch sensitivity.

The effect that these settings will have on the internal sequencer and on the MIDI data that is transmitted and received will depend on "Convert Position" (Global 1–1a) setting.

- If you want to control an external MIDI tone generator from the OASYS, set "Convert Position" to PreMIDI. The various settings listed above will be reflected in the MIDI data that is transmitted. These settings will also be reflected in the data that is recorded on the internal sequencer.

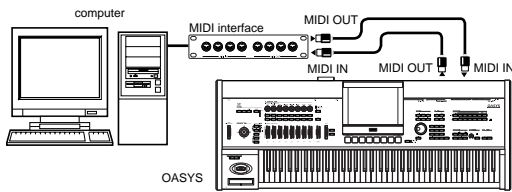
Incoming MIDI data will be handled with settings equivalent to **Key Transpose 0**, **Velocity Curve 4**, and **After Touch Curve 3**.

- When controlling the OASYS's tone generator from an external MIDI device, select PostMIDI. The above-listed settings will affect the MIDI data that is received. These settings will also affect the data that is played back from the internal sequencer.

Outgoing MIDI data will be handled with settings equivalent to **Key Transpose 0**, **Velocity Curve 4**, and **After Touch Curve 3**.

Connecting an external MIDI sequencer or computer

You can play the OASYS's keyboard and record your performance on an external MIDI sequencer/computer (connected via a MIDI interface), and then play back the recorded performance to sound the OASYS's tone generator (i.e., using the OASYS as an input keyboard and MIDI tone generator). To do this, connect the MIDI OUT and MIDI IN connectors of the OASYS and your external MIDI sequencer/ computer to each other.



Local Control On settings

When connections are made as shown above, turn on the Echo Back function of the external MIDI sequencer or computer (so that data received at MIDI IN will be re-transmitted from MIDI OUT), and turn off the OASYS's Local Control setting (so that the OASYS's keyboard and tone generator will be internally disconnected).

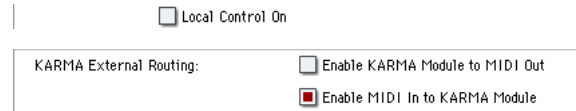
When you play the keyboard of the OASYS, the musical data will be transmitted to the external MIDI sequencer or computer, and then echoed back to play the OASYS's tone generator. In other words, by turning Local Control OFF, you can prevent notes from being sounded in duplicate, as would otherwise occur if a note were sounded by the OASYS's own keyboard and again by the data that was echoed-back.

To turn off Local Control, press the "Local Control On" (Global P1: 1-1a) check box to uncheck it.

When using the OASYS by itself, leave Local Control turned on. (If this is off when the OASYS is used by itself, playing the keyboard will not produce sound.)

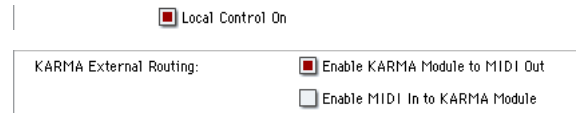
When using the KARMA function, the Global **KARMA External MIDI Routing** settings and the local control on/off setting will determine how the function is controlled, as follows. For more information, see "KARMA External Routing" on page 712.

Here are the settings to use if you want an external MIDI sequencer or computer to record only the notes that trigger the KARMA function, and control the KARMA function using the notes that are echoed-back during recording or playback.



When the KARMA function is turned on, playing the OASYS' keyboard will not trigger the KARMA function; the notes you play on the keyboard will only be transmitted. The KARMA function will operate only on the notes that are echoed-back and received at MIDI IN. This prevents the KARMA function from being applied in duplicate, and ensures that it will operate correctly.

Note: You can also make these settings by using the page menu command "Setup KARMA External MIDI Routing"= Send the output of KARMA to external device/sequencer. For more information, see "Set Up KARMA External MIDI Routing" on page 744.



Here are the settings to use if you want the note data generated by the KARMA function to be transmitted via MIDI and recorded on your external sequencer or computer.

Note: You can also make these settings by using the page menu command "Setup KARMA External MIDI Routing"= Trigger KARMA generation from external device/sequencer.

Messages transmitted and received by the OASYS

In the text below, [...] indicates hexadecimal notation.

MIDI channels

MIDI messages can be exchanged when the transmitting and receiving devices are set to the same MIDI channel. MIDI uses sixteen channels, numbered 1-16. The way in which channels are handled will differ depending on the mode.

Program mode and Sampling mode

- Transmission/reception is performed on the global MIDI channel.

The global MIDI channel is the basic channel that the OASYS uses for MIDI transmission/reception, and is set by **MIDI Channel** (Global 1-1a).

Combination mode


- The global MIDI channel is used to transmit/receive messages for selecting a combination and turning effects on/off, and to transmit/receive exclusive data.
- Each timbre will transmit/receive MIDI data on the **MIDI Channel** (Combination 2-1a) that is specified for that timbre.
- The **Ch** MIDI channel specified for each effect (Combination 8-7a, 9-2a, 9-3, 9-4, 9-5) is used to control dynamic modulation of the insert/master/total effects, the pan following the insert effect, and send 1 and 2.
- When you operate the keyboard or controllers of the OASYS, messages will be transmitted on the

global MIDI channel, and will also be transmitted on the MIDI channel of any timbre whose **Status** (Combination 2–1a) is set to EXT or EX2.

- Channel messages will be received if they match the MIDI channel of a timbre whose **Status** is set to INT (Combination 2–1a).

Sequencer mode

- The global MIDI channel is used to transmit/receive exclusive data and for messages that switch effects on/off.
- MIDI data transmission/reception for each MIDI track will occur on the MIDI channel specified for each MIDI track by **MIDI Channel** (Sequencer 2–1a).
- The MIDI channel specified for each effect by the **Ch** parameter (Sequencer 8–7a, 9–2a, 9–3, 9–4, 9–5) is used to control dynamic modulation of the insert/master/total effects, the pan following the insert effect, and send 1 and 2.
- When you operate the keyboard or controllers of the OASYS, messages will be transmitted on the MIDI channel selected by **Track Select** (Sequencer 0–1a). However, messages will be transmitted only if the selected MIDI track has a **Status** of BTH, EXT, or EX2. For more information, see “Track Select” on page 473.

 If you’ve selected Audio Track 1–16 in the Track Select field, this will apply to the MIDI track you selected most recently. The Track Information field will indicate “KBD.”

- When the sequencer is played back, musical data of MIDI tracks whose **Status** is BTH, EXT, or EX2 will be transmitted on the specified MIDI channels.
- MIDI tracks whose **Status** is INT or BTH will receive channel messages of the matching MIDI channel. For more information, see “Status” on page 521, and “MIDI Channel” on page 522.

Note on/off

Note-on [9n, kk, vv]

Note-off [8n, kk, vv]

(n: channel, kk: note number, vv: velocity)

When you play a note on the OASYS’s keyboard, it will transmit note-on/off messages.

While the KARMA function is operating, the note-on/off data generated by the KARMA function will be transmitted. (“Local Control On settings” on page 1056)

However, most instruments do not receive or transmit note-off velocity, and neither does the OASYS.

Program Change/Bank Select

Changing the program/bank

Program change [Cn, pp]

(n: channel, pp: program number that allows 128 sounds to be selected)

- Programs 000–127 in banks I–A–I–F and banks E–A–E–G correspond to program changes [Cn, 00]–[Cn, 7F].
- Programs 001–128 in banks G, g(1), g(2), g(3), g(4), g(5), g(6), g(7), g(8), g(9), and g(d) correspond to program changes [Cn, 00]–[Cn, 7F].

Bank select MSB (CC#0) [Bn, 00, mm]

Bank select LSB (CC#32) [Bn, 20, bb]

(n: channel, mm: bank number upper byte, bb: bank number lower byte)


- The internal banks that correspond to each bank select number will depend on the “Bank Map” setting (Global 0–1d). KORG is the default setting. For more information, see “Bank Map” on page 701.

Simply receiving a Bank Select message will not cause the program or bank to change. The program or bank will actually change when a Program Change message is received.

Program mode

- In Program P0: Play, program change and bank select messages are transmitted and received on the global MIDI channel. These messages are not received in P1–P9.

Combination, Sequencer modes

- Program change and bank select messages can be received on the MIDI channel specified for each timbre/MIDI track to select programs on that timbre/track.
- When you select a combination, program change and bank select messages will be transmitted by timbres whose **Status** is EXT or EX2.
In Sequencer mode, program change or bank select messages will be transmitted by tracks whose **Status** is BTH, EXT, or EX2 when you select the “Program Select” parameter (0–1b), when you select a song, or when you return to the beginning of a measure. (“Program select”  p.474)
- In Combination and Sequencer modes, transmission/reception can be switched on/off for each timbre/track. See “Enable Program Change” on page 423, and “Enable Program Change” on page 532.

Selecting combinations

You can use program change and bank select messages to select combinations in the same way that you select programs.

- Combinations 000–127 in banks I–A–I–G and E–A–E–G correspond to program changes [Cn, 00]–[Cn, 7F].
- Similarly as for program banks, the internal banks that correspond to each bank select number will depend on the “Bank Map” setting (Global 0–1d). For more information, see “Bank Map” on page 701.
- In Combination P0: Play, program change and bank select messages are transmitted/received on the global MIDI channel. They are not received in P1–P9.

Note: All program changes can be turned off in MIDI Filter (Global 1–1c)

As needed, you can independently turn all program changes on/off, specify whether or not incoming messages will be able to change combinations, and turn reception/transmission of bank select messages on/off.

- If “Enable Combination Change” (Global 1–1c) is unchecked, the combination will not change even if a program change on the global MIDI channel is received in Combination P0: Play. In this case, the program of the timbre that matches the MIDI channel of the received message will change.
- If “Enable Bank Change” (Global 1–1c) is unchecked, bank select messages will not be transmitted or received.

After touch

Channel aftertouch [Dn, vv]

(n: channel, vv: value)

When you apply pressure to the keyboard after playing a note, an after touch effect will be applied, and Channel After Touch messages will be transmitted. When these messages are received, an after touch effect will be applied.

- After touch for the entire instrument can be turned on/off in “Enable After Touch” (Global 1–1c).
- In Combination and Sequencer modes, after touch can be switched on/off independently for each timbre/track (“Enable After Touch” Combination 3–1a, Sequencer 3–1a).

Polyphonic aftertouch [An, kk, vv]

(n: channel, kk: note number, vv: value)

There is another type of after touch called Polyphonic Key Pressure, which allows after touch to be applied independently for individual keys. This message can be used as an alternate modulation source, but cannot be transmitted by the OASYS’s keyboard. In order to use this message, it will have to be received from an external device, or recorded on your sequencer.

The after touch mentioned in this manual refers to Channel After Touch.

Pitch bend

Pitch bend change [En, bb, mm]

(n: channel, bb: lower byte of the value, mm: upper byte of the value, together expressing a value of 16,384 steps where 8,192 [bb, mm = 00H, 40H] is the center value)

When the OASYS’s joystick is moved in the X axis (left/right), a pitch bend effect will be applied, and pitch bender messages will also be transmitted. When these messages are received, a pitch bend effect will be applied.

The range of pitch change that is produced by pitch bend messages can also be adjusted via MIDI. (See “Changing the pitch bend range” on page 1063.)

Control change

[Bn, cc, vv]

Transmitted and received as (n: channel, cc: control change no., vv: value)

For more information, see “Dynamic MIDI Sources & Destinations” on page 1038, “MIDI transmission from OASYS controllers” on page 1045, and “OASYS and MIDI CCs” on page 1049

- Control changes can be turned on/off as a whole in “Enable Control Change” (Global 1–1c).
- In Combination and Sequencer modes, the P3: MIDI Filter settings allow transmission/reception of control changes to be individually turned on/off for each timbre/track. For the assignable controllers (SW1, SW2, REALTIME KNOBS 1–8, Foot Pedal/Switch), MIDI filter settings will apply to the control change number to which each controller is assigned. “Other Control Change” applies to control changes that are not covered by the items of the other check boxes.

Note: You can select MIDI CC#00–CC#119 for “REALTIME KNOBS 5–8” and for “vector joystick CC control.”

Although you can select MIDI CC#00–CC#119 for the KARMA controllers and the vector joystick, you will normally use the default settings that are assigned when you execute the page menu command “Reset Controller MIDI Assign” with Default Setting, and leave KARMA Controllers turned Off, vector joystick “VJS X” at CC#118, and “VJS Y” at CC#119.

If you assign a CC# to KARMA controllers, use the same CC#s as when “Reset Controller MIDI Assign” is executed with the CC Default setting.

Selecting program/combination banks

Bank select (CC#00, CC#32)

Technically, Bank Select is a controller. In practice, however, it is a component of Program Change. For more information, see “Program Change/Bank Select” on page 1057)

Using the joystick to apply modulation

Modulation 1 depth (CC#01) [Bn, 01, vv]

When you move the OASYS’s joystick in the +Y direction (Vertical upward), Modulation 1 Depth messages will be transmitted. When these messages are received, the same effect will be applied as when the OASYS’s joystick is operated. Normally this will apply a vibrato effect (pitch LFO).

- In Combination and Sequencer modes, transmission/reception can be switched on/off for each timbre/track (“Enable JS+Y” Combination/Sequencer 3–1a).

Modulation 2 depth (CC#02) [Bn, 02, vv]

When you move the OASYS’s joystick in the –Y direction (Vertical downward), Modulation 2 Depth messages will be transmitted. When these messages

are received, the same effect will be applied as when the OASYS's joystick is operated. Normally this will apply a wah effect (filter LFO).

- In Combination and Sequencer modes, transmission/reception can be switched on/off for each timbre/track ("Enable JS-Y" Combination/Sequencer 3-1a).

Other manufacturers use this message for other purposes (e.g., breath controller, etc.)

Controlling portamento

Portamento time (CC#05) [Bn, 05, vv]

If you assign the above CC# to a REALTIME KNOBS 5-8 or as the vector joystick CC control function, rotating that knob will transmit Portamento Time messages, and will modify the speed at which the portamento pitch changes. When this message is received, the result will be the same as when the controller is operated.

Portamento switch (CC#65) [Bn, 41, vv]

When the above CC# is assigned to SW1, SW2 or the ASSIGNABLE SWITCH, operating that switch will transmit vv=127 [7F] for ON or vv=0 [00] for OFF, and the portamento effect will be switched on/off. When this message is received, the result will be the same as when the controller is operated. (vv of 63 [3F] or less will be OFF, and 64 [40] or greater will be ON.) (See "SW1/2 Assignments" on page 1033)

- In Combination and Sequencer modes, transmission/reception of this message can be turned on/off independently for each timbre/track ("Enable Portamento SW" Combination/Sequencer 3-1a).
- In Sequencer mode, portamento time/switch messages will be transmitted by each track whose **Status** is BTH, EXT, or EX2 when you set "Portamento" (2-2a), re-select a song or SMF, or return to the beginning of a measure. For more information, see "Portamento" on page 523.

Controlling volume

Volume (CC#07) [Bn, 07, vv]

When the above CC# is assigned to the ASSIGNABLE PEDAL or as the REALTIME KNOBS 5-8 or as the vector joystick CC control function, operating that controller will transmit Volume messages, and the volume will change. When this message is received, the result will be the same as when the controller is operated.

Expression (CC#11) [Bn, 0B, vv]

When the above CC# is assigned to the ASSIGNABLE PEDAL or as the REALTIME KNOBS 5-8 or as the vector joystick CC control function, operating that controller will transmit Expression messages, and the volume will change. When this message is received, the result will be the same as when the controller is operated.

The volume of the OASYS is determined by multiplying the value of the Volume message with the value of the Expression message.

If adjusting the Volume message does not increase the volume as you expect, or if there is no sound, transmit MIDI messages from an external device to reset the value of the Expression message (set vv to 127).

Note: In Sequencer mode, this will be reset when the "Location" of the song is moved to 001:01.000.

- In Combination mode, Volume messages will be transmitted by each timbre whose **Status** is EXT or EX2 when you re-select the combination.
- When you change the **Volume** setting (Sequencer 0-1b) in Sequencer mode, or when you re-select the song or return to the beginning of the song in Sequencer mode, volume messages will be transmitted by each track whose **Status** is BTH, EXT, or EX2.

Note: If you've used the CONTROL ASSIGN TIMBRE/TRACK switch to select 1-8/9-16, operating the sliders will transmit volume data to control the volume.

Note: Regardless of the **Status** settings, re-selecting a song, or returning to the beginning will reset the internal Volume value to the value specified by each track (the starting settings), and will reset the Expression value to the maximum.

Note: This message can be used to control the volume of each MIDI track. Normally, you will include a Volume message in the MIDI track setting data (the settings at the beginning of the track) to set the initial volume, and use Expression to create changes in dynamics as the song progresses.

By using the universal exclusive Master Volume message, you can adjust the overall volume without changing the volume balance between timbres or tracks. ("About system exclusive messages" p.1064)

Controlling pan (stereo position)

Pan (CC#10) [Bn, 0A, vv]

(vv: value, where 00 is far left, 64 is center, and 127 is far right)

When the above CC# is assigned to the ASSIGNABLE PEDAL or as the REALTIME KNOBS 5-8 or as the vector joystick CC control function, operating that controller will transmit Pan messages, and the panning will change. When this message is received, the result will be the same as when the controller is operated.

- When you set the **Pan** (Sequencer 0-1b) in Sequencer mode, or when you re-select the song or return to the beginning of the measure in Sequencer mode, Panpot messages (except for RND) will be transmitted by each track whose **Status** is BTH, EXT, or EX2. For more information, see "Pan" on page 475.

Note: If you've used the CONTROL ASSIGN TIMBRE/TRACK switch to select 1-8/9-16, operating the knobs will transmit panpot data to control the panning.

Post insert effect pan (CC#08) [Bn, 08, vv]

(vv: value, where 00 is far left, 64 is center, and 127 is far right)

When the above CC# is assigned to the ASSIGNABLE PEDAL or as the REALTIME KNOBS 5-8 or as the vector joystick CC control function, operating that controller will transmit Post Insert Effect Panpot messages, and the panning of the sound following the insert effect will change. When this message is received, the result will be the same as when the controller is operated.

- In Program mode and Sampling mode, this message is transmitted/received on the global MIDI channel. In Combination, and Sequencer modes, this message is transmitted/received on the MIDI channel specified for each insert effect.
- When you set "Pan (CC#8)" (Sequencer 8-5a) in Sequencer mode, or when you re-select the song or return to the beginning of the measure in Sequencer mode, Post Insert Effect Panpot messages will be transmitted by each track whose Status is BTH, EXT, or EX2. For more information, see "8-5a: IFX" on page 571.

Controlling effects

Effect control 1 (CC#12) [Bn, 0C, vv]

Effect control 2 (CC#13) [Bn, 0D, vv]

When the above CC# is assigned to the ASSIGNABLE PEDAL or as the REALTIME KNOBS 5-8 or as the vector joystick CC control function, operating that controller will transmit Effect Control 1/2 messages, and the specified dynamic modulation will be controlled. When this message is received, the result will be the same as when the controller is operated.

Although various types of control change can be selected as dynamic modulation sources, Effect Control 1 (CC#12) and 2 (CC#13) are dedicated for dynamic modulation.

Effect 1 depth (Send 2) (CC#91) [Bn, 5B, vv]

Effect 3 depth (Send 1) (CC#93) [Bn, 5D, vv]

When the above CC# is assigned to the ASSIGNABLE PEDAL or as the REALTIME KNOBS 5-8 or as the vector joystick CC control function, operating that controller will transmit Effect 1 Depth (Send 2) or Effect 3 Depth (Send 1) messages, and the send level 1 or 2 to the master effects MFX1 or MFX2 will be controlled respectively. When this message is received, the result will be the same as when the controller is operated.

On the corresponding MIDI channels, this will simultaneously control the timbre/track setting as well as the setting following the Insert Effect.

- In Combination, and Sequencer modes, the actual send level of the timbre/track is determined by multiplying this value with the send 1/2 settings for each oscillator (Program 8-1f).
- When you adjust "Send 1 (MFX1)" or "Send 2 (MFX2)" (Sequencer 8-1b) in Sequencer mode, or when you re-select a song or return to the beginning of the measure in Sequencer mode, Send

1/2 will be transmitted by each track whose Status is BTH, EXT, or EX2.

Effect 2 depth (IFX1-12 on/off) (CC#92) [Bn, 5C, vv]

Effect 4 depth (MFX1, 2 on/off) (CC#94) [Bn, 5E, vv]

Effect 5 depth (TFX1, 2 on/off) (CC#95) [Bn, 5F, vv]

Separately from the effect on/off settings in each mode, "Effect Global SW" (Global 0-1b) allows you to turn off insert effects IFX1-12 and master effects MFX1, 2 and total effect TFX1, 2.

If you check "IFX1-12 Off," "MFX1&2 Off" or "TFX1&2 Off," the corresponding message will be transmitted with vv=0 [00]. If you uncheck these settings, the corresponding message will be transmitted with vv=127 [7F]. If you check these settings, the corresponding effect(s) will be turned off as a group. If you uncheck these settings, the on/off settings of each mode will be used. The same applies to reception. (vv of 00 is off, and 01 or greater is the original setting.) These messages are transmitted/received on the global MIDI channel. ("IFX 1-12 on/off" - "MFX 1, 2 on/off" - "TFX 1, 2 on/off")

Note: These messages are defined simply for use in adjusting the effect levels, and may not have the same function on another instrument connected to the OASYS.

Using various controllers

Here we will explain typical ways to use the various controllers. You can choose from MIDI CC#00-CC#119 for "REALTIME KNOBS 5...8" and "vector joystick CC control."

Foot controller (CC#04) [Bn, 04, vv]

If the above CC# is assigned as the ASSIGNABLE PEDAL function, this message will be transmitted when the controller is operated.

- In Combination and Sequencer modes, transmission/reception of this message can be turned on/off independently for each timbre/track ("Enable Foot Pedal/Switch" Combination/Sequencer 3-3a).

Ribbon controller (CC#16) [Bn, 10, vv]

This message will be transmitted when the OASYS's ribbon controller is operated.

- In Combination and Sequencer modes, transmission/reception of this message can be turned on/off independently for each timbre/track ("Enable Ribbon" Combination/Sequencer 3-1a).

Controller (CC#18) [Bn, 12, vv]

This message will be transmitted when the OASYS's VALUE slider is operated.

This is valid in "Program Select" (Program P0: 0-1a) and "Combination Select" (Combination P0: 0-1a) when the program or combination number/name is selected (highlighted).

Knob modulation 5, 6, 7, 8 (CC#17, 19, 20, 21)
[Bn, 11, vv], [Bn, 13, vv], [Bn, 14, vv], [Bn, 15, vv]

If the above CC# are assigned to the REALTIME KNOBS 5–8, these messages will be transmitted when the knobs are operated.

- In Combination and Sequencer modes, transmission/reception of this message can be turned on/off independently for each timbre/track (“Enable Realtime Controls Knob 5, 6, 7, 8” Combination/Sequencer 3–2a).

Vector joystick modulation +X, -X, +Y, -Y
[Bn, 55, vv], [Bn, 56, vv], [Bn, 57, vv], [Bn, 58, vv]

If you assign the above CC#s as the vector joystick CC control functions, these messages will be transmitted when you operate the OASYS’ controllers.

- 🔊 They will be transmitted if Global “MIDI Vector MIDI Out” is set to Vector CC Control.

Controller (CC#83) [Bn, 53, vv]

If you assign the above CC# to a REALTIME KNOBS 5–8 or as the vector joystick CC control function, this message will be transmitted when you operate the corresponding controller of the OASYS.

Damper pedal (CC#64) [Bn, 40, vv]

This message is transmitted when you operate a damper pedal (Korg DS-1H etc.) connected to the DAMPER jack, and the damper effect will be turned on/off. If the DS-1H is used, a half-damper effect can be applied.

- In Combination and Sequencer modes, transmission/reception of this message can be turned on/off independently for each timbre/track (“Enable Damper” Combination/Sequencer 3–1a).

SW1 modulation (CC#80) [Bn, 50, vv]
SW2 modulation (CC#81) [Bn, 51, vv]

If the above CC# are assigned as the function of SW1 or SW2, operating the switch will transmit this message with vv=127 [7F] for ON, and vv=00 [00] for OFF.

- In Combination and Sequencer modes, transmission/reception of these messages can be turned on/off independently for each timbre/track (“Enable SW1,” “Enable SW2” Combination/Sequencer 3–3a)

Foot switch (CC#82) [Bn, 52, vv]

If the above CC# is assigned as the function of the ASSIGNABLE SWITCH, operating the switch will transmit this message with vv=127 [7F] for ON, and vv=00 [00] for OFF.

- In Combination and Sequencer modes, transmission/reception of this message can be turned on/off independently for each timbre/track (“Enable Foot Switch” Combination/Sequencer 3–3a).

Sostenuto (CC#66) [Bn, 42, vv]

If the above CC# is assigned as the function of the ASSIGNABLE SWITCH, operating the switch will transmit this message with vv=127 [7F] for ON, and vv=00 [00] for OFF, and the sostenuto effect will be turned on/off. When this message is received, the

result will be the same as when the controller is operated (OFF for vv=63 [3F] or below, and ON for vv=64 [40] or above).

Soft pedal (CC#67) [Bn, 43, vv]

If the above CC# is assigned as the function of the ASSIGNABLE SWITCH, operating the switch will transmit, and the soft pedal effect will be turned on. When this message is received, the result will be the same as when the controller is operated.

When “Foot controller (CC#04)”–“Soft pedal (CC#67)” are operated on the OASYS, the specified alternate modulation or dynamic modulation etc. will be controlled. When these messages are received, the result will be the same as if the controller had been operated. For “SW1 modulation (CC#80)”–“Soft pedal (CC#67),” vv of 63 [3F] or less will be OFF, and 64 [3F] or greater will be ON.

Controlling Program tone & envelope shapes

CC#70–79 control specific parameters of a program. For details on the program parameters that correspond to each control change, and how the OASYS will respond in each mode when these are received, refer to “OASYS and MIDI CCs” on page 1049.

Filter cutoff (CC#74) [Bn, 4A, vv]**Resonance level (CC#71) [Bn, 47, vv]****Filter EG intensity (CC#79) [Bn, 4E, vv]****Release time (CC#72) [Bn, 48, vv]**

These messages are transmitted when you operate the OASYS’s REALTIME KNOBS 1–4. (They can also be set as KNOB 5–8 functions.)

Sustain level (CC#70) [Bn, 46, vv]**Attack time (CC#73) [Bn, 49, vv]****Decay time (CC#75) [Bn, 4B, vv]****LFO 1 speed (CC#76) [Bn, 4C, vv]****LFO 1 depth (pitch) (CC#77) [Bn, 4D, vv]****LFO 1 delay (CC#78) [Bn, 4E, vv]**

These messages are transmitted when assign the above CC# to the REALTIME KNOBS 5–8 or as the vector joystick CC control function.

When you operate these, the corresponding program parameters will be controlled, and the sound and envelope will change. When these messages are received, the result will be the same as when the controller is operated. (When the message has a value vv=64 [40], the setting will have the value that was set by the program parameter.)

- In Combination and Sequencer modes, transmission/reception can be turned on/off independently for each timbre/track (“Enable Realtime Controls Knob 1...8” Combination/Sequencer 3–2a).

Note: In Program mode, the corresponding program parameters will be temporarily edited by these messages. You can Write the program to save the modified state (except for certain parameters). The Write operation can also be performed by a MIDI System Exclusive Program Write Request message, in addition to the usual method of using the OASYS’s switches. When you write the data, the values of the corresponding program parameters will be rewritten.


Note: The results of receiving these messages will depend on the instrument. The operation may be different when a device other than the OASYS is connected.

Vector control

If you assign the following CC#s to the X-axis and Y-axis of the vector joystick, the specified CC# will be transmitted when you operate the OASYS, and the OASYS itself will be controlled simultaneously. When this message is received, the result will be the same as if you operated the OASYS itself.

You can use this to record vector joystick operations on the internal sequencer or an external MIDI sequencer, or to control the vector joystick from an external MIDI device.

The CC# settings for the vector joystick are made in the Global P2- Controller page. Although you can select any MIDI control change CC#00-CC#119 for the vector joystick, you will normally use the default settings that are assigned when you execute the page menu command “Reset Controller MIDI Assign” with Default Setting. For more information, see “Reset Controller MIDI Assign” on page 745.

-  These messages are transmitted and received if Global “MIDI Vector MIDI Out” is set to Vector Joystick. If Global “MIDI Vector MIDI Out” is set to Vector CC Control, the CC# specified for Vector CC Control in each program, combination, or song will be transmitted. Normally you will use the Vector Joystick setting.

The operations described below are for these default settings.

Vector joystick X (CC#118) [Bn, 76, vv]
 Vector joystick Y (CC#119) [Bn, 77, vv]

When you move the OASYS’ vector joystick in the X direction, vector joystick X will be transmitted (vv: 00:left...7F:right). When you move it in the Y direction, vector joystick Y will be transmitted (vv: 00:toward yourself...7F:away). The same result will occur when these messages are received.

KARMA function control

If you assign the following CC#s to the KARMA CONTROLS sliders and switches, the specified CC# will be transmitted when you operate the OASYS, and the OASYS itself will be controlled simultaneously. When these messages are received, the result will be the same as if you operated the OASYS itself.

The CC# settings for each knob and switch are made in the Global P2- Controller page. Normally you will leave these Off. However, you can use these settings if you need to assign MIDI control change messages to these controllers, such as when you want to record the operations of the KARMA CONTROLS sliders and switches on the internal sequencer or an external MIDI sequencer, or to control the KARMA function from an external MIDI device.

Although you can select any MIDI control change CC#00-CC#119 for each slider and switch, you will normally use the default settings that are assigned

when you execute the page menu command “Reset Controller MIDI Assign” with CC Default. For more information, see “Reset Controller MIDI Assign” on page 745.

The operations described below are for these CC Default settings. The messages will be transmitted when you operate the corresponding controller of the OASYS. When these messages are received, the result will be the same as if you operated the controller on the OASYS itself.

KARMA ON/OFF (CC#14) [Bn, 0E, vv]

This corresponds to the KARMA ON/OFF switch. It transmits vv=127 [F7] when turned on, or vv=127 [7F] when turned off.

KARMA Slider1 (CC#22) [Bn, 16, vv]
 KARMA Slider2 (CC#23) [Bn, 17, vv]
 KARMA Slider3 (CC#24) [Bn, 18, vv]
 KARMA Slider4 (CC#25) [Bn, 19, vv]
 KARMA Slider5 (CC#26) [Bn, 1A, vv]
 KARMA Slider6 (CC#27) [Bn, 1B, vv]
 KARMA Slider7 (CC#28) [Bn, 1C, vv]
 KARMA Slider8 (CC#29) [Bn, 1D, vv]

These correspond to KARMA CONTROLS sliders 1-8.

KARMA SCENE (CC#30) [Bn,m 1E, vv]

This corresponds to the KARMA SCENE switches. (vv” value; 00: Scene 1, 01: Scene 2, 02: Scene 3, 03: Scene 4, 04: Scene 5, 05: Scene 6, 06: Scene 7, 07: Scene 8, 08...7F: invalid)

KARMA LATCH (CC#31) [Bn, 1F, vv]

This corresponds to the KARMA LATCH switch. It transmits vv=127 [F7] when turned on, or vv=127 [7F] when turned off.


KARMA SW1 (CC#102) [Bn, 66, vv]
 KARMA SW2 (CC#103) [Bn, 67, vv]
 KARMA SW3 (CC#104) [Bn, 68, vv]
 KARMA SW4 (CC#105) [Bn, 69, vv]
 KARMA SW5 (CC#106) [Bn, 6A, vv]
 KARMA SW6 (CC#107) [Bn, 6B, vv]
 KARMA SW7 (CC#108) [Bn, 6C, vv]
 KARMA SW8 (CC#109) [Bn, 6D, vv]

This corresponds to the KARMA SWITCH 1-8. It transmits vv=127 [F7] when turned on, or vv=127 [7F] when turned off.

Pad 1-8 control

If you assign the following CC#s to Pads 1-8, the specified CC# will be transmitted when you operate the OASYS, and the OASYS itself will be controlled simultaneously. When these messages are received, the result will be the same as if you operated the OASYS itself.

The CC# settings for the pads are made in the Global P2- Controller page. Normally you will leave these Off. However, you can edit these settings if you need to assign MIDI control change messages to the pads, such as when you want to record pad operations on the internal sequencer or an external MIDI sequencer, or to control the pads from an external MIDI device.

-  These messages are transmitted and received if the Global P1- MIDI page parameter “Pads MIDI Out” is set to Pad CC/Note. If “Pads MIDI Out” is set to

Chord Notes, the “Pad Chords” setting made in each program, combination, song, or in Sampling mode will be transmitted.

Each pad can be assigned any MIDI control change CC#00–CC#119, or a desired MIDI note number. However, you will normally use the default settings that are assigned when you execute the page menu command “Reset Controller MIDI Assign” with CC Default. For more information, see “Reset Controller MIDI Assign” on page 745.

The operations described below are for these CC Default settings.

PAD1 trigger velocity (CC#110) [Bn, 6E, vv]
PAD2 trigger velocity (CC#111) [Bn, 6F, vv]
PAD3 trigger velocity (CC#112) [Bn, 70, vv]
PAD4 trigger velocity (CC#113) [Bn, 71, vv]
PAD5 trigger velocity (CC#114) [Bn, 72, vv]
PAD6 trigger velocity (CC#115) [Bn, 73, vv]
PAD7 trigger velocity (CC#116) [Bn, 74, vv]
PAD8 trigger velocity (CC#117) [Bn, 75, vv]
 (n: channel, vv: pad velocity)

These correspond to pads 1–8. When you strike one of the OASYS’ pads, the PAD 1–8 trigger velocity will be transmitted. The same result will occur when these messages are received.

Silencing all notes on a specific channel

All note off (CC#123) [Bn, 7B, 00] (value 00)

When this is received, all currently-sounding notes on that channel will be turned off (as though the keys had been released). However, the release portion of the notes will remain.

All sound off (CC#120) [Bn, 78, 00] (value 00)

When this is received, all currently-sounding notes on that channel will be silenced. While the All Note Off message allows the release portion of the notes to remain, the All Sound Off message will silence the notes immediately.

However, these messages are provided for emergency use, and are not something that you will use while performing.

Resetting all controllers on a specific channel

Reset all controllers (CC#121) [Bn, 79, 00] (value 00)

When this is received, the value of all controllers on that channel will be reset.

Using RPN (Registered Parameter Numbers)

RPN (Registered Parameter Numbers) are a type of message that allow settings to be made in a way that is common between instrument manufacturers. (NRPN (Non-registered Parameter Numbers) and exclusive messages can be freely used in non-compatible ways by different manufacturers and models of instrument.)

RPN messages can be used for editing with the following procedure.

1. **Use RPN MSB (CC#101) [Bn, 65, mm] and RPN LSB (CC#100) [Bn, 64, rr] (n: channel, mm, rr: upper and lower bytes of the parameter number) messages to select the parameter.**

2. **Use data entry MSB (CC#6) [Bn, 06, mm] and data entry LSB (CC#38) [Bn, 26, vv] (n: channel, mm, vv: upper and lower bytes of the value, together expressing 16,384 levels) to specify the value.**
3. **You can use data increment (CC#96) [Bn, 60, 00] or data decrement (CC#97) [Bn, 61, 00] (n: channel, value is fixed at 00) to change the value in steps of one.**

The OASYS can receive the following three RPN messages (tuning, transpose, and pitch bend range).

Tuning

RPN fine tune [Bn, 65, 00, 64, 01]

This RPN message can be used to adjust the detuning for a program or timbre (in Combination mode), or for a track (in Sequencer mode).

The procedure is as follows.

1. **[Bn, 65, 00, 64, 01]: Select RPN parameter 01.**
2. **[Bn, 06, mm, 26, vv]: Use data entry to set the value. A value of 8192 [mm, vv=40, 00] is center, 0 [mm, vv=00, 00] is -100 cents, and 16383 [mm, vv=7F, 7F] is +99 cents.**

Note: You can use the universal exclusive Fine Tune message to adjust the overall tuning that corresponds to the “Master Tune” (Global P0: 0–1a) parameter. (See “About system exclusive messages” p.1064)

Transposing

RPN coarse tune [Bn, 65, 00, 64, 02]

This RPN message can be used to adjust the transposition for a program or timbre (in Combination mode), or for a track (in Sequencer mode).

The procedure is as follows.

1. **[Bn, 65, 00, 64, 02]: Select RPN parameter 02.**
2. **[Bn, 06, mm, 26, vv]: Use data entry to set the value. Normally only the upper byte is used.**

A value of 8192 [mm, vv=40, 00] is center, 6656 [mm, vv=34, 00] is -12 semitones, and 9728 [mm, vv=4C, 00] is +12 semitones.

Note: You can use the universal exclusive Coarse Tune message to adjust the overall tuning that corresponds to the “Transpose” (Global P0: 0–1a) parameter. (See “About system exclusive messages” p.1064)

Changing the pitch bend range

RPN pitch bend range [Bn, 64, 00, 65, 00]

This RPN message can be used to adjust the pitch bend range for a program or timbre (in Combination mode) or for a track (in Sequencer mode).

The procedure is as follows.

1. **[Bn, 65, 00, 64, 00]: Select RPN parameter 00.**
2. **[Bn, 06, mm, 26, vv]: Use data entry to set the value. Normally only the upper byte is used.**

A value of 0 [mm, vv=00, 00] is +00, and a value of 1536 [mm, vv=0C, 00] is +12 (one octave). Although it is possible to set a negative value for a timbre/track, only positive values can be set using RPN messages.

About system exclusive messages

Since the way in which these messages are used is left up to each manufacturer, they are mainly used to transmit and receive sound data and editing data for parameters that are unique to a particular instrument. The OASYS's system exclusive message format is [F0, 42, 3n, 70, ff, F7]

- F0: exclusive status
- 42: Korg ID
- 3n: [n=0–F] global MIDI channel 1–16
- 70: Future model ID
- ff: function ID (type of message)
- :
- :
- F7: end of exclusive

Note: To obtain a copy of the "MIDI Implementation" which includes MIDI System Exclusive format information, please contact your Korg distributor.

Universal system exclusive

Certain of the system exclusive messages are publicly defined for a specific use, and these are called universal system exclusive messages.

The OASYS uses the following six universal system exclusive messages.

Inquiry message request [F0, 7E, nn, 06, 01, F7]

Inquiry message [F0, 7E, nn, 06, 02, (nine bytes), F7]

When an inquiry message request is received, the OASYS will respond by transmitting an inquiry message that means "I am a Korg OASYS, with system version ..."

GM system on [F0, 7E, nn, 09, 01, F7]

When this message is received in Sequencer mode, the OASYS will be initialized for GM playback.

Master volume [F0, 7E, nn, 04, 01, vv, mm, F7]

(vv: lower byte of the value, mm: upper byte of the value, together indicating 16384 steps)

This message is transmitted if you assign Master Volume as the function of the ASSIGNABLE PEDAL or as a REALTIME KNOBS 5–8 and operate the controller. This will adjust the overall volume balance without changing the relative volume balance between timbres/tracks. When this message is received, the result will be the same as when the controller is operated.

Master balance [F0, 7E, nn, 04, 02, vv, mm, F7]

(vv: lower byte of the value, mm: upper byte of the value, together indicating 16384 steps, where 8192 is the default position, and lower values will move the sound toward the left)

When this is received, the overall panning will be adjusted without changing the relative panning between timbres/tracks.

Master fine tuning [F0, 7E, nn, 04, 03, vv, mm, F7]

(A value of 8192 [mm, vv=40, 00] is center, 4096 [mm, vv=20, 00] is –50 cents, and 12288 [mm, vv=60, 00] is +50 cents.)

When this is received, the "Master Tune" (Global P0: 0–1a) parameter will be set.

Master coarse tuning [F0, 7E, nn, 04, 04, vv, mm, F7]

(Normally only the upper byte mm is used. A value of 8192 [mm, vv=40, 00] is center, 6656 [mm, vv=34, 00] is –12 semitones, and 9728 [mm, vv=4C, 00] is +12 semitones.)

When this is received, the **Key Transpose** (Global 0–1a) parameter will be set.

Transmitting sound settings data (Data Dump)

Data for programs, combinations, drum kits, wave sequences, global settings, and sequencer data can be transmitted as MIDI System Exclusive messages. The operation of sending this system exclusive data to an external device is called a "data dump."

By performing a data dump, you can store the OASYS's sounds and settings on an external device, or rewrite the sounds and settings of another OASYS.

There are the following two types of data dump.

- When you use the "Dump" (Global P1) page menu command to dump data, various types of internal memory data will be transmitted. If this data is received by the OASYS, the data will be written directly into internal memory, and it will not be necessary to perform the Write operation.
- If the "Enable Exclusive" (Global 1–1c) setting is checked, data will also be dumped in response to a Dump Request message. This data is transmitted and received on the global MIDI channel.

When the OASYS receives this data, the data will be written into the edit buffer. If you want to save the data into internal memory, you'll have to execute the Write operation. This can be done either by executing the Write operation on the OASYS itself, or by a MIDI System Exclusive program write request, combination write request, drum kit write request, wave sequence write request, or global setting write request.

⚠ Cautions regarding data dumps and sound editing

- After MIDI System Exclusive data has been received and processed, a Data Load Completed message will be transmitted. The control master device must not transmit the next message until this message is received (or until a sufficient interval of time has elapsed).
- When you change use parameter changes to edit, the changes will affect the data in the edit buffer and will not be stored in internal memory unless you Write, so that the changes will be lost if you re-select the program or combination. The Write operation can be performed by a MIDI System Exclusive Program Write Request or Combination Write Request message, in addition to the usual method of using the OASYS's switches. For more information, see "Loading & saving data, and creating CDs" on page 169 of the Operation Guide.
- It is not necessary to write a song, but it will not be backed up when the power is turned off. If you want to keep the song data, you must save it to the

internal hard disk or other media before powering off. “Saving to disks, CDs, and USB media” on page 174 of the Operation Guide.

Editing sounds via SysEx

By using various MIDI System Exclusive data dumps, you can rewrite all programs or an individual program. By using parameter change messages, you can edit individual parameters as follows.

Parameter changes

- In Program mode, all parameters other than the program name can be edited.
- In Combination mode, parameters other than the combination name can be edited.
- In Sequencer mode, you can edit the track parameters in P0, 1, and 2, and the P7: KARMA, P8: Insert Effect, and P9: Master/Total Effect parameters.

Drum kit parameter change/Wave sequence parameter change

In Global mode, you can edit drum kits and wave sequences.

Since the other global parameters or Sequencer mode musical data cannot be edited, you will use data dumps to transfer this data.

Data dumping of Sampling mode data is not supported.

The global MIDI channel is used to transmit and receive this data.

First check the “Enable Exclusive” (Global 1–1c) setting to enable transmission and reception of exclusive data. When you switch modes on the OASYS, a mode change will be transmitted. When you edit individual parameters, parameter change messages will be transmitted.

When these messages are received, the same editing operation will be performed as on the transmitted device.

If notes are “stuck”

If for some reason, notes become “stuck” and will not stop sounding, you can usually stop the sound by changing the mode. If notes played via MIDI are stuck, you can disconnect the MIDI cable.

MIDI transmits a message called Active Sensing [FE] at regular intervals. A device that receives this message will be aware that an external MIDI device is transmitting to it. Subsequently, if no MIDI messages are received for a certain interval of time, the receiving device will decide that the connection has been broken, and will turn off any notes that had been sounded via MIDI and reset its controller values.

Playing the OASYS multi-timbrally from an external device

The OASYS can be connected to an external device and played multi-timbrally in the following ways.

- MIDI messages from the external device can play a combination (16-part multi-timbral performance). You can change the overall settings (programs, levels, and effects) by using program change messages to switch combinations.
- MIDI messages from the external device can be used to play a song (16-part multi-timbral performance). Overall settings (programs, levels, effects etc.) can be changed by using a Song Select message to switch songs. (Song Select messages can be received if “MIDI Clock”: Global 1–1a is set to External MIDI.)
- MIDI Clock messages from the external device can be used to make the OASYS playback a song (set “MIDI Clock” to External MIDI, and run the OASYS’s sequencer). (“Synchronizing the playback of the KARMA function or sequencer”) You can change the overall settings (programs, levels, effects) by using song select messages to switch songs.

Synchronizing the playback of the KARMA function or sequencer

The choice of whether the OASYS will be the master (the controlling device) or the slave (the controlled device) is made by **MIDI Clock** (Global 1–1a).

Note: When MIDI Clock is set to Auto, the OASYS will normally operate in the same way as for the Internal setting. When an external MIDI clock is received from the MIDI IN connector, the OASYS will automatically operate as for the External MIDI setting.

Using the OASYS as master and the external MIDI device as slave

Connect the OASYS’s MIDI OUT connector to the MIDI IN connector of the external MIDI device.

- When you set “MIDI Clock” to Internal, the OASYS will be the master device, and will transmit MIDI timing clock messages.

KARMA function: The tempo can be controlled from the OASYS. At the same time, the performance generated by the KARMA function will be transmitted via MIDI. (In Combination, and Sequencer modes, data will be transmitted by timbres/MIDI tracks whose **Status** is BTH, EXT, or EX2.) An external tone generator connected to MIDI OUT will sound, and the tempo of an external sequencer can be controlled.

Sequencer: The musical data can be played back and controlled on the OASYS.

Simultaneously, the sequencer playback will be transmitted via MIDI from MIDI tracks whose **Status** is BTH, EXT, or EX2. An external tone generator connected to MIDI OUT will sound, and the tempo of an external sequencer can be controlled.

Using the external MIDI device as master and the OASYS as slave

Connect the OASYS’s MIDI IN connector to the MIDI OUT connector of the external MIDI device.

- When you set “MIDI Clock” to External MIDI, the OASYS will be the slave device.

KARMA function: The tempo will follow the MIDI timing clock. If you playback the external sequencer, the OASYS’s KARMA function will synchronize to the external timing clock.

Even if “MIDI Clock” is External MIDI and the OASYS is being controlled from the external device, the performance of the KARMA function will still be transmitted via MIDI. (In Combination and Sequencer modes, the KARMA function will be transmitted from timbres/MIDI tracks whose **Status** is BTH, EXT, or EX2.)

Sequencer: It will not be possible to control the playback from the OASYS; playback will be controlled by the external device connected to the OASYS’s MIDI IN. If you wish to playback the external sequencer to make the OASYS’s sequencer playback in synchronization to the external timing clock, you must first set the same time signature and starting measure locations on both devices.

Even if “MIDI Clock” is set to External MIDI and the OASYS is being controlled from an external device, musical data will be transmitted by tracks whose **Status** is BTH, EXT, or EX2.

Recording musical data from an external device

There are two ways in which you can play back an external sequencer and record its playback on the OASYS.

- Set **MIDI Clock** (Global 1–1a) to Internal, begin recording, and then start the external sequencer. With this method, the MIDI messages will be recorded without the two devices being synchronized. Since the incoming musical data will simply be recorded, this method allows the performance to be reproduced faithfully, but since measure divisions etc. will not be kept track of, this method is not suitable if you intend to edit the data later.
- If you set “MIDI Clock” to External MIDI, the start of recording and the tempo etc. will all be under the control of the external sequencer. Since the two devices will be synchronized during the recording process, measure divisions etc. will be accurately preserved. (You will need to set the time signature before recording.) However, tempo changes during the performance will not be recorded, so you will have to insert any tempo changes later. For normal multi-track recording, you will use this method. For more information, see “Multi (multitrack recording)” on page 93 of the Operation Guide.

Recording the MIDI output of the OASYS’s controllers, KARMA function, and internal sequencer to an external sequencer/computer

If you wish to record the MIDI output of the OASYS’s controllers, KARMA function, and internal sequencer on an external sequencer or computer and use the

OASYS as the monitoring and playback tone generator while you record, you must turn off the OASYS’s Local Control setting (“Local Control On” Global 1–1a), and set your external sequencer/computer for echo-back (a function by which the data received at MIDI IN is retransmitted without change from MIDI OUT) so that the data from the OASYS’s controllers, KARMA function and internal sequencer will not be applied in duplicate to the tone generator.

Using the REALTIME KNOBS 1–8 to record MIDI control changes on an external MIDI sequencer/computer

Set the OASYS to Local Control Off. Set the external MIDI sequencer/computer to Echo Back On. With these settings, recording and playback will occur correctly, and the control changes will not be applied to the tone generator in duplicate.

Recording the KARMA function or RPPR function on an external MIDI sequencer/computer

When the KARMA function is on, playing the keyboard or operating the controllers of the OASYS will operate and control the KARMA function.

In the same way, the KARMA function will be controlled by MIDI messages received from MIDI IN (if “Enable MIDI In to KARMA Module” in Global 1–1b is turned on).

Notes transmitted from MIDI OUT by the KARMA function are controlled as follows, according to the local control setting (“Local Control On” Global 1–1a) and the “Enable KARMA Module to MIDI Out” (Global 1–1b) setting.

In Sequencer mode, when the RPPR function is on, playing the keyboard will cause RPPR to operate. Similarly, the RPPR function will also operate in response to notes received on the MIDI channel of the track selected by **Track Select** (Sequencer 0–1a). Notes will be transmitted by RPPR from MIDI OUT according to the local control setting (“Local Control On”) as described below.

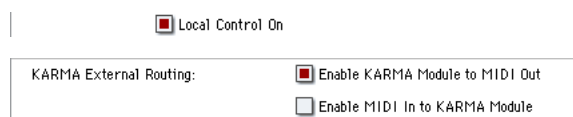
Local Control On: Notes from the KARMA function or RPPR will be transmitted from MIDI OUT. However, MIDI transmission from the KARMA module is valid only if “Enable KARMA Module to MIDI Out” is on. Normally you will use this setting.

Local Control Off: Notes from the KARMA function or RPPR will not be transmitted from MIDI OUT. The OASYS will sound only in response to MIDI messages received at MIDI IN, or generated by the KARMA function or RPPR.

Setting example 1

Record the note messages generated by the KARMA or RPPR function on the external MIDI sequencer/computer.

Turn on this instrument’s KARMA or RPPR function. Set this instrument to Local Control On. Make the following KARMA External Routing settings (Global 1–1b).

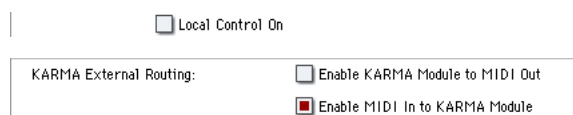


On your external sequencer or computer, turn the echo back setting Off. When you're recording a performance generated by the KARMA function or RPPR, this setting will prevent duplicate notes from being sounded by the echo-back. (Turn the RPPR function off for playback.)

Setting example 2

Use the external MIDI sequencer/computer to record only the notes that trigger the KARMA or RPPR function, and operate this instrument's KARMA or RPPR function for monitoring while recording, and during playback.

Turn on the OASYS's KARMA or RPPR function. Set the OASYS to Local Control Off. Make the following KARMA External Routing settings (Global 1-1b).



Notes generated by the KARMA function or RPPR will not be output. On your external MIDI sequencer or computer, turn the echo back setting On. This allows recording to occur correctly, without the KARMA function or the RPPR function being applied in duplicate.

About GM (General MIDI)

The OASYS supports the GM standard. It also supports the GM2 sound map (including bank select) with 256 programs and 9 drum programs provided in ROM banks G, g(1)–g(9), and g(d). (Banks g(1)–g(9) are GM2 variation programs, and g(d) contains drum programs.)

GM is a standard that ensures basic compatibility of sounds and controllers between GM-compatible instruments made by different manufacturers. When using GM with OASYS, be aware of the following.

- GM System On is supported in Sequencer mode. For more information, see "GM Initialize" on page 584.
- When you wish to play a GM sequence, or load GM data into a song, set "Bank Map" (Global 0-1d) to GM(2).

About standard MIDI files

Standard MIDI files (SMF) make it possible for different computer programs or musical instruments made by different manufacturers to exchange time-based MIDI data. Each standard MIDI file contains one song. The OASYS supports format 0 (type 0) in which all of the MIDI data is combined into one track, and format 1 (type 1) in which the data is separated by track.

When a SMF is loaded into a song in Disk mode, the program bank that is selected will differ depending on the "Bank Map" (Global 0-1d) setting. When playing/loading SMF data that conforms to the GM specifications, set "Bank Map" to GM(2).

Sequencer mode

In Disk mode when you convert a song into a Standard MIDI File and save it, you can choose either format 0 or format 1.

- If OASYS song data that was saved as a format 1 SMF file is loaded into another device, the track configuration may be different than it was before being saved. This is because MIDI tracks that contain no musical data are omitted, and the remaining tracks are moved into the unused tracks. This will not affect the playback itself.
- If song data that was saved by another device as a format 1 SMF file is loaded into the OASYS, the track configuration may be different than it was before being saved. This is because tracks that contain no musical data are omitted, and the remaining tracks are moved into the unused tracks. This will not affect the playback itself.

When exchanging sequence data between two OASYS, we recommend that you save the sequence data in the OASYS's native format ("Save SEQ").

When sequence data is saved in the OASYS's native format, all of the settings and patterns unique to the OASYS will be saved, which will ensure a higher level of reproducibility than when the data is saved as a Standard MIDI File ("Save to Std MIDI File").

Parameter changes and other recorded data is included in the song data as System Exclusive events, so it can be saved to or loaded from disk as usual. Exclusive messages can also be loaded or saved as SMF (Standard MIDI File) data ("Load Standard MIDI File," "Save Song as Standard MIDI File"). This allows recorded System Exclusive events to be saved as SMF data, or exclusive messages included in SMF data to be converted into song data.

During playback, this data can be transmitted to an external MIDI device, or used to control track parameters or effect parameters of the song.

OASYS MIDI IMPLEMENTATION

Consult your local Korg dealer for more information on MIDI System Exclusive implementation.

1. TRANSMITTED DATA

1-1 CHANNEL MESSAGES

Status [Hex]	Second [H] [D]	Third [H] [D]	Description	(Transmitted by)	ENA
Bn	kk (8k)	40	Note Off	(Key Off)	*1
Bn	kk (8k)	41	Note On (vv)=1-127	(Key On)	*1
Bn	kk (8k)	vv	Poly Key Pressure	(sequence data)	A
Bn	00 (00)	mm	Bank Select (MSB)	(BANK Keys, Prog/Combi. change)	T, Q
Bn	01 (01)	vv	Modulation1	(Joystick +Y, VGS/ASW/Pd1)	C
Bn	02 (02)	vv	Modulation2	(Joystick -Y, VGS/ASW/Pd1)	PB
Bn	04 (04)	vv	Foot Pedal	(Pd1 = Foot Pedal)	C
Bn	05 (05)	vv	Portamento Time	(Knob/VGS/Pd1 = Porta.Time, S Chg)	C
Bn	07 (07)	vv	Volume	(Knob/VGS/Pd1 = Volume, S/C Chg)	C
Bn	08 (08)	vv	Post IFX Panpot	(Knob/VGS/Pd1 = IFX Pan, S Chg)	*2
Bn	0A (10)	vv	Panpot	(Knob/VGS/Pd1 = Pan, S Chg)	C
Bn	0B (11)	vv	Expression	(Knob/VGS/Pd1 = Expression)	C
Bn	0C (12)	vv	Effect Control 1	(Knob/VGS/Pd1 = FX Control1)	C
Bn	0E (14)	vv	Effect Control 2	(Knob/VGS/Pd1 = FX Control2)	C
Bn	0E (14)	vv		(KARMA ON/OFF, ASW)	C
Bn	10 (16)	vv	Multi Purpose Ctrl1	(Ribbon Controller, VGS/ASW/Pd1)	C
Bn	11 (17)	vv	Multi Purpose Ctrl2	(Knob = Knob Mod5, VJS)	C
Bn	13 (19)	vv	Multi Purpose Ctrl3	(Knob = Knob Mod6, VJS)	C
Bn	14 (20)	vv	Multi Purpose Ctrl4	(Knob = Knob Mod7, VJS)	C
Bn	15 (21)	vv		(Knob = Knob Mod8, VJS)	C
Bn	16 (22)	vv		(KARMA Slider1, ASW/Pd1)	*3
Bn	17 (23)	vv		(KARMA Slider2, ASW/Pd1)	*3
Bn	18 (24)	vv		(KARMA Slider3, ASW/Pd1)	*3
Bn	19 (25)	vv		(KARMA Slider4, ASW/Pd1)	*3
Bn	1A (26)	vv		(KARMA Slider5, ASW/Pd1)	*3
Bn	1B (27)	vv		(KARMA Slider6, ASW/Pd1)	*3
Bn	1C (28)	vv		(KARMA Slider7, ASW/Pd1)	*3
Bn	1E (30)	vv		(KARMA SCENE, ASW)	*3
Bn	1F (31)	vv		(KARMA LATCH, ASW)	*3
Bn	20 (32)	bb	Bank Select (LSB)	(BANK Keys, Prog/Combi. change)	*2
Bn	40 (64)	vv	Hold1	(Damper)	C
Bn	41 (65)	00/7F (00/127)	Portamento Off/On	(SW1/SW2/ASW = Porta.SW, S Chg)	C
Bn	42 (66)	00/7F (00/127)	Sostenuto Off/On	(ASW = Sostenuto)	C
Bn	43 (67)	vv	Soft Pedal	(ASW = Soft)	C
Bn	46 (70)	vv	Sound Controller 1	(Knob/VJS = F/A Sustain)	C
Bn	47 (71)	vv	Sound Controller 2	(Knob2, Knob/VJS = Resonance, ASW/Pd1)	C
Bn	48 (72)	vv	Sound Controller 3	(Knob4, Knob/VJS = F/A Release, ASW/Pd1)	C
Bn	49 (73)	vv	Sound Controller 4	(Knob/VJS = F/A Attack)	C
Bn	4A (74)	vv	Sound Controller 5	(Knob1, Knob/VJS = Filter Cutoff, ASW/Pd1)	C
Bn	4B (75)	vv	Sound Controller 6	(Knob/VJS = F/A Decay)	C
Bn	4C (76)	vv	Sound Controller 7	(Knob/VJS = Pitch LF01 Spd)	C
Bn	4D (77)	vv	Sound Controller 8	(Knob/VJS = Pitch LF01 Dep)	C
Bn	4E (78)	vv	Sound Controller 9	(Knob/VJS = Pitch LF01 Dly)	C
Bn	4F (79)	vv	Sound Controller 10	(Knob3, Knob/VJS = SW1 Mod.)	C
Bn	50 (80)	00/7F (00/127)	Multi Purpose Ctrl15	(SW2/ Knob/VJS = SW1 Mod.)	C
Bn	51 (81)	00/7F (00/127)	Multi Purpose Ctrl16	(ASW/ Knob/VJS = Foot SW)	C
Bn	52 (82)	00/7F (00/127)	Multi Purpose Ctrl17	(Knob/VJS = MIDI_CCH#3)	C
Bn	55 (85)	vv	Multi Purpose Ctrl18	(VJS = VJS +X Mod.)	C
Bn	56 (86)	vv		(VJS = VJS -X Mod.)	C
Bn	57 (87)	vv		(VJS = VJS +Y Mod.)	C
Bn	58 (88)	vv		(VJS = VJS -Y Mod.)	C
Bn	5B (91)	vv	Effect 1 Depth	(Knob/VJS/Pd1 = HFX Send2, S Chg)	C
Bn	5C (92)	00/7F (00/127)	Effect 2 Depth	(ALL Insert FX Off/On)	C
Bn	5D (93)	vv	Effect 3 Depth	(Knob/VJS/Pd1 = MFX Send1, S Chg)	C
Bn	5E (94)	00/7F (00/127)	Effect 4 Depth	(Master FX1/2 Off/On)	C
Bn	5F (95)	00/7F (00/127)	Effect 5 Depth	(Total FX1/2 Off/On)	C
Bn	66 (102)	vv		(KARMA SW1, ASW)	*3
Bn	67 (103)	vv		(KARMA SW2, ASW)	*3
Bn	68 (104)	vv		(KARMA SW3, ASW)	*3
Bn	69 (105)	vv		(KARMA SW4, ASW)	*3
Bn	6A (106)	vv		(KARMA SW5, ASW)	*3
Bn	6B (107)	vv		(KARMA SW6, ASW)	*3
Bn	6C (108)	vv		(KARMA SW7, ASW)	*3
Bn	6D (109)	vv		(KARMA SW8, ASW)	*3
Bn	6E (110)	vv		(Pad1, ASW)	*3
Bn	6F (111)	vv		(Pad2, ASW)	*3
Bn	70 (112)	vv		(Pad3, ASW)	*3
Bn	71 (113)	vv		(Pad4, ASW)	*3

26 Dec. 2004

MIDI Implementation

Status [Hex]	Second [H] [D]	Third [H] [D]	Description	(Transmitted by)	ENA
Bn	72 (114)	vv	Control (cc)=0-119	(Pad5, ASW)	*3
Bn	73 (115)	vv	Control (cc)=0-119	(Pad6, ASW)	*3
Bn	74 (116)	vv	Control (cc)=0-119	(Pad7, ASW)	*3
Bn	75 (117)	vv	Control (cc)=0-119	(Pad8, ASW)	*3
Bn	76 (118)	vv	Control (cc)=0-119	(Vector Joystick X)	*3
Bn	77 (119)	vv	Control (cc)=0-119	(Vector Joystick Y)	*3
Bn	cc (cc)	vv	Control (cc)=0-119	(Sequencer data)	Q
Bn	cc (cc)	vv	Control (cc)=0-119	(Knob)	C
Bn	cc (cc)	vv	Control (cc)=0-119	(Vector CC)	C
Bn	cc (cc)	vv	Control (cc)=0-119	(KARMA RTC)	C
Bn	cc (cc)	vv	Control (cc)=0-119	(Pads)	C
Bn	cc (cc)	vv	Control (cc)=0-119	(External Mode)	C
Bn	cc (cc)	vv	Control (cc)=0-119	(KARMA GE data)	C
Bn	cc (cc)	vv	Control (cc)=0-119	(KARMA CC Offset = MIDI_CCH00-95)	*4
Cn	pp (pp)	--	Channel Pressure	(Prog/Combi change)	*2
Dn	vv (vv)	--	Channel Pressure	(After Touch)	P
En	bb (bb)	bb	Bender Change	(Joy Stick X)	C

Pd1 : Assignable Pedal
 ASW : Assignable Switch
 Knob : Realtime Knob5, 6, 7, 8
 VJS : Vector Joystick CC Control

S Chg : Transmitted when change a Song No. (Seq. mode) . (Status = EXT, EX2 or BTH)
 C/S Chg : Transmitted when change a Combination of Song No. (Seq. mode) . (Status = EXT, EX2 or BTH)

n : MIDI Channel No. (0 - 15) *****Usually Global Channel.
 g : When in Combination/Sequencer/Song Play mode, each timbre's/track's channel. (Status = EXT, EX2 or BTH)
 g(d) : Always Global Channel No. (0 - 15)

ENA = A : Always Enabled.
 C : Enabled when Enable Control Change in Global mode is checked.
 P : Enabled when Enable Program Change in Global mode is checked.
 PB: Enabled when Enable Program and Bank Change in Global mode is checked.
 T : Enabled when Enable After Touch in Global mode is checked.
 Q : Enabled when Sequencer is playing(Transmit/), recording(Receive)

*1 : kk = 16 - 115 : OASYS 76Keys (76keys + Transpose)
 = 09 - 120 : OASYS 88Keys (88keys + Transpose)
 = 00 - 127 : Sequencer and KARMA Module

*2 : Program Combination MIDI Out [Hex] (Bank Map is KORR) (Bank Map is GM (2))
 Bank INT-A 000 - 127 : Bank INT-A 000 - 127 : = 00,00, 00 - 7F = 3F,00, 00 - 7F
 INT-B 000 - 127 : INT-B 000 - 127 : = 00,01, 00 - 7F = 3F,01, 00 - 7F
 INT-C 000 - 127 : INT-C 000 - 127 : = 00,02, 00 - 7F = 3F,02, 00 - 7F
 INT-D 000 - 127 : INT-D 000 - 127 : = 00,03, 00 - 7F = 3F,03, 00 - 7F
 INT-E 000 - 127 : INT-E 000 - 127 : = 00,04, 00 - 7F = 3F,04, 00 - 7F
 INT-F 000 - 127 : INT-F 000 - 127 : = 00,05, 00 - 7F = 3F,05, 00 - 7F
 INT-G 000 - 127 : INT-G 000 - 127 : = 00,06, 00 - 7F = 3F,06, 00 - 7F
 GM 001 - 128 : = 79,00, 00 - 7F = 79,00, 00 - 7F
 g(1)-(9) 001 - 128 : = 79,01-09, 00 - 7F = 79,01-09, 00 - 7F
 g(d) 001 - 128 : = 78,00, 00 - 7F = 78,00, 00 - 7F

*3 : When CCh by "CC Default" is assigned to the KARMA Controllers, Vector Joystick X, Y and Pads in Global Mode.
 Reset Controller MIDI Assign = CC Default
 KARMA ON/OFF : CCH14
 KARMA Slider1 : CCH23
 KARMA Slider2 : CCH22
 KARMA Slider3 : CCH24
 KARMA Slider4 : CCH25
 KARMA Slider5 : CCH26
 KARMA Slider6 : CCH27
 KARMA Slider7 : CCH28

2. RECOGNIZED RECEIVE DATA

2-1 CHANNEL MESSAGES

Status [Hex]	Second [H] [D]	Third [H] [D]	Description (Use)	ENA
8n	kk (kk)	xx (xx)	Note Off	A
9n	kk (kk)	00 (00)	Note On	A
9n	kk (kk)	vv (vv)	Note On (vv = 1-127)	A
An	kk (kk)	vv (vv)	Poly Key Pressure (as AMS)	T,O
Bn	00 (00)	mm (mm)	Bank Select (MSB) (for Prog/Combi change)	*1
Bn	01 (01)	vv (vv)	Modulation1 (as Joy Stick +Y)	C
Bn	02 (02)	vv (vv)	Modulation2 (as Joy Stick -Y)	C
Bn	04 (04)	vv (vv)	Foot Pedal (as AMS & FX Dmod Src = Foot Pedal)	C
Bn	05 (05)	vv (vv)	Portamento Time (for RPC edit)	C
Bn	06 (06)	vv (vv)	Data Entry (MSB) (for Post IFX Rampot control)	C
Bn	07 (07)	vv (vv)	Volume (for Post IFX Rampot control)	C
Bn	08 (08)	vv (vv)	Balance Control (for Post IFX Rampot control)	C
Bn	0A (10)	vv (vv)	Panpot (for Post IFX Rampot control)	C
Bn	0B (11)	vv (vv)	Expression (for Post IFX Rampot control)	C
Bn	0C (12)	vv (vv)	Effect Control 1 (as FX Dmod Src = Fx Control)	C
Bn	0D (13)	vv (vv)	Effect Control 2 (as FX Dmod Src = Fx Control)	C
Bn	0E (14)	vv (vv)	Effect Control 3 (as KARMA ON/OFF)	C
Bn	10 (16)	vv (vv)	Multi Purpose Ctrl1 (as AMS & FX Dmod Src = Knob Mod5)	C
Bn	11 (17)	vv (vv)	Multi Purpose Ctrl2 (as AMS & FX Dmod Src = Knob Mod6)	C
Bn	12 (18)	vv (vv)	Multi Purpose Ctrl3 (as Value Slider)	C
Bn	13 (19)	vv (vv)	Multi Purpose Ctrl4 (as AMS & FX Dmod Src = Knob Mod7)	C
Bn	14 (20)	vv (vv)	Multi Purpose Ctrl5 (as AMS & FX Dmod Src = Knob Mod8)	C
Bn	15 (21)	vv (vv)	Multi Purpose Ctrl6 (as KARMA Slider1)	*4
Bn	16 (22)	vv (vv)	Multi Purpose Ctrl7 (as KARMA Slider2)	*4
Bn	17 (23)	vv (vv)	Multi Purpose Ctrl8 (as KARMA Slider3)	*4
Bn	18 (24)	vv (vv)	Multi Purpose Ctrl9 (as KARMA Slider4)	*4
Bn	19 (25)	vv (vv)	Multi Purpose Ctrl10 (as KARMA Slider5)	*4
Bn	1A (26)	vv (vv)	Multi Purpose Ctrl11 (as KARMA Slider6)	*4
Bn	1B (27)	vv (vv)	Multi Purpose Ctrl12 (as KARMA Slider7)	*4
Bn	1C (28)	vv (vv)	Multi Purpose Ctrl13 (as KARMA Slider8)	*4
Bn	1D (29)	vv (vv)	Multi Purpose Ctrl14 (as KARMA SCENEL...8 Control)	*4
Bn	1E (30)	vv (vv)	Multi Purpose Ctrl15 (as KARMA LATCH)	*4
Bn	1F (31)	vv (vv)	Multi Purpose Ctrl16 (for Prog / Combi change)	*1
Bn	20 (32)	bb (bb)	Bank Select (LSB) (for RPC edit)	C
Bn	26 (38)	vv (vv)	Data Entry (LSB) (as Damper)	C
Bn	40 (64)	vv (vv)	Hold1	C
Bn	41 (65)	3F/40 (63/64)	Portamento Off/On	C
Bn	42 (66)	3F/40 (63/64)	Sostenuto Off/On	C
Bn	43 (67)	vv (vv)	Soft Pedal	C
Bn	44 (68)	vv (vv)	Sound Controller 1 (for Sustain Level control)	C
Bn	45 (69)	vv (vv)	Sound Controller 2 (for Resonance control)	C
Bn	46 (70)	vv (vv)	Sound Controller 3 (for Release Time control)	C
Bn	47 (71)	vv (vv)	Sound Controller 4 (for Attack Time control)	C
Bn	48 (72)	vv (vv)	Sound Controller 5 (for Filter Cutoff control)	C
Bn	49 (73)	vv (vv)	Sound Controller 6 (for Decay Time control)	C
Bn	4A (74)	vv (vv)	Sound Controller 7 (for LP01 Speed control)	C
Bn	4B (75)	vv (vv)	Sound Controller 8 (for LP01 Pitch Depth control)	C
Bn	4C (76)	vv (vv)	Sound Controller 9 (for LP01 Delay control)	C
Bn	4D (77)	vv (vv)	Sound Controller 10 (for Filter EG Intensity control)	C
Bn	4E (78)	vv (vv)	Multi Purpose Ctrl15 (as AMS & FX Dmod Src = SW 1)	C
Bn	4F (79)	vv (vv)	Multi Purpose Ctrl16 (as AMS & FX Dmod Src = SW 2)	C
Bn	50 (80)	vv (vv)	Multi Purpose Ctrl17 (as AMS & FX Dmod Src = Foot Switch)	C
Bn	51 (81)	vv (vv)	Multi Purpose Ctrl18 (as AMS & FX Dmod Src = CCH83)	C
Bn	52 (82)	vv (vv)	Multi Purpose Ctrl19 (as AMS & FX Dmod Src = Vector Mod +X)	C
Bn	53 (83)	vv (vv)	Multi Purpose Ctrl20 (as AMS & FX Dmod Src = Vector Mod -X)	C
Bn	54 (84)	vv (vv)	Multi Purpose Ctrl21 (as AMS & FX Dmod Src = Vector Mod +Y)	C
Bn	55 (85)	vv (vv)	Multi Purpose Ctrl22 (as AMS & FX Dmod Src = Vector Mod -Y)	C
Bn	56 (86)	vv (vv)	Effect 1 Depth (for Send 2 Level Off/On)	C
Bn	57 (87)	vv (vv)	Effect 2 Depth (for All Insert FX Off/On)	C
Bn	58 (88)	vv (vv)	Effect 3 Depth (for Send 1 Level control)	C
Bn	59 (89)	00/00 (00/0000)	Effect 4 Depth (for Master FX1,2 Off/On)	C
Bn	5A (90)	00/00 (00/0000)	Effect 5 Depth (for Total FX1,2 Off/On)	C
Bn	5B (91)	00/00 (00/0000)	Data Increment (for RPC edit)	C
Bn	5C (92)	00/00 (00/0000)	Data Decrement (for RPC edit)	C
Bn	5D (93)	00/00 (00/0000)	RPN Param No. (LSB) (for RPN select)	*3
Bn	5E (94)	00/00 (00/0000)	RPN Param No. (MSB) (for RPN select)	*3
Bn	60 (96)	00 (00)	Data Increment (as KARMA SW1)	*4
Bn	61 (97)	00 (00)	Data Decrement (as KARMA SW2)	*4
Bn	64 (100)	00 (00)	RPN Param No. (LSB) (as KARMA SW3)	*4
Bn	65 (101)	00 (00)	RPN Param No. (MSB) (as KARMA SW4)	*4
Bn	66 (102)	3F/40 (63/64)	Portamento Off/On	C
Bn	67 (103)	3F/40 (63/64)	Sostenuto Off/On	C
Bn	68 (104)	3F/40 (63/64)	Soft Pedal	C
Bn	69 (105)	3F/40 (63/64)	Sound Controller 1 (for Sustain Level control)	C

- KARMA Sliders8 :CCH29
- KARMA SCENE :CCH30
- KARMA LATCH :CCH31
- KARMA SW1 :CCH102
- KARMA SW2 :CCH103
- KARMA SW3 :CCH104
- KARMA SW4 :CCH105
- KARMA SW5 :CCH106
- KARMA SW6 :CCH107
- KARMA SW7 :CCH108
- KARMA SW8 :CCH109
- Pad1 :CCH110
- Pad2 :CCH111
- Pad3 :CCH112
- Pad4 :CCH113
- Pad5 :CCH114
- Pad6 :CCH115
- Pad7 :CCH116
- Pad8 :CCH117
- Vector Joystick X :CCH118
- Vector Joystick Y :CCH119

*4 : Transmitted when turn KARMA On.
 Transmitted when change a GE. (KARMA ON/OFF = On)
 Transmitted when change a Program, Combination of Song No. (Seq. mode) (KARMA ON/OFF = On)

1-2 SYSTEM COMMON MESSAGES

Status [Hex]	Second [H] [D]	Third [H] [D]	Description (Transmitted when)
F2	ss (ss)	tt (tt)	Song Position Pointer ss : Least significant [LSB] tt : Most significant [MSB]
F3	ss (ss)		Song Select (Song is selected) ss : Song (0-127)

Transmits Song Position Pointer message when in Sequencer mode. (Internal Clock)
 Transmits Song Select message when in Sequencer mode. (Internal Clock)
 *5 : For example, if time signature is 4/4 or 8/8, tt,ss = 00,10 means one measure.

1-3 SYSTEM REALTIME MESSAGES

Status [Hex]	Description (Transmitted when ...)
F8	Timing Clock (Always in Prog/Combi/Seq mode)
FA	Start (START in Seq mode)
FB	Continue (Continue START in Seq mode)
FC	Stop (STOP in Seq mode)
FE	Active Sensing (Always)

*6 Transmits these messages when MIDI/Stop in Global mode is Internal.
 *7 Transmits these messages when E Start/Stop Out in Prog/Combi in Global mode is Enabled.

1-4 SYSTEM EXCLUSIVE

- 1-4-1 UNIVERSAL SYSTEM EXCLUSIVE MESSAGE (NON REALTIME)
 DEVICE INQUIRY REPLY (Transmits when received a INQUIRY MESSAGE REQUEST)
 [F0,7E,09,06,02,42,70,00,mm,00,vv,ww,xx,00,F7] 3rd byte g : Global Channel
 6th byte 42 : KORGI ID
 7th byte mm : OASYS series ID
 8th byte vv : OASYS 76keys member code
 9th byte ww : OASYS 88keys member code
 10th byte xx : System Version 1st (1 -)
 11th byte yy : System Version 2nd (0 -)
 12th byte zz : System Version 3rd (0 -)
 (i.e. Version 1.0.2 : vv=01, ww=00, xx=02)
- 1-4-2 UNIVERSAL SYSTEM EXCLUSIVE MESSAGES (REALTIME)
 Master Volume
 [F0,7F,09,04,01,vv,mm,F7]
 3rd byte g : Global Channel
 6th byte vv : Value (LSB)
 7th byte mm : Value (MSB)
 vv,mm = 00,00 - 7F,7F : Min - Max

3F,0A, 00 - 7F : USER-C 000 - 127 : USER-C 000 - 127
 3F,0B, 00 - 7F : USER-D 000 - 127 : USER-D 000 - 127
 3F,0C, 00 - 7F : USER-E 000 - 127 : USER-E 000 - 127
 3F,0D, 00 - 7F : USER-F 000 - 127 : USER-F 000 - 127
 3F,0E, 00 - 7F : USER-G 000 - 127 : USER-G 000 - 127
 79,00, 00 - 7F : G 001 - 128
 78,00, 00 - 7F : g(d) 001 - 128
 00,00, 00 - 7F : G 001 - 128
 3E,00, 00 - 7F : g(d) 001 - 128

*2 : When in Program/Sampling mode, Global channel.
 When in Combination/Sequencer mode, each IFX's channel.

*3 : x = 0 : Pitch Bend Sensitivity (Bend Range)
 = 1 : Fine Tune (Detune)
 = 2 : Coarse Tune (Transpose)

For drum program, both of Fine Tune and Coarse Tune affect to Detune.
 Data Entry LSB value has no effect for Pitch Bend Sensitivity and Coarse Tune.

*4 : When CC# by "CC Default" is assigned to the KARMA Controllers, Vector Joystick X, Y and Pads in Global Mode.

n : When in Program/Combination mode, Global channel.
 When in Sequencer mode, current selected track's channel.

2-2 SYSTEM COMMON MESSAGES

Status [Hex]	Second [H] [D]	Third [H] [D]	Description (Use for)
F2	ss (ss)	tt (tt)	Song Position Pointer (Location) ss : Least significant [LSB] tt : Most significant [MSB]
F3	ss (ss)		Song Select (Song select) ss : Song (0-127) No.

Receive when in Sequencer mode.

2-3 SYSTEM REALTIME MESSAGES

Status [Hex]	Description (Use for.....)
F8	Timing Clock (Tempo, AMS & FX Dmod Src) *5
FA	Start (Seq Start & KARMA Control) *6
PB	Continue (Seq Continue start & KARMA Control) *6
FC	Stop (Seq Stop & KARMA Control) *6
FE	Active Sensing (MIDI Connect check)

*5 Receive when MIDI Clock in Global mode is External MIDI.
 *6 Receive when MIDI Clock in Global mode is External MIDI and Receive Ext. Realtime Commands in Global mode is checked.

2-4 SYSTEM EXCLUSIVE

2-4-1 UNIVERSAL SYSTEM EXCLUSIVE MESSAGE (NON REALTIME)

DEVICE INQUIRY (When received this message, transmits INQUIRY MESSAGE REPLY)

[F0, 7E, nn, 06, 01, F7] 3rd byte nn : Channel = 0 - F : Global Channel = 7F : Any Channel

GM System On (Receive when in Sequencer mode)

[F0, 7E, nn, 09, 01, F7] 3rd byte nn : Channel = 0 - F : Global Channel = 7F : Any Channel

Status [Hex]	Second [H] [D]	Third [H] [D]	Description (Use)	ENA
Bn	6A (106)	3E/ 40 (63/ 64)	(as KARMA SW5)	*4
Bn	6B (107)	3F/ 40 (63/ 64)	(as KARMA SW6)	*4
Bn	6C (108)	3E/ 40 (63/ 64)	(as KARMA SW7)	*4
Bn	6D (109)	3F/ 40 (63/ 64)	(as KARMA SW8)	*4
Bn	6E (110)	vv (vv)	(as Pad1 (vv) = 1-127 Velocity)	*4
Bn	6F (111)	vv (vv)	(as Pad2 (vv) = 1-127 Velocity)	*4
Bn	70 (112)	vv (vv)	(as Pad3 (vv) = 1-127 Velocity)	*4
Bn	71 (113)	vv (vv)	(as Pad4 (vv) = 1-127 Velocity)	*4
Bn	72 (114)	vv (vv)	(as Pad5 (vv) = 1-127 Velocity)	*4
Bn	73 (115)	vv (vv)	(as Pad6 (vv) = 1-127 Velocity)	*4
Bn	74 (116)	vv (vv)	(as Pad7 (vv) = 1-127 Velocity)	*4
Bn	75 (117)	vv (vv)	(as Pad8 (vv) = 1-127 Velocity)	*4
Bn	76 (118)	vv (vv)	(as Vector Joystick X)	*4
Bn	77 (119)	vv (vv)	(as Vector Joystick Y)	*4
Bn	cc (cc)	vv (vv)	Control data (For Seq. recording (cc) = 0-119)	C,Q
Bn	78 (120)	00 (00)	All Sound Off	C
Bn	79 (121)	00 (00)	Reset All Controllers	C
Bn	7A (122)	00/7F (00/127)	Local Control Off/On	C
Bn	7B (123)	00 (00)	All Notes Off	A
Bn	7C (124)	00 (00)	Omn1 Mode Off	A
Bn	7D (125)	00 (00)	Omn1 Mode On	A
Bn	7E (126)	10 (16)	Mono Mode On	A
Bn	7F (127)	00 (00)	Poly mode On	A
Ch	pp (pp)	-- --	Program Change (for Prog/Combi change)	*1
Dn	vv (vv)	-- --	Channel Pressure	T
Bn	bb (bb)	bb (bb)	Bender Change	C

AMS : Alternate Modulation Source
 FX Dmod Src : Effect Dynamic Modulation Source

n : MIDI Channel No. (0 - 15) ***** Usually Global Channel.
 When in Combination/Sequencer mode, each timbre's/track's channel. (Status is INT or BTH)
 For KARMA Module input in Combination/Sequencer mode, Input Channel of each KARMA Module
 g : Always Global Channel No. (0 - 15)
 x : Random
 ENA : Same as Transmitted data

*1 : When Bank Map in Global mode is KORG;

MIDI In [Hex]	Program	Combination
mm, bb, pp = 00,00,	00 - 7F : Bank INT-A 000 - 127	Bank INT-A 000 - 127
00,01,	00 - 7F : INT-B 000 - 127	INT-B 000 - 127
00,02,	00 - 7F : INT-C 000 - 127	INT-C 000 - 127
00,03,	00 - 7F : INT-D 000 - 127	INT-D 000 - 127
00,04,	00 - 7F : INT-E 000 - 127	INT-E 000 - 127
00,05,	00 - 7F : INT-F 000 - 127	INT-F 000 - 127
00,06,	00 - 7F : INT-G 000 - 127	INT-G 000 - 127
00,08,	00 - 7F : USER-A 000 - 127	USER-A 000 - 127
00,09,	00 - 7F : USER-B 000 - 127	USER-B 000 - 127
00,0A,	00 - 7F : USER-C 000 - 127	USER-C 000 - 127
00,0B,	00 - 7F : USER-D 000 - 127	USER-D 000 - 127
00,0C,	00 - 7F : USER-E 000 - 127	USER-E 000 - 127
00,0D,	00 - 7F : USER-F 000 - 127	USER-F 000 - 127
00,0E,	00 - 7F : USER-G 000 - 127	USER-G 000 - 127

79,00, 00 - 7F : G 001 - 128
 79,01-09, 00 - 7F : g(1)-g(9) 001 - 128
 78,00, 00 - 7F : g(d) 001 - 128

38,00, 00 - 7F : G 001 - 128
 3E,00, 00 - 7F : g(d) 001 - 128

When Bank Map in Global mode is GM(2);

MIDI In [Hex]	Program	Combination
mm, bb, pp = 3F,00,	00 - 7F : Bank INT-A 000 - 127	Bank INT-A 000 - 127
3F,01,	00 - 7F : INT-B 000 - 127	INT-B 000 - 127
3F,02,	00 - 7F : INT-C 000 - 127	INT-C 000 - 127
3F,03,	00 - 7F : INT-D 000 - 127	INT-D 000 - 127
3F,04,	00 - 7F : INT-E 000 - 127	INT-E 000 - 127
3F,05,	00 - 7F : INT-F 000 - 127	INT-F 000 - 127
3F,06,	00 - 7F : USER-A 000 - 127	USER-A 000 - 127
3F,08,	00 - 7F : USER-B 000 - 127	USER-B 000 - 127
3F,09,	00 - 7F : USER-C 000 - 127	USER-C 000 - 127

2-4-2 UNIVERSAL SYSTEM EXCLUSIVE MESSAGES (REALTIME)

Master Volume
[F0, 7F, 09, 04, 01, vv, mm, F7] 3rd byte g : Global Channel
6th byte vv : Value (LSB)
7th byte mm : Value (MSB)
mm, vv = 00, 00 - 7F, 7F : Min - Max

Master Balance
[F0, 7F, 09, 04, 02, vv, mm, F7] 3rd byte g : Global Channel
6th byte vv : Value (LSB)
7th byte mm : Value (MSB)
mm, vv = 00, 00:Left, 40, 00:Center, 7F, 7F:Right

Master Fine Tune (Control Master Tune(cent) in Global)
[F0, 7F, 09, 04, 03, vv, mm, F7] 3rd byte g : Global Channel
6th byte vv : Value (LSB)
7th byte mm : Value (MSB)
mm, vv = 20, 00:-50, 40, 00:+00, 60, 00:+50

Master Coarse Tune (Control Transpose (chromatic step) in Global)
[F0, 7F, 09, 04, 04, vv, mm, F7] 3rd byte g : Global Channel
6th byte vv : Value (LSB)
7th byte mm : Value (MSB)
mm, vv = 34, 00:-12, 40, 00:+00, 4C, 00:+12

Error and confirmation messages

A (ADC–Are You Sure)

ADC Overload

Meaning: If the **ADC OVERLOAD!** indication appears above the Recording Level bar, the signal is distorting because of an overload at the AUDIO INPUT stage. To solve this problem:

- Adjust the MIC/LINE gain select switch, the LEVEL knob (AUDIO INPUT 1 and 2 only), or the output level of your external audio source.

Are you sure?

Meaning: This message asks you to confirm execution. To execute press the OK button. To cancel, press the Cancel button.

B (Buffer)

Buffer overrun error occurred

Meaning: When sampling to external USB media, the processing could not keep up with the sampling. To solve this problem:

- Execute the Disk Utility page menu command **Check Medium**. Then try the sampling operation again. If this does not resolve the problem, copy several files from that media to other media, delete those files, and then try the sampling operation again.

Note: Sampling may not be possible because of the media you're using. Please use the recommended types of media. (Media that can be used on the OASYS.)

Note: If the "Buffer overrun error occurred" error message appears, the data up to the point the error occurred has been sampled, but the data at the point the error occurred may not play back correctly.

Buffer underrun error occurred

Meaning: When playing back a WAVE file from external USB media, the data could not be read fast enough for playback processing.

- Copy the file you want to play into another folder, and then execute the operation again.

Note: Playback may not be possible because of the media you're using. Please use the recommended types of media. (Media that can be used on the OASYS.)

C (Can't calibrate–Completed)

Can't calibrate

Meaning: Calibration could not be performed correctly.

- Try again.

Meaning: If the Global mode Memory Protect parameter **Internal HDD Save** is checked, writing to the internal hard disk is prohibited. This error message will appear if you attempt to record on audio tracks in this state.

- Uncheck the **Internal HDD Save** item, and try the recording again.

Can't execute Audio Track recording

Meaning: You attempted to record audio tracks when **Recording Setup** is set to Loop All Tracks

- You cannot perform audio track recording with Loop All Tracks. Choose a different Recording Setup, and try recording again.

Meaning: You attempted to record audio tracks with the Global mode **MIDI Clock** set to External MIDI or Auto, and an external MIDI device acting as the MIDI clock master

- You cannot perform audio track recording when an external MIDI device is the MIDI clock master. Set **MIDI Clock** to Internal so that the OASYS is the MIDI clock master.

Can't insert event in stereo track

Meaning: In Sequencer mode, you were performing audio event editing on an audio track that is assigned as a stereo pair, and were unable to insert an audio event because the paired track contained an audio event.

- Delete the unwanted audio event from the paired audio track, and then insert the desired event.

Can't load divided PCG file

Meaning: The page menu command "Load PCG (RAM) and Samples" cannot be performed on a divided PCG file.

Can't open pattern Continue?

Meaning: When you finished recording, it was not possible to allocate enough memory to open the pattern that was Put into the track. (When it must be opened automatically.) If you press the OK button, the pattern data will be deleted, and the recorded or edited content will be saved. If you press the Cancel button, the recorded content will be discarded.

CLIP!

Meaning: The "CLIP!" indication will appear if the signal level exceeds 0 dB.

- The signal being sampled or recorded to an audio track has overloaded; use the **Recording Level** slider to adjust the level.

Note: When inputting from the AUDIO INPUT 1–4 jacks, you will obtain the widest possible dynamic range if you adjust the MIC/LINE gain select switch and the LEVEL knobs (AUDIO INPUT 1 and 2 only) as high as possible without allowing "ADC OVERLOAD!" to appear. In addition, you should set **Level** (0–2a) to 127, and adjust **Recording Level** as high as possible without allowing "CLIP!" to appear.

D (Destination-Disk)

Destination and source are identical

Meaning: When copying or bouncing, the same song, track or pattern was selected for both the source and destination. To solve this problem:

- Select a different song, track, or pattern for the source and destination.

Destination from-measure within the limits of source

Meaning: When executing the Move Measure command for all tracks or within the same track, the specified destination measure is within the source range. To solve this problem:

- Set a destination measure that is outside of the source range.

Destination is empty

Meaning: When editing, the track or pattern that was specified as the destination contains no musical data. To solve this problem:

- Select a track or pattern that contains musical data.

Destination measure is empty

Meaning: The measure that was specified as the destination contains no data.

- Specify a destination measure that contains data.

CLOCK ERROR!

Meaning: The clock was not detected correctly when you set **System Clock** to S/P DIF or Word Clock in Global mode.

- Whenever you use digital audio connections, make sure that all connected systems are set so that there is one and only one word clock master. You can set the word clock for the OASYS using the Global page **System Clock** parameter. For more information, see "System Clock" on page 702 of the Parameter Guide.
- Make sure that your external device is correctly transmitting a digital signal. The OASYS can accept sampling frequencies of 48 kHz or 96 kHz.
- Make sure that there is no problem with the optical cable.

Meaning: The word clock was not being input correctly when you set **System Clock** to Word Clock in Global mode.

- Make sure that there is no problem with the BNC cable.

Completed

Meaning: Execution of the command ended normally.

Destination multisample already exists

Meaning: A multisample already exists at the destination (save location) multisample.

- Either delete the multisample at the destination (save location), or change the save destination multisample number.

Destination multisample and source multisample are identical

Meaning: The same multisample is selected for the source and destination.

- Select different multisamples for the source and destination.

Destination sample already exists

Meaning: A sample already exists at the destination (save location).

- Either delete the sample at the destination (save location), or change the save destination sample number.

Destination sample data used in source sample Can't overwrite

Meaning: Since the sample data at the destination (save location) is also used by the source sample, it cannot be overwritten.

- Without using **Overwrite**, specify a different sample for the destination (save location).

Destination sample is empty

Meaning: The sample for editing is empty.

Destination song is empty

Meaning: The song that was specified as the copy destination or bounce destination does not exist.

- Execute the **Create New Song** command in the dialog box that appears when a new song is selected before copying or bouncing.

Directory is not empty Cleanup directory Are you sure?

Meaning: When deleting a directory, files or directories exist within that directory.

E (Error–Exceeded)

Error in formatting medium

Meaning: An error occurred while performing a physical format (full format) or high-level format (quick format) of the media. To solve this problem:

- Use other media.

Meaning: When executing the Disk mode Utility page menu command **Convert to ISO9660 Format**, an error occurred while rewriting the UDF area. To solve this problem:

- Use other media.

Error in reading from medium

Meaning: An error occurred while reading data from media. This error may also appear when data is being written to media by a **Save** or **Copy** operation. To solve this problem:

- Execute the reading operation once again. If the same error occurs, it is possible that the data on the disk has been damaged.

Error in writing to medium

Meaning: A verification error occurred while writing data to a medium. To solve this problem:

F (File–Front)

File already exists

Meaning: When executing a **Create Directory** or **File Rename** operation, a directory or file of the same name already exists on the disk.

Meaning: When you executed the Disk mode Utility **Save Sampling Data** for All, All Multisamples, All Samples, or One Multisample, a directory already

- Press the **OK** button to delete all files and/or directories within that directory.

Disc full

Meaning: When executing command in the Disk mode **Make Audio CD** page, **Write to CD** there is insufficient space remaining on the CD-R/RW for the data to be written.

- Either write to other media, or remove unneeded tracks.

Disk not formatted

Meaning: When you attempted to perform a high-level format (quick format) of media, the media had not been physically formatted yet. To solve this problem:

- Execute the Disk mode Utility page menu command **Format** to physically format the media (full format).

- It is possible that the media has been physically damaged. Try another media. Avoid using the media that produced the error.

- When using external USB media, execute the Disk mode Utility page menu command **Check Medium**.

Exceeded 16 Programs

Meaning: You exceeded 16 programs while performing **Advanced Conversion Load**. When an AKAI Program is loaded, it will be converted into multiple programs and one combination according to its structure. At this time, the maximum number of OASYS programs resulting from this conversion is limited to 16, which is the maximum number of programs that can be used in a combination. To solve this problem:

- Load the AKAI programs individually, and edit them on the OASYS.
- Instead of using **Advanced Conversion Load**, load the multisamples or samples, and edit them on the OASYS.

Meaning: When executing the Disk mode Utility **Copy** command without using wild cards, the copy destination contained a file of the same name as the copy source.

existed on the disk with the same name as the directory that you attempted to create on the OASYS.

Meaning: When sampling to the hard disk, an identically-named file exists in the save-destination.

- Either delete the existing directory or file, or specify a different name.

Meaning: When recording an audio track, an identically-named WAVE file exists in the save-destination on the hard disk.

- Either delete the existing file, or use the Sequencer P0– Preference page to specify a different name.

Meaning: If an audio track you recorded before last powering-off was not saved as a SNG file, the following message will appear when you turn on the power.

There are un-saved audio files from your previous recording session.

Do you want to restore these files, or delete them from the disk?

[Restore] [Delete]

If you choose Restore, a folder named TEMP will remain on the internal hard disk. If you then record audio tracks in this state, and use the default name in the Preference page, the name may be identical to the already-existing WAVE file, causing this message to appear.

- Specify a different name. (Sequencer P0– Preference page)
- Use the Disk Utility page menu command **Delete** to delete the TEMP folder.

File contains unsupported data

Meaning: You attempted to load an AIFF, WAVE, or KSF file that was in a format not supported by the OASYS.

- In the case of a AIFF or WAVE file, use a computer (if possible) to convert the file into a format that is supported on the OASYS, and then load it.

File is read-only protected

Meaning: You attempted to write to a file or to delete a file that had a read-only attribute.

Meaning: You attempted to save a file to media that contained a read-only file of the same name.

- Save the file with a different name.

Meaning: You attempted to save a file or directory in a Locked directory.

- Use the page menu command **Lock/Unlock** to unlock the directory.

File name conflicts

Meaning: When saving a SNG file, the directory in which the WAVE file used by the region is to be saved already contains a directory named "(first six characters of the specified filename) + _A" and that directory contains an identically-named WAVE file.

Meaning: When saving a SNG file, the WAVE files being saved are such that some of them would have the same filenames as files in the save-destination.

- Using the text edit field shown below "Rename," edit the name of the WAVE file being saved so that it does not conflict. Then press "OK." If you press "Cancel," that WAVE will not be saved, so you should normally edit the name and save the data.

File unavailable

Meaning: You attempted to load or open a file whose format was incorrect.

File/path not found

Meaning: When loading a sample file in Disk mode, the specified file does not exist. Alternatively, the specified filename does not exist in the location you selected in a dialog box for choosing another directory level or other media.

Meaning: When executing the **Delete** command in the Disk mode Utility page, the specified file did not exist.

Meaning: When executing the **Copy** command in the Disk mode Utility page, and you used a wild card to specify the copy file name, the specified file was not found. Alternatively, the length of the copy source path name exceeded 76 characters.

Meaning: In Disk mode when you used the Open button to open a directory, the path length including the selected directory name exceeded 76 characters.

Meaning: When executing Insert in the Disk mode Make Audio CD page, you attempted to use the Insert All button to add a WAVE file, but no WAVE file with a sampling frequency of 44.1 kHz or 48 kHz exists in the selected directory.

- Check the file or directory.

Meaning: In Disk mode when loading a .KCD file, a WAVE file listed in the Audio Track List could not be found.

- The file whose Size is not shown in the Disk mode Make Audio CD page is the one that could not be found. Check the file or directory, or delete it from the Audio Track List.

Front sample data used in rear sample Can't overwrite

Meaning: When executing **Link** in the Sampling mode Sample Edit page, the sample data of the front sample is also being used by the rear sample, and therefore cannot be overwritten. To solve this problem:

- Instead of using **Overwrite**, specify a different sample as the save-destination.

I (Illegal–Index)

Illegal file description

Meaning: The filename that you specified when saving a file or creating a directory contained invalid characters. To solve this problem:

- Change the filename you are specifying. Filenames not permitted by MS-DOS cannot be used as a filename.

Illegal SMF data

Meaning: You attempted to load a file that was not a Standard MIDI File.

Illegal SMF division

Meaning: You attempted to load a Standard MIDI File that was timecode-based.

Illegal SMF format

Meaning: You attempted to load a Standard MIDI File of a format other than 0 or 1.

M (Master–Multisample)

Master Track can't be recorded alone

Meaning: When realtime-recording a single track, you attempted to begin recording with the master track as the current track.

- Select a MIDI or Audio Track for recording, instead of the Master Track.

Master Track is empty

Meaning: You cannot open Audio Event Edit because the Master Track is empty. To solve this problem:

- Execute the Sequencer P4– Track Edit page menu command **Set Song Length** etc. with an appropriate length to create a master track, and then open Audio Event Edit.

Measure number over limit

Meaning: The attempted edit operation would cause the track length to exceed 999 measures.

- Delete unnecessary measures.

Measure size over limit

Meaning: When loading a Standard MIDI File, the number of events in a measure exceeded the maximum (approximately 65,535 events).

Meaning: The attempted edit operation would cause the maximum number of events in a measure (approximately 65,535) to be exceeded.

To solve either of these problems:

Inconvertible file exists

Meaning: A file that cannot be used with ISO9660 format exists on the media. To solve this problem:

- Media that was formatted or written by a device other than the OASYS may be impossible for the OASYS to convert into ISO9660 format. To perform the conversion, use the packet writing software that was used to format or write the media.

Index number over limit

Meaning: When sampling into RAM in Combination, Program, or Sequencer mode, there are too many indexes to be simultaneously converted into a multisample.

- Either convert the samples into a different program or multisample, or use Sampling mode to delete some of the indexes before you continue sampling.

- Use event editing etc. to delete unwanted data.

Medium changed

Meaning: When executing the **Copy** command in the Disk mode Utility page, the media was exchanged or ejected, and it was not possible to copy between separate media on the same drive.

Medium unavailable

Meaning: You selected a medium that does not allow writing.

Medium write protected

Meaning: The other writing-destination media is write-protected.

- Turn off write protect on the other media, and execute the command once again.

Memory full

Meaning: In Sequencer mode when editing a song, track or pattern, the total data of all songs has used up all of the sequence data memory, and further editing is not possible. To solve this problem:

- Delete other song data etc. to increase the amount of free memory.

Meaning: While realtime recording in Sequencer mode, there is no more free memory to accommodate the recorded data, so recording has been forcibly halted. To solve this problem:

- Delete other song data etc. to increase the amount of free memory.

Memory overflow

Meaning: While receiving exclusive data in Disk mode **Save Exclusive**, all remaining internal memory was used up. To solve this problem:

- If you are receiving two or more sets of exclusive data, transmit them separately to the OASYS.

Meaning: In Disk mode, you attempted to load more sample waveform data than there was free memory capacity. To solve this problem:

- In Sampling mode, execute Delete sample to create free space in the sample waveform data area, and re-load the data.

Memory Protected

Meaning: The internal program, combination, song, drum kit, wave sequence, KARMA GE, or Internal HDD Save is protected.

Meaning: The song was protected when you executed Auto Song Setup.

- In Global mode, turn off write-protect, and execute the write or load operation once again.

MIDI data receiving error

Meaning: While receiving MIDI System Exclusive data, the format of the received data was invalid, for example because the size of the data was incorrect.

Mount Error

Meaning: This message will appear when you execute the Global mode **Update System Software** command if the CD could not be executed successfully. To solve this problem:

- Try again. Alternatively, try again using a different CD.

Multisample L and R are identical

Meaning: Since the destination (save location) L and R multisample numbers are the same, the editing operation could not be executed. To solve this problem:

- Select a different multisample number for the L and R of the destination (save location).

N (No data–Not enough song memory)

No data

Meaning: When loading a Standard MIDI File, the file contained no events.

Meaning: When you executed Samples in One Multisample in “Export Smpl as AIFF/WAVE” command in the Disk mode Save page, there were no samples.

To solve either of these problems:

- Create sample data.

No medium

Meaning: When executing a command in Disk mode, no media was inserted in the drive. To solve this problem:

- Insert media such as a mount the drive.

No recording track specified

Meaning: When performing realtime multi-track recording, you attempted to begin recording with no tracks set to REC. To solve this problem:

- Set the desired tracks for recording to REC.

No space available on medium

Meaning: When you attempted to save or copy a file, or to create a directory, there was not enough free space on the other medium. To solve this problem:

- Either delete an existing file, or exchange the medium with one that has sufficient free space.

No space available on medium Do you want to make a divided file?

Meaning: When saving a .PCG or .KSF file, there was insufficient free space on the media. Please specify whether you want to save the file in divided form.

- Press the OK button to save the file across multiple volumes of media, or press the Cancel button to cancel.

Not enough empty slot to copy

Meaning: This message will appear when you execute Copy Insert Effect or Copy From Program if there are not enough vacant insert effects in the copy-destination. To solve this problem:

- Set unused insert effects in the copy-destination to 000: No Effect so that there will be enough vacant insert effects.

Not enough memory

Meaning: When starting realtime recording in Sequencer mode, the minimum amount of free memory (such as memory for the BAR events up to the recording start location) could not be allocated. To solve this problem:

- Delete other song data etc. to increase the amount of free memory.

Meaning: When executing “Load Exclusive,” you attempted to load an .EXL file that required more than 1,048,576 bytes. Such a file cannot be loaded by the OASYS.

Meaning: When in Disk mode you attempted to load an EXL file from media other than the internal hard disk, memory for temporary use could not be allocated on the internal hard disk.

To solve either of these problems:

- On the internal hard disk, create free space that is larger than the .EXL file.

Not enough memory to load

Meaning: When you attempted to load a .SNG file or a standard MIDI file in Disk mode, there was insufficient free memory in the sequence memory. To solve this problem:

- Delete other song data etc. to increase the amount of free memory.

Not enough memory to open pattern

Meaning: There was insufficient sequencer memory to open the pattern, so editing is not possible.

- Either delete unwanted data such as a song, track, or pattern, or do not open the pattern.

Not enough multisample memory

Meaning: There is insufficient multisample memory. (The number of multisamples would exceed the maximum of 1,000.) To solve this problem:

- Delete multisamples to increase the amount of free memory.

Not enough region locations available

Meaning: The allowable number of regions was exceeded during realtime-recording, or when you attempted to load an entire SNG file, 1 Song, or Tracks with regions being appended.

- In Sequencer P4– Track Edit, select the audio track and use the page menu command **Region Edit** to create enough vacant space following the last region so that the allowable number of regions will not be exceeded. Then try the operation again.

Not enough relative parameter memory

Meaning: There is insufficient memory for relative parameters. (The number of samples in the multisamples would exceed the maximum of 4,000.)

- Delete multisamples or indices of multisamples to increase the amount of free memory.

Not enough sample memory

Meaning: There is insufficient sample memory (for sample parameters or sample waveform data).

- Delete samples to increase the amount of free memory.

Meaning: This message will appear when you execute Global mode Expansion Sample Setup if the settings would exceed the amount of memory. EXs1 and EXs2 cannot be loaded simultaneously.

Not enough sample/multisample locations available

Meaning: The data you attempted to load would exceed the maximum number of multisamples or samples. To solve this problem:

- In Sampling mode, execute “Delete Multisample” or “Delete Sample” to free a sufficient number, and reload the data.

Not enough song locations available

Meaning: When loading a .SNG file with “Append” specified, you attempted to load more songs than can be loaded.

- In Sequencer mode, execute “Delete Song” to increase the number of multi’s that can be used, and then load the song again.

Not enough song memory

Meaning: When executing the Sampling mode “Time Slice” or “Save” commands, the total data for all songs occupies all of the sequence data memory area, so that saving is not possible.

Meaning: When sampling to RAM in Sequencer mode, it is not possible to create track data at the same time.

- Increase the amount of free memory, for example by deleting another song.

No unused WAVE files found

Meaning: When you executed the Disk Utility page menu command “Delete Unused WAVE files,” no unused WAVE files were found.

O (Obey copyright rules–Oscillator)

Obey Copyright Rules

Meaning: When you execute the Disk mode Make Audio CD page “Write to CD” command, or when you execute “Destination” in the Sampling mode Audio CD page “Destination” command.

Please read COPYRIGHT WARNING on iii before you use this data.

Oscillator Mode conflicts (Check PROG P1)

Meaning: In Sampling mode when you executed **Convert MS To Program** with Use Destination Program Parameters checked, the conversion destination program **Oscillator Mode** setting did not match.

- In Program mode, set the **Oscillator Mode** of the conversion destination program. If converting a

monaural multisample, select Single. If converting a stereo multisample, select Double.

P (Pattern–Program)

Pattern conflicts with events

Meaning: It was not possible to execute the Bounce operation because one of the tracks contained a pattern, and the same measure of the other track contained events or a pattern.

- Open the pattern.

Pattern exists across destination to-end-of-measure or source from-measure

Meaning: When moving a measure, the edit operation could not be executed because a pattern had been put in the destination end measure or the source start measure, and had not been opened.

- Open the pattern.

Pattern exists in destination or source track - Open pattern?

Meaning: A pattern has been placed in the track that you specified as a destination or source for editing. If you wish to open the pattern and execute (the events of the pattern will be copied), press the OK button. If you wish to execute without opening the pattern, press the Cancel button.

Pattern used in song - Continue ?

Meaning: When editing, the specified pattern has been placed in a track. If you wish to execute, press the OK button. If you decide not to execute, press the Cancel button.

Program Bank Type conflicts

Meaning: When receiving a dump of an individual bank or a single program, the OASYS received a program that did not match the bank type. If the bank type does not match, the program will not be received.

Meaning: When receiving an All Programs dump, the OASYS received a bank whose bank type did not match. Only banks of the matching bank type will be received.

- If you're receiving USER-A–G banks, set **Global Set Program User -Bank Type** to the same bank type as the transmitting source. Then try the operation again.

Program Type conflicts

Meaning: This message will appear when you execute Copy Tone Adjust if the copy-source and copy-destination program types are different. You cannot copy between HD-1 and EXi Programs, or between different types of EXi Programs.

R (Rear sample–Root)

Rear sample is empty

Meaning: When you executed **Link** in the Sampling mode Sample Edit page, the sample that you specified as the rear sample is empty.

- Specify a sample that contains data as the rear sample, and execute once again.

Root directory is full

Meaning: You attempted to create a file or directory in the root directory of the media, but this would exceed the maximum number of root directory entries.

- Either delete an existing file or directory, or Open a directory to move down one level before executing once again.

S (Sample–Source)

Sample data used in other sample(s) Continue?

Meaning: Other sample(s) use the same sample data as the sample that you are editing. To continue editing, press the OK button.

Sample L and R are identical

Meaning: The edit operation could not be executed because the destination (save location) L and R sample numbers are identical.

- Select different sample numbers for L and R of the destination (save location).

Sample length is shorter than minimum

Meaning: You attempted to execute an editing operation that would make the sample data shorter than 8 samples.

- Change the editing range so that the sample data will be longer than 8 samples.

Sample used in other multisample(s) Continue?

Meaning: The sample you are editing is used by other multisamples. To continue editing, press the OK button.

Selected file/path is not correct

Meaning: When loading a divided .PCG file, you attempted to load a .PCG file of the same name that was not divided or had differing contents.

- Load the correct .PCG file.

Meaning: When loading a KSF file that was split across multiple media, the order in which you attempted to load the files was incorrect.

- Load the KSF file in the correct order. To view the file number order in which the KSF files were saved, you can check the **Translation** page menu command. (The sample name and number of the first KSF file will be displayed.)

Slice point over limit Can't divide

Meaning: When using the Sampling mode **Time Slice** or **Time Stretch** commands, the Slice setting would divide the sample into more samples than the maximum possible number (1000), and thus **Divide** cannot be executed.

T (The clock–Track)

The clock battery voltage is low. Please replace the battery, and set the date and time in Disk mode.

Meaning: The battery for the clock/calendar function has run low. To solve this problem:

- Replace the battery as described in “Installing the calendar battery” on page 1093. Then use the Disk Utility page menu command “Set Date/Time” to set the correct date and time.

The Expansion Sample Setup has now been changed. In order for your changes to take effect, please turn the power off, and then on again. [OK]

Meaning: This will appear when you’ve changed settings in the Global P0 page menu command “Expansion Sample Setup.” Turn off the power switch, and then turn it on again to start up the system. The expansion samples you chose will become available.

There are un-saved audio files from your previous recording session. Do you want to restore these files, or

- Use **Link** to connect any **Index** that you do not require, and then execute **Divide**.

Source file is not 44100Hz or 48000Hz Can't convert

Meaning: When executing the Disk mode Utility page menu command **Rate Convert**, you selected a WAVE file of a sampling rate other than 44.1 kHz, 48 kHz.

- You cannot convert WAVE files other than 44.1 kHz or 48 kHz.

Source IFX is all empty

Meaning: This message will appear when you execute Copy Insert Effect or Copy From Program if there is no insert effect to be copied.

Source is empty

Meaning: No data exists in the track or pattern that you specified as the source.

- Specify a track or pattern that contains musical data.

Source sample is empty

Meaning: When executing Insert, Mix, or Paste, the source sample is empty.

- Execute the Copy operation before executing Insert, Mix, or Paste.

delete them from the disk? [Restore] [Delete]

Meaning: The WAVE files created when you recorded audio tracks before powering-off were not saved as song data, and remain in the TEMP folder of the internal hard disk. Since the data was not saved as song data, all audio events and region data were deleted, but if necessary you can save these WAVE files and use them to create a new song.

- If you want to keep this data, press Restore. If you want to delete this data, press Delete.

There is not readable data

Meaning: Either the file size is 0 or the file does not contain data that can be accessed by the load or open operation. Alternatively, the data is damaged etc., and cannot be loaded or accessed.

The system update has now been installed. To complete the process, you

must now restart the OASYS. Please turn the power off, and then on again.

Meaning: This will appear when you execute the Global P0 page menu command “Update System Software.” To complete the update, restart the system. Turn the power switch off, and then on again.

This file is already loaded

Meaning: When loading a divided .PCG file, you attempted to load a file that had already been loaded.

- Load the .PCG files that have not yet been loaded.

Track is full

Meaning: In the Disk mode Make Audio CD page, you attempted to insert a track that would make the total exceed 99 tracks.

- Cut unneeded tracks, and then execute the Insert operation once again.

U (Unable to create directory–USB Hub)

Unable to create directory

Meaning: You attempted to create a directory that would exceed the maximum path name length (76 characters for the full path name).

Unable to save file

Meaning: When executing the Disk mode Utility command “Copy,” the copy destination path length exceeded 76 characters.

Meaning: When saving a file in Disk mode, the save destination path exceeded 76 characters.

Meaning: When you executed the Disk mode Utility page menu command “Copy,” the file management data exceeded the size of the management area.

Meaning: When sampling to disk, the save-destination path for the WAVE file exceeded 76 characters.

Update Error

Meaning: This will appear when you execute the Global mode command “Update System Software” if the update could not be performed correctly.

- Try again. Alternatively, try again using a different CD.

**USB HUB Power exceeded
Please disconnect USB device**

Meaning: The power consumption of your USB devices has exceeded the capacity of the hub to which they are connected. The USB hub will not be recognized correctly in this state. To solve this problem:

- If you’re using a USB hub or device that is capable of being self-powered, use it in self-powered mode. If you are using more than one USB hub, you may be able to solve the problem by reconnecting a device to a different USB hub. After you’ve reconnected your device(s), execute “Scan USB Device.”

W (Wave)

WAVE files on this external medium will not be played with sequencer audio track playback. Copy SNG and WAVE Directory to Internal HDD, and load SNG from internal HDD

Meaning: The WAVE file used by the SNG data you’re loading in Disk mode exists on external media, and will not play back correctly when loaded. Hard disk recording functionality and audio track recording/playback is available only on the internal hard disk. To solve this problem:

Copy the .SNG file and the directory for that .SNG file (the directory containing the WAVE files it uses) to the same directory of the internal hard disk, and then load the data again.

WAVE file size over limit

Meaning: When editing an audio track in Sequencer mode, you exceeded the maximum number of 230,400,000 samples (80 minutes at a sample rate of 48 kHz) allowable in a WAVE file.

- When editing an audio track, you cannot edit a WAVE file that exceeds 230,400,000 samples (80 minutes at a sample rate of 48 kHz).

Y (You)

**You can’t undo this operation
Are you sure?**

Meaning: Once you enter event editing (even if you leave event editing without actually editing an event), it will no longer be possible to execute a Compare of

the previous edit. If you wish to enter event editing, press the OK button. To cancel, press the Cancel button.

You can't undo last operation Are you sure?

Meaning: When you exit recording or event editing in Sequencer mode, the memory area for Undo (Compare function) is not allocated. If you wish to keep the data that was just recorded or edited, press the OK button. If you wish to return to the previous data (i.e., to delete the data that was just recorded or edited), press the Cancel button.

Meaning: When editing in Sequencer mode, memory area for Undo (Compare function) cannot be allocated. If you wish to execute the edit, press the OK button. (It will not be possible to return to the state before editing.) If you decide not to execute the edit, press the Cancel button.

- In order to allocate memory area for Undo (Compare function), delete unneeded data such as songs, tracks, or patterns. We recommend that you save data to media before you execute the edit operation.

Disk mode information

AIFF and WAVE format details: importing

AIFF files

When data is loaded into the OASYS, the following four chunks are referenced: Common chunk, Sound Data chunk, Marker chunk, and Instrument chunk. Other chunks are ignored.

Restrictions on the parameters in each chunk are described below.

Common chunk

Only one (mono) or two (stereo) channels are supported. Sample sizes of 1–16 bits are supported.

If the sample data is 8 bits or less, it will be loaded as 16 bit data with the lower 8 bits always at 0.

Sound Data chunk

Offset and block size are ignored. (Block-Aligning Sound Data is not supported.)

Marker chunk

Up to eight markers are supported. The ninth and subsequent markers will be ignored.

Instrument chunk

If the loop play mode is ForwardBackwardLooping, this will be handled as ForwardLooping. baseNote, detune, lowNote, highNote, lowVelocity, highVelocity, gain, and releaseLoop will be ignored.

WAVE files

When loading, the OASYS references the Format Chunk, Sample Chunk, and Wave Data. Limitations are discussed below.

Format chunk

Standard PCM format is the only format category that is supported.

Only one (mono) or two (stereo) channels are supported.

Sample sizes of 1–16 bits are supported. If the sample data is 8 bits or less, it will be loaded as 16 bit data with the lower 8 bits always at 0.

Sample Chunk

Only the loop data is referenced. If there is multiple loop data, the loop with the greatest number of loop playback times (Play Count) will be used. Even if the Type is Alternating or Backward, it will be handled as Forward Loop.

Wave data

The Wave List chunk is not supported.

AIFF and WAVE format details: exporting

AIFF files

When exporting, the OASYS will use the Common Chunk, Sound Data Chunk, Marker Chunk, and Instrument Chunk.

Limitations on the parameters within each chunk are discussed below.

Common Chunk

The number of channels is fixed at 1 (mono).

The sample size is fixed at 16 bits.

Marker Chunk

Two markers are used as Loop Start Address and End Address respectively.

Instrument Chunk

The loop play mode is fixed at Forward Looping.

Zone data of the multisamples will not be exported.

Format Chunk

The format category is fixed at standard PCM format.

The number of channels is 1 (mono) or 2 (stereo), and is fixed at 1 (mono) for export.

The sample size is fixed at 16 bits.

Sample Chunk

The Type is fixed at Forward Loop.

Zone data of the multisamples will not be exported.

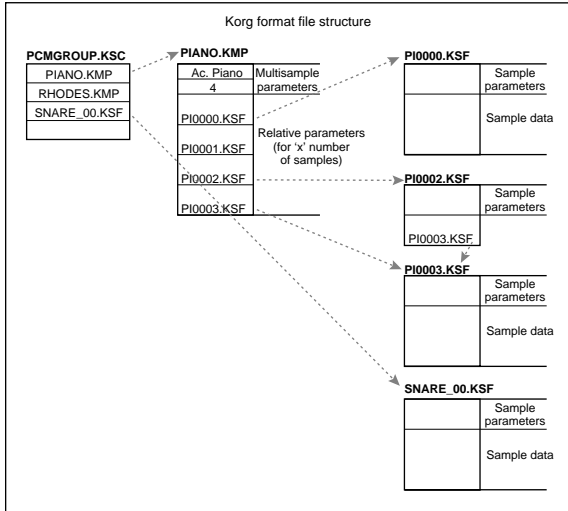
WAVE files

When exporting, the OASYS will use the Format Chunk, Sample Chunk, and Wave Data. Restrictions are given below.

About KORG format files

KORG format file structure

There are three types of sample-related Korg-format files: .KMP files for multisamples, .KSF files for samples, and .KSC files which handle the first two as a collection. Similar to the AIFF format, .KMP/.KSF files consist of chunks.



Unless stated otherwise, all data is Big Endian.

TRINITY Compatibility

Loading OASYS multisamples into the TRINITY

When loading OASYS multisamples into the TRINITY, the following parameters are ignored:

- RLP1 chunk: **Filter cutoff**
- RLP2 chunk: **Transpose, Resonance, Attack, and Decay**
- RLP3 chunk: **Drive, Boost, LowEQLevel, MidEQLevel, and HighEQLevel**

Loading OASYS samples into the TRINITY

- The **Reverse Playback** and **Loop Off** settings (included in the attribute parameters of the SMD1 chunk) will be ignored, and will be handled respectively as forward playback and loop on.
- The **+12dB** setting is ignored.
- Split sample files cannot be loaded.
- The OASYS supports a broader range of sampling frequencies than the TRINITY. If the sampling frequency is not supported by the TRINITY, the next-lowest frequency will be selected.

Loading TRINITY files into the OASYS

When a Korg format file saved on the TRINITY is loaded into the OASYS:

- Compressed sample files cannot be loaded.
- Multisamples that use internal samples of the Trinity will be assigned to identically-numbered RAM samples.

TRITON Compatibility

Loading OASYS multisamples into the TRITON

When loading an OASYS .KMP file into the TRITON, the following parameters are ignored: **Drive, Boost, LowEQLevel, MidEQLevel, and HighEQLevel**. All of these parameters are in the RLP3 chunk.

Loading OASYS samples into the TRITON

- The **+12dB** setting is supported by the TRITON STUDIO and TRITON EXTREME, but not by the TRITON, TRITON-Rack, or TRITON Le.
- The OASYS supports a broader range of sampling frequencies than the TRITON. If the sampling frequency is not supported by the TRITON, the next-lowest frequency will be selected.

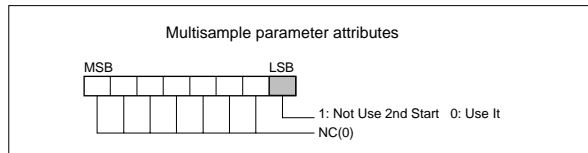
KMP (KORG Multisample Parameter) files

These consist of the following chunks.

- Multisample parameter chunk

Chunk ID ('MSP1')	[4 bytes]
Chunk size (fixed at 18)	[4 bytes]
Multisample name	[16 bytes]
Number of samples in the multisample	[1 byte]
Attributes	[1 byte]

- Attributes



- Multisample name chunk

Chunk ID ('NAME')	[4 bytes]
Chunk size (fixed at 24)	[4 bytes]
Multisample name	[24 bytes]

- Relative parameter chunk 1

Chunk ID ('RLP1')	[4 bytes]
Chunk size (18 × number of samples in the multisample)	[4 bytes]
Original key	[1 byte]
MSB 1: Non Transpose 0: Transpose	
bits 6–0 original key	
Top key (0–127)	[1 byte]
Tune (–99...+99 cents)	[1 byte]
Level (–99...+99 cents)	[1 byte]
Pan (0–127 currently unused)	[1 byte]

Filter cutoff (-99...+99 currently unused)	[1 byte]
KSF filename (including period and extension)	[12 bytes] × number of samples in the multisample

If the .KSF filename is "SKIPPEDSAMPL", it will be treated as a sample skipped during loading.

If the .KSF filename is "INTERNALnnnn", internal samples will be used.

- Relative parameter chunk 2

Chunk ID ('RLP2')	[4 bytes]
Chunk size (4)	[4 bytes]
Transposing (-64...+63)	[1 byte]
Resonance (-99...+99)	[1 byte]
Attack (-99...+99)	[1 byte]
Decay (-99...+99)	[1 byte]

- Relative parameter chunk 3

Chunk ID ('RLP3')	[4 bytes]
Chunk size (fixed at 6)	[4 bytes]
Drive (-99...+99)	[1 byte]
Boost (-99...+99)	[1 byte]
LowEQLevel (-99...+99)	[1 byte]
MidEQLevel (-99...+99)	[1 byte]
HighEQLevel (-99...+99)	[1 byte]
unused	[1 byte]

- Multisample number chunk

Chunk ID ('MNO1')	[4 bytes]
Chunk size (4)	[4 bytes]
Multisample number (0-)	[4 bytes]

KSF (KORG Sample File) files

There are four types of structure for these files. One consists of a Sample Parameter chunk, Sample Data chunk, Sample Number chunk and Sample name (SMP1 + SMD1 + SNO1 + NAME). Another consists of a Sample Parameter chunk, Sample Data chunk, Sample Filename chunk, Sample Number chunk, and Sample name chunk (SMP1 + SMD1 + SMF1 + SNO1 + NAME). The latter structure is in the case where the sample data of the Sample chunk is empty, and uses the sample data of the .KSF file specified by the Sample Filename chunk (shared sample data).

When saving to a floppy disk and a single disk cannot accommodate all of the data, it is possible to automatically divide the file and continue the save operation.

When a .KSF file is created in this way, the first file will consist of the Sample Parameter chunk, Sample Number chunk, and Sample name a divided Sample Parameter chunk, and a divided Sample Data chunk (SMP1 + SNO1 + NAME + SPD1 + SDD1), and the second and subsequent files will consist of a divided Sample Data chunk (SDD1).

- Sample parameter chunk

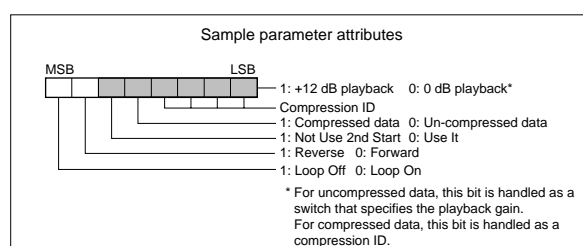
Chunk ID ('SMP1')	[4 bytes]
Chunk size (32)	[4 bytes]
Sample name	[16 bytes]
Start address	[4 bytes]
2nd start address	[4 bytes]
Loop start address	[4 bytes]
Loop end address	[4 bytes]

- Sample data chunk

Chunk ID ('SMD1')	[4 bytes]
Chunk size (12 + number of sample databytes)	[4 bytes]
Sampling frequency	[4 bytes]
Attributes	[1 byte]
Loop tune (-99...+99 cents)	[1 byte]
Number of channels (1)	[1 byte]
Sample size (8/16)	[1 byte]
Number of samples	[4 bytes]

Sample data	variable length
-------------	-----------------

- Attributes



- Sample number chunk

Chunk ID ('SNO1')	[4 bytes]
Chunk size (4)	[4 bytes]
Sample number (0-)	[4 bytes]

- Sample name chunk

Chunk ID ('NAME')	[4 bytes]
Chunk size (fixed at 24)	[4 bytes]
Sample name	[24 bytes]

- Sample filename chunk

Chunk ID ('SMF1')	[4 bytes]
Chunk size (12)	[4 bytes]
KSF filename	[12 bytes]

If the .KSF filename is "SKIPPEDSAMPL", it will be treated as a sample skipped during loading.

If the .KSF filename is "INTERNALnnnn", internal samples will be used.

- Divided sample parameter chunk

Chunk ID ('SPD1')	[4 bytes]
Chunk size (12)	[4 bytes]
The following up to the sample size is the same as in the SMD1 chunk	
Sampling frequency	[4 bytes]
Attributes	[1 byte]
Loop tune	[1 byte]
Number of channels	[1 byte]
Sample size	[1 byte]
Number of samples	[4 bytes]
Total number of samples in all divided files	

- Divided sample data chunk

Chunk ID ('SDD1')	[4 bytes]
-------------------	-----------

KSC (Korg SScript) files

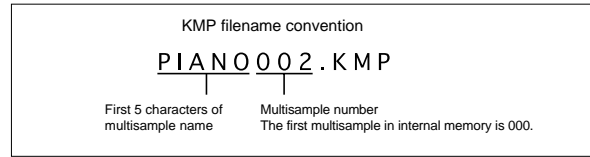
These files are text files which contain a list of filenames for .KMP/.KSF files which are to be handled together.

Lines beginning with # are ignored as comment lines.

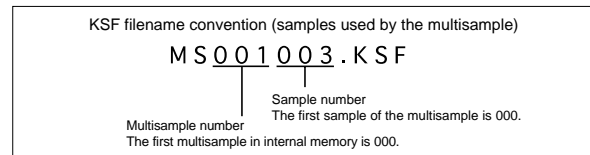
The first line of the file must begin with "#KORG Script Version 1.0" and subsequent lines (except for comment lines) consist only of filename. Only files with an extension of KMP/KSF are processed.

Filename conventions

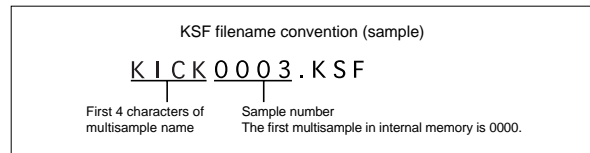
.KMP filename for "Save All" or "Save All Multisamples"



When data is saved using "Save All," "Save All Multisample" or "Save One Multisample," the individual .KSF files used by the Multisample (the .KMP file) are automatically given filenames according to the following convention.



Likewise, when data is saved using "Save All" or "Save All Samples," the individual .KSF files are automatically given filenames according to the following convention.



CD-R/RW disks on the OASYS: UDF and packet-writing

The OASYS lets you use CD-R/RW disks like you would a floppy disk or a removable hard disk. You can save individual files to a disk, over-write them, add new folders, and so on, without needing to "burn" an entire disk at once.

It does so by using UDF (Universal Disk Format) version 1.5 and packet writing, as described below, as its native CD-R/RW data format. Note that there are some considerations when reading these disks on computers or other equipment, as described under "Reading OASYS CDs on other devices," below.

You can also create audio CDs, which use the standard audio CD format (CD-DA). For more information, see "1-1: Make Audio CD" on page 756, and "Creating audio CDs" on page 181 of the Operation Guide.

About packet writing

Packet writing is a method of dividing data into small units, called "packets." This makes it possible to write individual files to CD-R/RW disks, as opposed to writing an entire disk at once.

Compatible media

- ⚠ Before writing data to a CD-R/RW disk, you must format the disk using the OASYS.

CD-R media

- 650 MB and 700 MB CD-R media (up to 48x write speed)

CD-RW media

- 650 MB and 700 MB CD-RW media (up to 4x/10x write speeds)

Formatting

Before using CD-R/RW disks, you need to format them. To do so, insert the blank or previously-formatted media into the drive, go to the Disk Utility page, and select the **Format** menu command.

- ⚠ When writing to the internal CD-R/RW drive, do not subject the OASYS to vibration or physical shock, since this may cause errors.

Cautions when formatting

CD-R media

Quick Format takes less than a minute.

Full Format applies only to CD-RW media, and so it can't be selected for CD-R disks.

Re-formatting: Data that has been written to CD-R cannot be erased as it can on a floppy disk. This means that re-formatting previously-formatted media will not increase the free space; instead, approximately 20 MB of space will be used to add a new session.

CD-RW media

Quick Format: Use this option to erase the contents of a previously formatted CD-RW. This cannot be used with blank CD-RW media. It takes about two minutes to complete.

Full Format: Use this option to format blank media, or media which has been formatted as a non-UDF disk.

You can also use **Full Format** if writing errors occur frequently when writing to the disk.

Full Format takes about fifteen minutes for 10x CD-RW media, and about thirty minutes for 4x CD-RW media. (Depending on the condition of the disk, it may take substantially longer.)

Formatting takes up some of the space on the disk, so that 650 MB/700 MB media will have approximately 530 MB/570 MB of available space, respectively.

Re-formatting: Like floppy disks and hard drives, CD-RW disks can be formatted to erase any previous contents, and re-formatting frees up space on the disk.

Deleting and updating files

CD-R media

With CD-R media, deleting a file merely hides it from view; the file still exists on the disk, and no space is freed by the deletion.

Similarly, when you save a new version of a file, the previous version is hidden but not actually removed from the disk. Each version of the file will take up additional space on the disk.

CD-RW media

CD-RW disks work the same way as hard drives. Deleting files frees up space on the disk, and saving a new version of a file (with the same name as the previous one) will overwrite the original file.

Writing to CD media may take time

Writing to a CD-R/RW will generally be slower than writing to a hard disk. The time it takes to write will depend on the speed of the CD-R/RW drive, and on the writing speed supported by the media.

Reading OASYS CDs on other devices

CD-R media

You can read native OASYS CDs, in UDF packet-writing format, on computers with packet-writing software installed.

For maximum compatibility, you can convert CD-Rs (not CD-RWs) into ISO9660. This makes it possible for the data to be read by other KORG devices that support the ISO9660 format, or by computers which do

not have packet writing software. For more information, see "Convert to ISO9660 Format" on page 783.

Note: This conversion adds ISO9660 session data, which consumes approximately 20 MB of space.

CD-RW media

CD-RW disks cannot be converted into ISO9660 format, and so they can only be read by devices or computers which support UDF and packet-writing.

KORG devices which support ISO9660 format (level 1)

- TRITON/TRITON pro/TRITON proX/TRITON-Rack (*1)
- D1600/D12/D16/D1200mkII/D1600mkII/D16XD/D32XD

* As of January 2005

*1: Only the first session can be read.

KORG devices which support UDF version 1.5

- TRITON STUDIO/TRITON Extreme

Divided files

If data has to be read or processed while writing to a CD-R/RW, the resulting files may not be contiguous on the disk. Operations which can cause this include:

- Coping files larger than 1.9 MB from another CD-R/RW (or other media with a slow access speed)
- Using the **Rate Convert** (Disk Utility page), **Save to Std MIDI File** (Disk SAVE page), or similar commands to save directly to a CD-R/RW

If a disk in this state is converted into ISO9660 format, it will be in the divided file format supported by ISO9660 level 3.

- ▲ Such disks cannot be read by devices that do not support ISO9660 level 3, such as the original TRITON line and some older computer operating systems. These disks can be read on newer computer operating systems, as long as you can install software which supports ISO9660 level 3 or packet writing.

Troubleshooting converted CD-Rs

- ▲ If your computer is unable to read a CD-R converted to ISO 9660 format, you may be able to read it using the following methods.

Disable packet writing (UDF) software

You may be unable to read the data if packet writing software is installed on your computer. If so, temporarily disable that software or uninstall it.

Macintosh OS9

On Macintosh OS9, you may be unable to read the data if the UDF Volume Access function extension is enabled. If so, use the following procedure to disable **UDF Volume Access**.

1. From the "Apple menu," choose "Control Panel" and open the "Extensions Manager."

-
2. In the "Extensions Manager," uncheck "UDF Volume Access."
3. Restart your Macintosh.

EXB-DI option board, additional memory, & calendar battery

Safety precautions

Please read this before you begin installation

Safety precautions

Warnings

- Before installing an option, be sure to disconnect the power supply cable and the connecting cables to any peripheral devices. Failure to do so could cause electrical shock or may damage the device.
- When installing, repairing, or replacing an option, you must perform only those actions that the owner's manual directs, and no other.
- Do not apply excessive force to the electronic components or connectors on the circuit board(s) of an option, or attempt to disassemble them.

This could cause electric shock, fire, or malfunction.

Cautions

- Before touching the option, touch a metal component of the device into which it will be installed, to discharge any static electricity that may be present in your body.

Static electricity may damage the electronic components.

- Be careful of any sharp edges or pointed metal parts on the option or the device into which the option is being installed.

Sharp edges or points may cause injury.

- Danger of explosion if battery is incorrectly replaced.

Replace only the same or equivalent type.

- When handling an option, never touch parts that are not related to the installation.

Doing so may cause electrocution or malfunctions.

- When handling an option, be careful not to touch the leads on the back side of the circuit board (the side opposite that on which the components are mounted).

The sharp points may cause injury.

- Do not allow the option or other device being installed to become wet, and do not allow objects to be placed on top of it.

Doing so could cause malfunction.

- When installing an option, be careful that screws or other parts do not fall into the device into which it is being installed.

Doing so could cause malfunction.

Korg Inc. takes no responsibility for any malfunctions or damage that may occur from improper use or modification of this product. Nor will Korg Inc. be responsible for any damages resulting from the loss or destruction of data.

Please note when installing an option board/memory

- So that static electricity in your body does not damage the electronic components, touch the ground wire of a grounded device or an unpainted metallic component to discharge any static electricity in your body before installing an option board or memory. Internal components of the OASYS and of the option/memory boards may be damaged by static electricity.
- Follow the installation procedure, and be sure that each part is installed correctly and in the correct orientation.
- Please use care in handling option boards/memory. Dropping them or applying pressure to them may damage the components.
- Avoid touching exposed metal edges of the circuit board, or portions that need not be handled during installation.
- Be careful not to lose the screws (and washers) that you remove.
- Do not use screws other than those that are installed in the option board/memory and the OASYS. Using screws of a different shape or length may damage the unit or cause it to malfunction.
- Be sure to firmly tighten the screws used for attachment.
- Be sure that the option board/memory is inserted correctly into the connector or slot. After installation, be sure to check that the board is installed correctly. If the board is not inserted all the way, faulty contact or power supply shorts can occur, making the unit malfunction.
- Be careful not to drop parts or the option board/memory into the inside of the instrument.
If you are unable to retrieve a screw or part that was dropped inside the instrument, please contact your local Korg distributor.

Cautions when installing the calendar battery

- So that static electricity in your body does not damage the electronic components, touch the ground wire of a grounded device or an unpainted metallic component to discharge any static electricity in your body before installing an option board or memory. Internal components of the OASYS and of the option/memory boards may be damaged by static electricity.
- Follow the installation instructions, being careful not to reverse the polarity of the battery.
- Avoid touching exposed metal edges of the circuit board, or portions that need not be handled during installation.
- All screws (and washers) that are removed will be used, so be careful not to misplace them.
- Do not use screws other than those that are installed in the OASYS. Using screws of a different shape or length may damage the unit or cause it to malfunction.
- Be sure to firmly tighten the screws used for attachment.
- When installing the battery, do not use excessive force. Pressing the battery too hard or using excessive force may cause malfunctions or damage.
- Make sure that the battery is completely inserted into the battery holder. After installation, check to make sure that the battery is firmly in place.
- When installing the battery, be careful not to drop it inside

the device.

If you drop the battery inside the device and are unable to

retrieve it, please contact your Korg distributor.

Overview: user-installable hardware

You can expand the functionality of the OASYS by installing the following items. If you have any questions regarding installation, please contact your local Korg distributor.

EXB-DI (Digital interface board)

The optional EXB-DI adds 8 channels of ADAT Optical format 24-bit 48 kHz digital output, as well as a word clock input.

The ADAT output from the EXB-DI is the same as AUDIO OUTPUT (INDIVIDUAL) 1–8. If you like, you can route the main stereo outputs to one pair of these individual outputs; for more information, see “L/R Bus Indiv. Assign (Assign to L/R and Indiv.Out)” on page 707.

The word clock input allows more flexibility for digital clocking, which may be beneficial with complex digital audio setups. For more information, see “System Clock” on page 702.

DRAM DIMM

The OASYS has two DIMM sockets. One slot is occupied by factory-installed memory; the other is left open for user expansion. The OASYS uses standard, commercially-available computer memory, as detailed below. Korg does not sell this memory directly, but most computer stores do so.

- Some commercially-available memory will not work with the OASYS. The following types of memory are supported.

Specifications: 184-pin DIMM DDR SDRAM, unbuffered, non-ECC

PC2700 (DDR333 CL2.5)
PC3200 (DDR400 CL3)

Number of units: one (not including the factory-installed memory)

Capacity for the additional DIMM: 512MB or 1GB

If you have any questions regarding the type of DRAM DIMM modules that can be used, please contact your local Korg distributor.

Calendar battery

This CR2032-type battery maintains the date and time that are recorded when data is saved. It should last for several years, but may eventually need to be replaced. If it needs to be replaced, the following message will appear at startup:

The clock battery voltage is low. Please replace the battery, and set the date and time in Disk mode.

Note that this may also appear if the battery is installed incorrectly, or if the calendar's date and time settings are incorrect. For more information, see the menu command “Set Date/Time” on page 782.

When necessary, you can replace the battery yourself. Make sure to purchase a compatible battery:

- CR2032 batteries manufactured by Maxell, Sony or Panasonic.

Checking after installation

When the OASYS is turned on, the startup screen includes information about the software version, the amount of installed RAM memory, and a list of all installed options, including the EXB-DI and any authorized software options.

After installing the EXB-DI or RAM, be sure to turn on the power and confirm that the newly installed hardware appears on this screen.

For instance, as shipped from the factory, the startup screen will show:

Memory: 1GB

Options: EXs1/EXs2/STR-1

If you then install the EXB-DI and an additional 1GB of memory, the startup screen will show:

Memory: 1GB

Options: EXB-DI/EXs1/EXs2/STR-1

If the appropriate message is not displayed, the installation may not have been performed correctly. Check once again that the board is installed correctly.

If you've replaced the battery, make sure that the message “clock battery voltage is low” no longer appears at startup. If it does appear, check once again that the battery is installed correctly.

Installing an option board, memory/calendar battery

Opening and closing the front panel

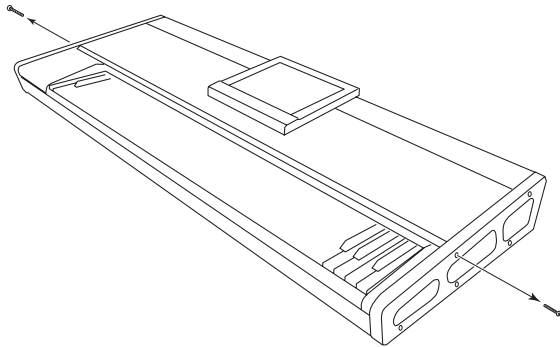
- You must read “Safety precautions” on page 1089 before you install anything.
 - Be careful not to cut your hand on the hardware of the OASYS, option board, or memory module you are installing.
- You will need a Phillips (+) screwdriver.

- Place the OASYS on a level, stable surface.
- Turn off the power of the OASYS, and disconnect the AC power cable and any cables connecting it to other equipment.

Opening the front panel

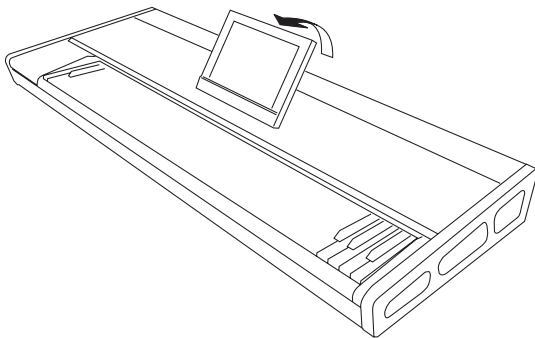
- Remove two screws from the side panels of the OASYS.

The illustration below shows the two screws you must remove.



5. Raise the LCD screen as high as it will go.

- ⚠ If you open the front panel with the LCD screen in the lowered position, you will damage the LCD screen and front panel.

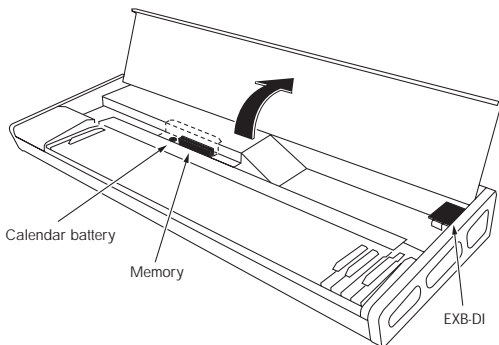


6. Lift the front edge of the front panel to open it.

Carefully raise the panel, opening it as far as it will go.

- ⚠ Be careful not to pinch your fingers when opening or closing the front panel.

Note: You can also grasp the frame of the LCD screen to open or close the front panel.



7. Install the desired item as directed in the following sections "Installing the EXB-DI," "Installing memory," or "2-3. Installing the calendar battery."

Closing the front panel

1. When you have finished installing the desired item, grasp the front edge of the front panel or the frame of the LCD screen, and carefully close the front panel.

- ⚠ When closing the front panel, be careful not to pinch any of the internal wiring.
- ⚠ When opening or closing the front panel, be careful not to pinch your fingers.

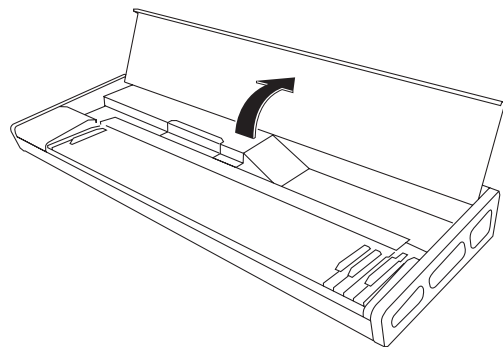
2. Fasten the front panel in place by installing the two screws you removed in step 4.

Note: Connect the AC power cable, turn on the power, and verify that the item was installed correctly.

The start-up screen will indicate the items that are installed. (See "Checking after installation" on page 1090)

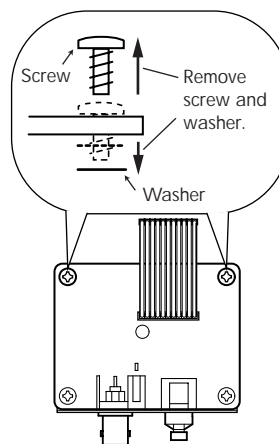
Installing the EXB-DI

1. Open the front panel as described in "Opening and closing the front panel," steps 1-6.



2. Remove the EXB-DI from its bag. Be careful not to touch the contacts or the components.
3. Remove the two screws and washers from the two corners of the EXB-DI board

Note: Be careful to save the screws that you remove. Some models that can use the EXB-DI, will require these two screws.



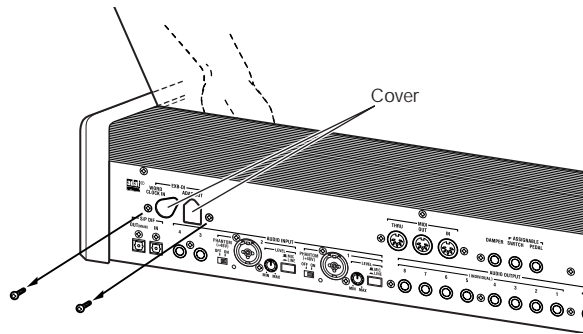
4. Detach and remove the EXB-DI cover that blocks the EXB-DI opening in the rear panel from the inside.

Use one hand to support the cover from inside, and remove two screws from outside to detach the cover. Then remove the cover.

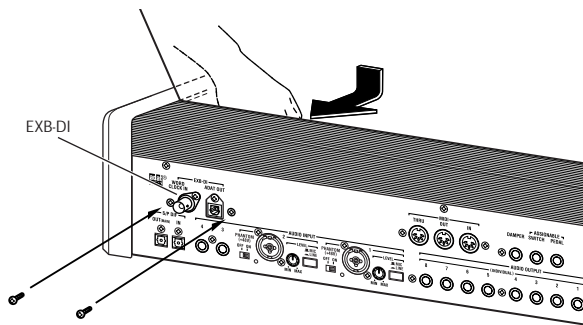
- ⚠ Do not allow the cover to fall into the OASYS.

The two screws you removed will be used to fasten the EXB-DI in place.

The cover you removed will not be used. Do not leave it inside the OASYS.

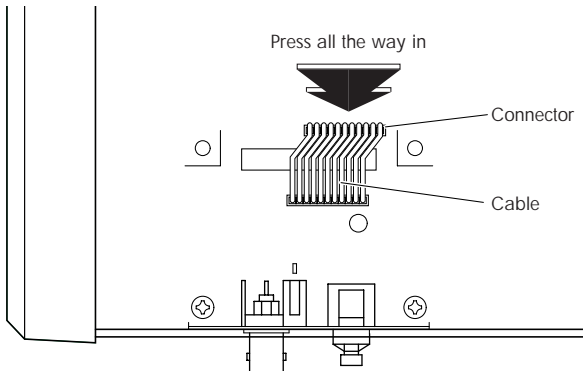


5. With the connectors of the EXB-DI protruding from the rear panel of the OASYS, support the EXB-DI with one hand and use the two screws you removed to fasten the EXB-DI from the rear of the OASYS.



6. Attach the cable as shown in the diagram. Firmly press the cable all the way into the connector.

⚠ Do not touch any part of the circuit board other than the connector to which you are connecting the cable.

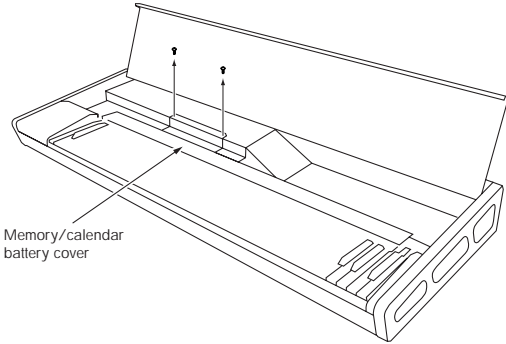


7. Close the front panel, as described under "Closing the front panel" on page 1091.
8. After you have completed all the above steps, turn on the power and verify that the EXB-DI has been installed correctly. (See "Checking after installation" on page 1090)

Installing memory

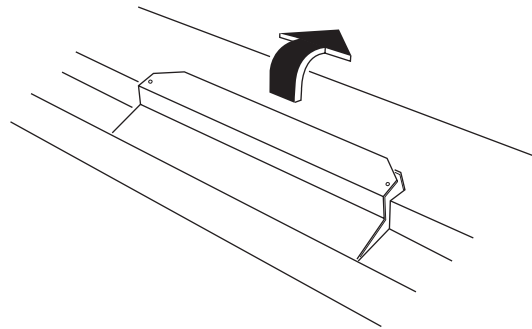
Before installing additional memory, please confirm that it meets the required technical specifications, as detailed under "DRAM DIMM" on page 1090.

1. Open the front panel as described in "1. Opening/closing the front panel," steps 1–6.
2. Remove the two screws from the memory/calendar battery cover.

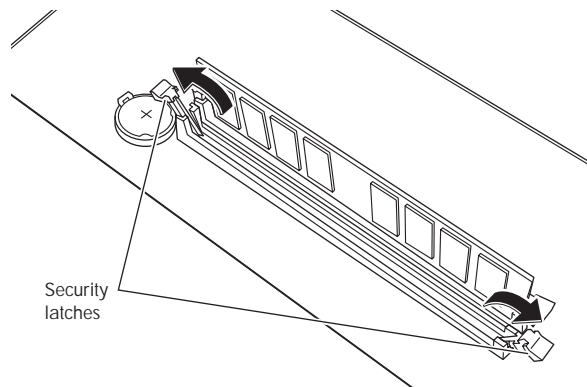


3. Raise the cover to the angle shown in the following illustration; then pull out and remove it.

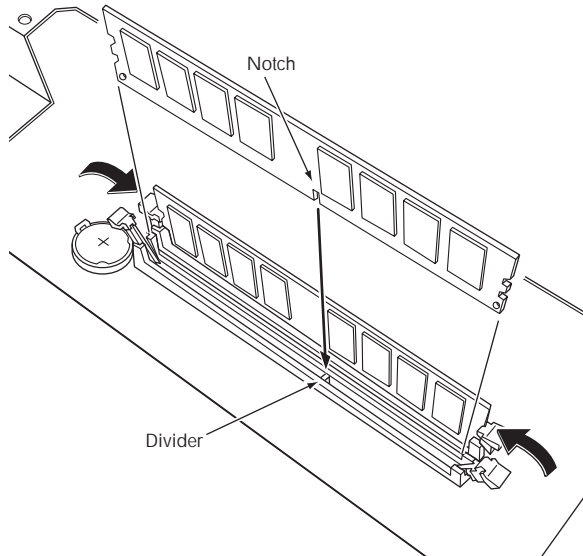
⚠ Be careful not to drop the cover or screws inside the OASYS.



4. Spread open the security latches at each end of the DIMM socket.



5. Remove the memory module from its package. Be careful not to touch the contacts or the components.
6. Insert the memory module into the DIMM socket. Align the notch of the memory module with the divider inside the DIMM socket.



7. Press down on the memory module; the security latches will close, fastening the memory module in place.

Note: If the security latches do not close, use your finger to push them closed.

8. Close the memory/calendar battery cover.

Insert the lip at the front of the cover into the groove, and align the screw holes. Use the two screws to fasten the cover in place.

9. Close the front panel, as described under "Closing the front panel" on page 1091.

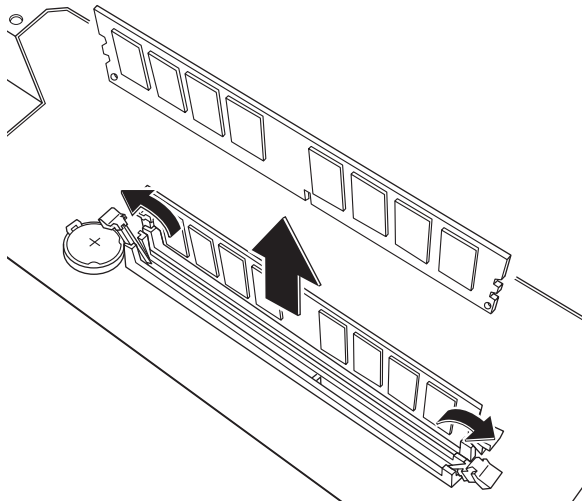
10. When you are finished, turn on the power and verify that the memory was installed correctly. (See "Checking after installation" on page 1090)

Removing DRAM DIMMs

1. Open the DIMM socket security latches that hold the memory module in place.

2. Gently remove the memory module, and keep it in a safe place.

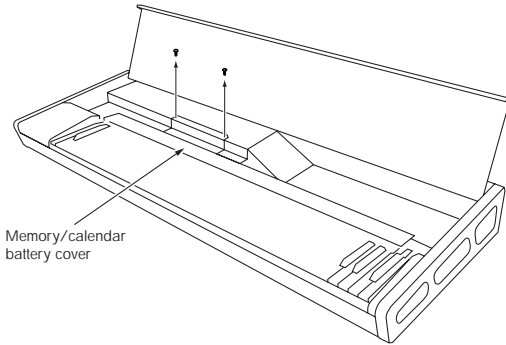
⚠ Use caution; when you spread open the security latches, the memory module may pop out and fall inside the OASYS.



Installing the calendar battery

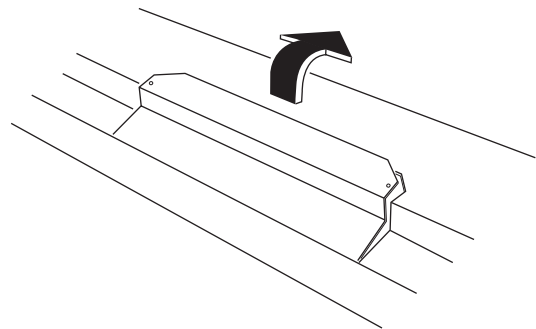
1. Open the front panel as described in steps 1–6 of "Opening and closing the front panel," on page 1090.

2. Remove the two screws from the memory/calendar battery cover.



3. Raise the cover to the angle shown in the following illustration; then pull out and remove it.

⚠ Be careful not to drop the cover or screws inside the OASYS.

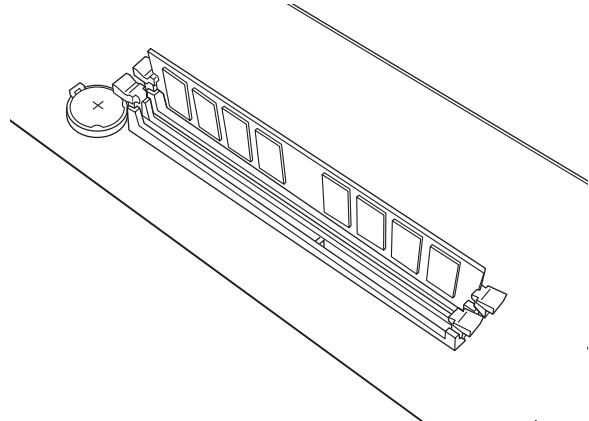


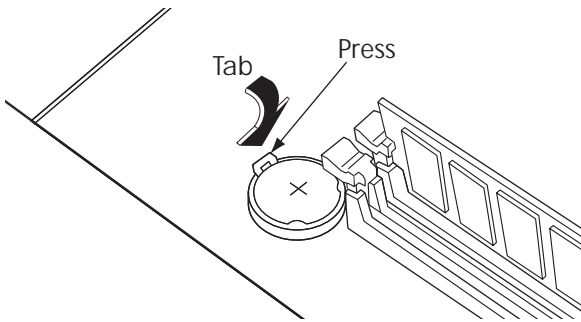
4. Remove the calendar battery that has run down.

Press the tab of the battery holder outward; the battery will lift up.

Remove the battery from the battery holder.

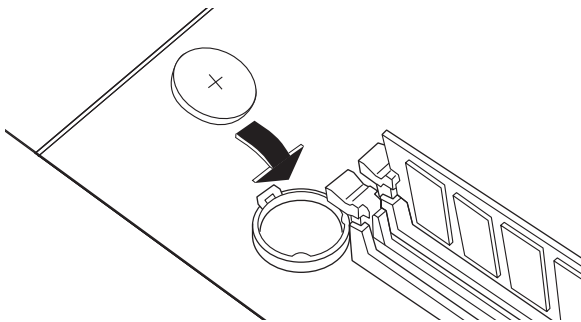
⚠ Be careful not to drop the battery into the interior of the OASYS.





5. Install the new battery.

With the "+" side of the calendar battery facing upward, insert it into the battery holder at an angle, and press it into place.



6. Close the memory/calendar battery cover.

Insert the lip at the front of the cover into the groove, and align the screw holes. Use the two screws to fasten the cover in place.

7. Close the front panel, as described under "Closing the front panel" on page 1091.

8. When you've finished all of the steps, turn on the power.

In this state, the calendar has not yet been set to the correct date and time, so the following message will appear:

"The clock battery voltage is low. Please replace the battery, and set the date and time in Disk mode."

9. Use the Set Date/Time menu command (in Disk mode) to specify the correct date and time.

Press the front-panel DISK button to enter Disk mode. In the LCD screen, press the File tab and then the Utility tab to access the Disk Utility page.

From the page menu in the upper right of the LCD screen, choose **Set Date Time**. A dialog box will appear.

Choose **Year**, and press the Δ switch.

Alternatively, use the numeric keys to enter the year and press the ENTER switch.

⚠ You must specify a Year other than 2003. If this is left at 2003, the above message will always appear at power-on.

Then set the **Month, Day, Hour, and Minute**.

Press the OK button to finalize the settings.

10. This completes the settings, but in order to verify that the calendar battery is installed correctly, turn off the power, wait approximately ten seconds, and then turn the power on again. Verify that the above message does not appear.

EXB-DI option

The EXB-DI option provides an ADAT™ Compatible Optical Output which digitally outputs the audio signal from the OASYS, and also allows the digital signal to be synchronized with another digital audio device.

In this owner's manual, "ADAT" is used as a general designation for ADAT compatible multi-track recorders such as the Alesis ADAT.

How audio outputs are related to ADAT output channels

When the EXB-DI is installed, the eight ADAT output channels correspond to Individual Out 1-8. If you want to send the L/R output from ADAT outputs 1/2, 3/4, 5/6, or 7/8, make the desired setting in **L/R Bus Indiv. Assign** (Global 0-2b).

Example connections

Digitally recording the sound of the OASYS to an ADAT

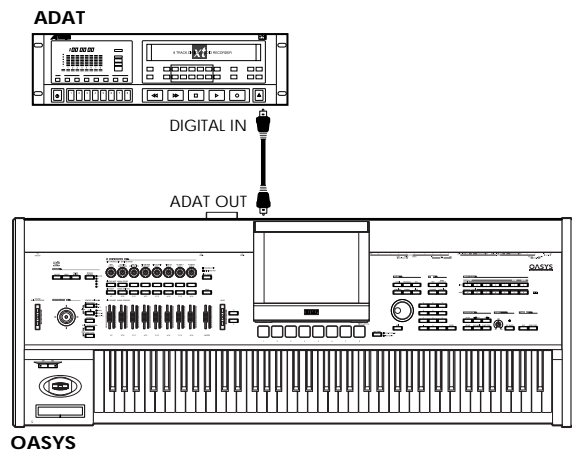
1. Use an ADAT-Optical cable (sold separately) to connect the OASYS's ADAT OUT connector to the ADAT's Digital INPUT.

For connections, use an ADAT-Optical cable manufactured by Alesis Corporation or an optical cable for CD/DAT (both sold separately).

2. Set the OASYS's System Clock (Global 0-1d) to Internal.

3. Set the word clock source of the ADAT to "DIG 48K."

For details, please refer to the ADAT's manual.

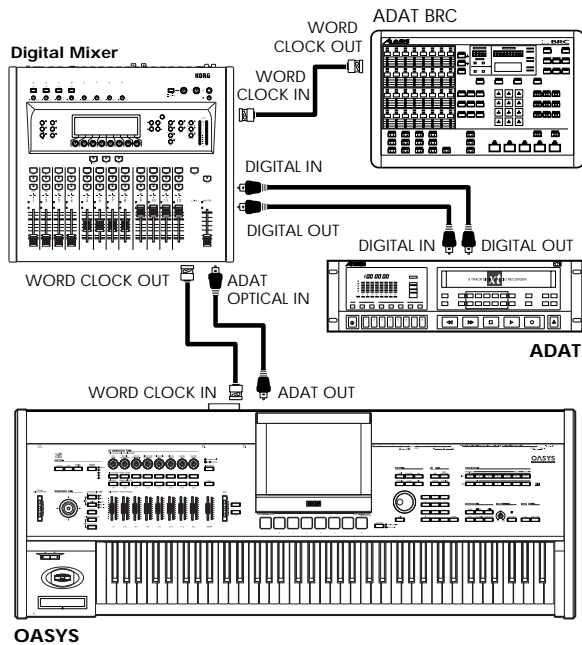


Complex setup with a Digital Mixer, ADAT, and BRC

1. Use an ADAT-OPTICAL cable to connect the OASYS's ADAT output to the ADAT input of an ADAT-compatible digital mixer.

2. Use ADAT-OPTICAL cables to connect the respective inputs and outputs of the digital mixer and the ADAT.
3. Make connections as shown in the following diagram, so that an Alesis BRC Remote Controller (or other digital audio device) can be used as the master for digital signal synchronization, and connect the WORD CLOCK output of the mixer to the WORD CLOCK input of the OASYS.

For connections, use a BNC Coax cable made by Alesis Corporation or a BNC cable made for video (both sold separately).



4. Set the OASYS's System Clock (Global 0-1d) to Word Clock.

The OASYS will now use the WORD CLOCK input as its master audio clock.

Note: If you wish to store the **System Clock** setting, use the **Write Global Setting** utility to write it.

5. Set the word clock source of the ADAT to "DIG 48K."

For details, please refer to the ADAT's manual.

- ⚠ If the clock cannot be detected correctly due to a disconnected BNC cable or for some other reason, an error message "CLOCK ERROR !" will appear in the LCD. If this occurs, check whether a problem has occurred with the BNC cable.


If **System Clock** has been written as Word Clock, the same error message will be displayed when the OASYS is powered-on if the correct clock is not being input.

Updating the system

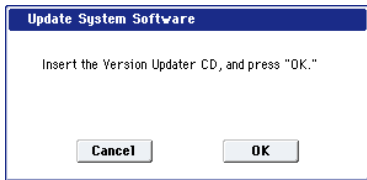
1. Downloading the system file

The most recent system file can be downloaded to your computer from the Korg website (<http://www.korg.com>). For details on how to do this, refer to the Korg website.

2. Updating the system


 Before you begin updating the system, back up important data on external USB storage media.

- 1. Insert the CD-R/RW disc containing the system file into the CD-R/RW drive.**
- 2. Access the Global P0- Basic Setup page.**
Press the MODE GLOBAL switch to enter Global mode, and press the EXIT switch up to four times.
- 3. Choose the page menu command "Update System Software" to open the dialog box.**

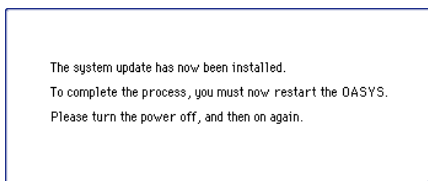


- 4. Press the OK button to execute the update.**

A dialog box will ask you for confirmation. Press the OK button to begin updating the system software.

 While the system is being updated, do not touch the OASYS' switches, and never turn off the power. If the power is accidentally turned off while the system is being loaded, the OASYS may become inoperable. If this occurs, please contact Korg customer service.

- 5. When the update has been completed, a dialog box with the following message will appear.**



"The system update has now been installed. To complete the process, you must now restart the OASYS. Please turn the power off, and then on again."

- 6. Power-off the OASYS. Wait approximately ten seconds, and then turn the power on again.**

The system version number is shown in the lower left of the opening screen. Verify that it is correct.

Using the included Restore CDs to restore the system and factory sounds

If for some reason the OASYS will not start up normally, or some other problem occurs, you can use the included set of Restore CDs to return the OASYS to its factory-preset state.

Important - save your data before proceeding!

All of the Restore functions will erase all of the Programs, Combis, Drum Kits, Wave Sequences, and Global settings in the internal memory. Some of the functions will also erase data from the FACTORY directory on the hard drive, or even erase the hard drive entirely, as detailed below.

If you have any data that you want to keep—including data stored on the hard drive as well as data in the internal memory—we strongly recommend that you save it to a CD-R/RW disk, or to external USB media, before proceeding. For instance, use the Save All or Save .PCG commands to save the contents of the internal memory.

Contents of the Restore CDs

Restore CD 1/4

This is the only CD with user-readable data, as described below. In addition to the data used for the restore functionality, it contains the following directories and files:

- **FACTORY directory:** This contains the file PRELOAD.PCG, which is a backup of the preloaded Program, Combination, Wave Sequence, Drum Kit, and Global Setting data. This file is used by the Restore feature, but you can also load it directly in Disk mode.
- **licenses directory:** This contains the Korg OASYS software license, in both English and Japanese, along with notes about the use of open-source software.
- **src directory:** This contains the open-source GPL and LGPL licenses (in English), along with the applicable source code.
- **manuals directory:** This contains various OASYS documentation, such as update notes, the full Voice Name List (VNL), manuals, etc.

NOTE: The files in the licenses, src, and manuals directories can only be read from a computer; they cannot be used directly on the OASYS.

Restore CDs 2/4, 3/4, and 4/4

These CDs are only for use by the restore functionality, and do not include any user-readable data.

Restoring the OASYS factory data

You can use the Restore function to restore the factory sounds (Programs, Combis, etc.), to initialize the internal memory, or to restore the operating system to its original state. These three options will not alter any user data stored on the disk, as long as it is not stored in the FACTORY folder.

If absolutely necessary, you can also re-format the entire internal hard disk, and then restore the operating system and factory sounds. This will destroy

all user data on the internal hard disk, and require re-authorization of the OASYS before it can be used again—so be careful!

To use the Restore function:

1. **Disconnect all external USB devices from the OASYS.**
- External USB devices may interfere with the restoration process.
2. **Turn on the OASYS.**
3. **Insert Restore CD 1/4 into the CD-R/RW drive.**
- If the disc tray does not open, use a straightened paper-clip (or a similar object, about 1mm in diameter) and push it gently but firmly into the manual eject hole. The disc tray will be forced open.
4. **Turn off the OASYS. Wait for about ten seconds, and then power-on again.**
- Be sure to wait for about ten seconds before you turn on the power.
5. **A dialog box will appear. Use the \triangle / ∇ switches or the VALUE dial to choose one of the following options:**
 - Restore OS and factory sounds
 - Restore factory sounds
 - Initialize Internal Memory
 - Format HD, and then restore OS and factory sounds

See below for complete descriptions of each option.
6. **Press the ENTER button to carry out the selected Restore function, or press EXIT to stop the process without altering any data.**

After pressing ENTER, an “Are you sure?” message will appear. If you are sure you want to proceed, press the ENTER switch again. You can also cancel, without altering any data, by pressing the EXIT button.
7. **After pressing ENTER, the restore program will start up. Follow the instructions that appear in the screen.**

You’ll be asked to insert different CDs, depending on the option you chose in step 4. Each time a CD is requested, insert the appropriate CD, and then press the ENTER switch. The entire process may take some time.
- Do not touch the front-panel controls or turn off the power while the Restore is underway, except for pressing ENTER and EXIT as prompted by the on-screen instructions.
8. **When the restore operation is complete, the following message will appear:**

Restore Complete - OK
Please remove CD, and turn off the power.

If an error occurs, you’ll see the following message instead:

Restore did not complete successfully. Please try again.

In this case, start again at step 3.

[] Restore OS and factory sounds

If for some reason the OASYS will no longer start up normally, try this option first. It does the following:

- Restores the system software on the internal hard drive.
- Initializes the internal memory, and re-loads the original factory preload data—including all Programs, Combinations, Drum Kits, Wave Sequences, and Global settings.
- Erases all files inside the internal hard drive's **FACTORY** directory, and then restores the factory preload files, including the **PRELOAD.PCG** file and the demo sequences.

This function requires all four CDs.

[] Restore factory sounds

This option restores the factory sounds, settings, and demos in memory and on disk, as described under **Restore OS and factory sounds**, above.

Unlike **Restore OS and factory sounds**, however, this option does not replace the operating system.

This function requires CDs 1/4 and 4/4 only.

[] Initialize Internal Memory

This option erases all of the Program, Combination, Drum Kit, and Wave Sequence data in the internal memory, leaving only blank data. The factory preload data is not restored.

Unlike the previous two options, **Initialize Internal Memory** does not affect the data stored on disk in any way.

This function requires CD 1/4 only.

[] Format HD, and then restore OS and factory sounds

This option completely erases the internal hard drive, and then restores the operating system, the factory sounds and settings, and the demo songs, as described under **Restore OS and factory sounds**, above.

IMPORTANT: Normally, you should not need to do this—and you should **avoid using this function if at all possible**. Always try using the **Restore OS and factory sounds** option first.

However, if for some reason the internal hard disk has been completely corrupted, and using **Restore OS and factory sounds** does not fix the problem, this will allow you to restore the hard drive to its initial state.

This function requires all four CDs.

IMPORTANT: after using this function, you will need to re-authorize the OASYS, as described below. You will not be able to use the OASYS until the re-authorization is complete.

Re-authorizing OASYS

OASYS uses a Digital Rights Management system to protect its proprietary components. After formatting the internal hard drive, you will need to re-authorize the system before it can be used. To do so:

1. After using the "Format HD, and then restore..." function, turn off the OASYS.
2. Wait 10 seconds, and then turn it on again.

At start-up, the LCD display will show a "Public ID." This is a unique identifier, like a very specific name; it is different for each and every OASYS.

The Public ID is 16 characters long, and uses only the characters 0-9 and A-F.

3. **Write down the Public ID. Make sure that you've copied it accurately.**

4. **Turn off the power.**

You'll need to complete the authorization process before using OASYS any further.

5. **Go to <http://www.korguser.net/oasys/>, and follow the instructions for re-authorizing.**

or:

If you do not have internet access, please contact your Korg dealer or distributor.

When contacting your Korg dealer, let them know that you need to re-authorize your OASYS, and give them the Public ID you wrote down in step 3.

You may also contact your national Korg distributor. You can find contact information for all Korg distributors, world-wide, on the Korg website:

<http://www.korg.co.jp/English/index.html>

After you have contacted your Korg dealer or distributor, Korg will provide you with the necessary authorization data, along with instructions for completing the authorization process.

After following the instructions, your OASYS will be re-authorized and ready to use.

Voice Name List

Combinations

INT-A

#	Name	Category
A000	Particles & Waves	Synth
A001	WS Layer Keys	Keyboard
A002	Orchestra & Timpani	Orchestral
A003	Locale Five	BassSplits
A004	Always Watching You...	MotionSynth
A005	Hitsville	Drums/Hits
A006	Delicato Strings	Strings
A007	The Gates of Mordor	Guitar/Plucked
A008	Asian Mystery	World
A009	Butterfly Jam	BPM Sync
A010	Drawbars for Upper Funk	Organ
A011	Silver Slumbers	Pads/Vocal
A012	Orchestral Slow Brass 1	Brass/Reed
A013	Funk In The Year 2525	LeadSplits
A014	Siberian Bells	Bell/Mallet/Perc
A015	Backwards World	Complex&SFX
A016	"Club Fantasy SW1,2"	Synth
A017	Dreaming withoutSleeping	Keyboard
A018	Strings&WoodwindsRbn/JSY	Orchestral
A019	E.Bass & Old EP	BassSplits
A020	The Secret Adventure	MotionSynth
A021	Vocoder Remix Hits	Drums/Hits
A022	Velvet Pad Strings	Strings
A023	The Musical Fox	Guitar/Plucked
A024	Dark Ritual	World
A025	Birds On The Wire	BPM Sync
A026	BX-3 Key Click Organ	Organ
A027	Eagle's Flight JS+Y	Pads/Vocal
A028	Havana By Night	Brass/Reed
A029	Citadel in Space	LeadSplits
A030	Gossamer Wind	Bell/Mallet/Perc
A031	Pod Doors are Opening...	Complex&SFX
A032	Monster Power Synth	Synth
A033	Buzzy Finga Clav	Keyboard
A034	Orchestral Horns	Brass/Reed
A035	Call the Choreographer!	BassSplits
A036	Lord of Saturn's Rings	MotionSynth
A037	Drumz & Hitz	Drums/Hits
A038	Tape-Hop	Strings
A039	Nylon Guitars + Pad VJS	Guitar/Plucked
A040	Atmospheric Hybrid Bass	Guitar/Plucked
A041	Whacktronix JS+-Y	BPM Sync
A042	Vintage Tremolo EP	Keyboard
A043	Parametric Vector	Pads/Vocal
A044	Sforzando Brass	Brass/Reed
A045	Ethno-Hop	LeadSplits
A046	Balinese Joy	Bell/Mallet/Perc
A047	Planet Vector	Complex&SFX
A048	Air Pressure	Synth
A049	Piano & Constant Voices	Keyboard
A050	Sugar Dreams	Orchestral
A051	Harmonics & Keys JS+Y	BassSplits
A052	The Time's Signature	MotionSynth
A053	Rockers Revenge Kit	Drums/Hits
A054	After Touch Strings	Strings
A055	E.Guitars + Pad VJS	Guitar/Plucked
A056	Dynamic EP Pad	Keyboard
A057	Disco Electricque	BassSplits
A058	Cathedral Organ	Organ
A059	AtmosphereThingSweep Rbn	Pads/Vocal
A060	3 Silver Flutes	Brass/Reed
A061	Skippy Wants to Dance!	LeadSplits
A062	Dynamic Mallet	Bell/Mallet/Perc
A063	Horror World	Complex&SFX

#	Name	Category
A064	Advanced VJS Groove	Synth
A065	Pensive EP Pad	Keyboard
A066	Small Orchestra	Orchestral
A067	Bass & Wurly Split	BassSplits
A068	Galactic Journey	MotionSynth
A069	Tangerine Skies	LeadSplits
A070	Velvety Strings	Strings
A071	Guitar Hold 4 the Angels	Guitar/Plucked
A072	Tone Adjusted EP	Keyboard
A073	Prisoner for Life	BPM Sync
A074	Piano for Ballads	Keyboard
A075	Nimbus Bells	Pads/Vocal
A076	Super Sax Section	Brass/Reed
A077	Floating Ghosts	LeadSplits
A078	Bell Bell & Bell	Bell/Mallet/Perc
A079	Under The Bed...	Complex&SFX
A080	Dancing Perky Vokal Pad	Synth
A081	Princess Hannah's Piano	Keyboard
A082	Orchestral F.Horns&Bones	Brass/Reed
A083	Do Da Nod	BassSplits
A084	Static Movement	MotionSynth
A085	Plucking & Strumming	Guitar/Plucked
A086	String Quart./KARMA Arco	Strings
A087	Harp Strings Age Nouveau	Guitar/Plucked
A088	Irish Ballad Split VJS	World
A089	Genetik Introduction	BPM Sync
A090	PianoBassVibe&Flugel VJS	BassSplits
A091	Berimbau VJS Motion	Pads/Vocal
A092	Clarinet Suite	Brass/Reed
A093	The Spirit Lives	LeadSplits
A094	Chimes 'n Tines	Bell/Mallet/Perc
A095	Ocean of Pearls	LeadSplits
A096	Rewind Keys	Synth
A097	Hybrid E.Piano 2	Keyboard
A098	Xylo & Piccolo Orch	Orchestral
A099	Breakbeat Vector Jam !	BassSplits
A100	Lac des Deux-Montagnes	Keyboard
A101	Drum Pad Jam	Drums/Hits
A102	Oct.GrandLegato Strings	Strings
A103	Guitar Club	Guitar/Plucked
A104	Above & Beyond	LeadSplits
A105	Our Hero's Last Battle	BPM Sync
A106	Safe from the Storm	Keyboard
A107	A Tender Film Moment	Pads/Vocal
A108	Brass SW1 Bright	Brass/Reed
A109	Chance Encounter	LeadSplits
A110	Ice Glass	Bell/Mallet/Perc
A111	GuitaRevolution	Guitar/Plucked
A112	L'il Digital Boy	Synth
A113	The Sneak	Keyboard
A114	Basic Orchestra	Orchestral
A115	Funky Fusion Jam	BassSplits
A116	Tinsel Town	MotionSynth
A117	Lucid Dreamin' Rap Star	BassSplits
A118	Pleasant Piano	Keyboard
A119	Keys 'n Frets	Guitar/Plucked
A120	For Magical Moments	Pads/Vocal
A121	"Live Mix Loops Knobs,Rbn"	BassSplits
A122	Trickadelic	BassSplits
A123	New Orchestral	Pads/Vocal
A124	Trumpets Over Bones	Brass/Reed
A125	SoftBrass & Clarinet	LeadSplits
A126	Tribal Mallets	Bell/Mallet/Perc
A127	Pretty Little Lead Split	LeadSplits

Voice Name List

INT-B

#	Name	Category
B000	Pure Attitude	Synth
B001	California Phase Shifter	Keyboard
B002	Alexander's Folk-Dance	Orchestral
B003	Wurly-Hop Split	BassSplits
B004	Motivation	MotionSynth
B005	Grind and Bump	Drums/Hits
B006	Natural Str./KARMA Arco	Strings
B007	Steel Vocoder	Guitar/Plucked
B008	Hakone & Fuji-san	World
B009	Bouncing With Benny	BPM Sync
B010	Cut 'n Shut Wah Organ	Organ
B011	Psychedelic Orbs	Pads/Vocal
B012	Dynamic Stereo Trombones	Brass/Reed
B013	Wave Of The Future	LeadSplits
B014	Breathing Bells JS-Y	Bell/Mallet/Perc
B015	Beyond the Cosmos	Complex&SFX
B016	Aerofuzz	Synth
B017	Future Tine	Keyboard
B018	Harpsichord & Orchestra	Orchestral
B019	"Hook Me Up SW1,2 JS-Y"	BassSplits
B020	Chromium 3-D Pad	MotionSynth
B021	Orchestral Percussion	Drums/Hits
B022	Grand Legato Strings	Strings
B023	His Resting Place	Guitar/Plucked
B024	Zorba	World
B025	Tryin' Not to Lose it...	BPM Sync
B026	Pipes & Choir	Organ
B027	Masssssive Pad	Pads/Vocal
B028	Alto & Brass Section	Brass/Reed
B029	Welcome to Cyberville	LeadSplits
B030	Welcoming	Bell/Mallet/Perc
B031	Planetary Explosion	Complex&SFX
B032	Overdrive Jive	Synth
B033	Funky Groove Clav	Keyboard
B034	Trumpets&Brass Open Tone	Brass/Reed
B035	Gettin' My Groove On	BassSplits
B036	Kaleidoscopic	MotionSynth
B037	Howdoydoodatt ?	Drums/Hits
B038	Camera Strings Control	Strings
B039	Steel Duet	Guitar/Plucked
B040	Sleep Deprivation	LeadSplits
B041	Percolating Rhythm	BPM Sync
B042	Rich Piano	Keyboard
B043	"Sigh of Relief SW1,2"	Pads/Vocal
B044	Flute Suite VJS	Brass/Reed
B045	And relax..	LeadSplits
B046	Landscape Bell	Bell/Mallet/Perc
B047	Prehistoric Predator	Complex&SFX
B048	The Waiting Room	Synth
B049	Pianophonix	Keyboard
B050	Flute & Bassoon	Brass/Reed
B051	Smooth Jazzmitazz	BassSplits
B052	"Indulge EP SW1,2"	Keyboard
B053	New World Beat SW1	World
B054	Big Analogue Strings	Strings
B055	StrumFest/SlideFest	Guitar/Plucked
B056	Dreaming Piano	Keyboard
B057	Feel the Rush	BPM Sync
B058	Tonewheeled Gospel	Organ
B059	Who's ya Paddy	Pads/Vocal
B060	Dynamic Mute Brass	Brass/Reed
B061	Step On This!	LeadSplits
B062	Cute Music Box	Bell/Mallet/Perc
B063	Miracle at Stormy Cove	Complex&SFX

#	Name	Category
B064	Fresh Air Pad	Synth
B065	Stereo E.Piano	Keyboard
B066	ScoreSketcher(p)+Hits(f)	Orchestral
B067	You're Too Late	BassSplits
B068	Dust Storm on Mars	MotionSynth
B069	..and she started crying	LeadSplits
B070	4 Vector Bowing	Strings
B071	12 String Guitar	Guitar/Plucked
B072	Hybrid E.Piano 3	Keyboard
B073	Glass Runner	BPM Sync
B074	Hybrid O'Clav	Keyboard
B075	Electric Sheep	Pads/Vocal
B076	A Saxy Nation	Brass/Reed
B077	Morning Mist	LeadSplits
B078	Fairy Dust	Bell/Mallet/Perc
B079	Ripple Pad	Pads/Vocal
B080	Matinee Adventure Orch	Orchestral
B081	Elf Esteem	Keyboard
B082	Orchestral Slow Brass 2	Brass/Reed
B083	Organic Funk	BassSplits
B084	Movin' Pad	MotionSynth
B085	A Midsummer Night	LeadSplits
B086	Vib. Strings/KARMA Arco	Strings
B087	The Followers	Guitar/Plucked
B088	Jazzy Brush House	BassSplits
B089	Restless Natives	BPM Sync
B090	Old EXi Perc. Organ	Organ
B091	Slo-Res Guitar Pad	Pads/Vocal
B092	Brass & Mutes	Brass/Reed
B093	Alto Sax Split 'n Strut	LeadSplits
B094	Active Mallets JS+Y	Bell/Mallet/Perc
B095	Nashville Jamboree	LeadSplits
B096	Modulated Bass & E.P.	BassSplits
B097	Hybrid E.Piano 1	Keyboard
B098	Romantic Comedy Orch	Orchestral
B099	Cool Mute & A.Bass Jam	BassSplits
B100	Harpsy Goes To Vector JS	Keyboard
B101	I See Flakes	MotionSynth
B102	November Ensemble	Strings
B103	Sing 'n Steel String	Guitar/Plucked
B104	EP/Sax Split	LeadSplits
B105	EuroPop Supa'Starr	BPM Sync
B106	Drum 'n Bass Face	BassSplits
B107	Trembling Hearts	Pads/Vocal
B108	CupMute Ensemble Brass	Brass/Reed
B109	B.T.A.S Sax Split	Brass/Reed
B110	Vector Bell	Bell/Mallet/Perc
B111	Dreamin' and a Jahmin'	BassSplits
B112	Fab Split Baby!	LeadSplits
B113	60's Supernatural	Keyboard
B114	Baroquesque Vector	Orchestral
B115	Flares	BassSplits
B116	Watching the Virus Grow	MotionSynth
B117	Tingly Breath E.Piano	Keyboard
B118	Slow Grand Strings	Strings
B119	Retro + Modern Guitar	Guitar/Plucked
B120	Simba	World
B121	Garage Crew - Pads	Keyboard
B122	Church Group SW1	BassSplits
B123	Warm Movie Pad	Pads/Vocal
B124	3 Soft Trumpets SW1	Brass/Reed
B125	"Ya Wee Beastie! SW1,2rec"	World
B126	Dusty Rides Again	Pads/Vocal
B127	Jazz Organ Trio	Organ

INT-C

#	Name	Category
C000	Summer Anthem EXs1	Synth
C001	Electus Grandus EXs1	Keyboard
C002	Velo Dynamic Orch. EXs1	Orchestral
C003	Random Scattered Colours	BassSplits
C004	Nano Worlds EXs1	MotionSynth
C005	'Splain It to Me EXs1	Drums/Hits
C006	ProStrings XL VJS EXs1	Strings
C007	When Dad Gets Home EXs1	Guitar/Plucked
C008	Mayan Temple EXs1	World
C009	"Re Mix Party SW1,2 EXs1"	BPM Sync
C010	ProgRockOrganMania! EXs1	Organ
C011	Vintage Prog Voices EXs1	Pads/Vocal
C012	Symphonic Music EXs1	Orchestral
C013	In Triplicate EXs1	LeadSplits
C014	Rainbow Bridge EXs1	Bell/Mallet/Perc
C015	Electric Space Lab EXs1	Complex&SFX
C016	Powerful Intro EXs1	Synth
C017	Tirtian Piano	Keyboard
C018	Woodwind & Strings EXs1	Orchestral
C019	A.Bass & Piano SW1 EXs1	BassSplits
C020	Snakeskin Shoes EXs1	LeadSplits
C021	Loop n' Hits EXs1	Drums/Hits
C022	Dynamic Bow String EXs1	Strings
C023	Chasing Vector SW1 EXs1	Guitar/Plucked
C024	Dance for Rain EXs1	World
C025	Urban Stomp EXs1	LeadSplits
C026	Vintage Organ EXs1	Organ
C027	Jazzy Singers EXs1	Pads/Vocal
C028	BigStrings SW1 Pizz EXs1	Strings
C029	Heatwave Haze EXs1	LeadSplits
C030	Gamelan Dance EXs1	Bell/Mallet/Perc
C031	Robo Aerobics Class EXs1	Complex&SFX
C032	More is More EXs1	Synth
C033	Twelve-bar WurlJam EXs1	Keyboard
C034	KARMA Orchestra EXs1	Orchestral
C035	Vanishing Point EXs1	BassSplits
C036	Smooth'n Deep Pad EXs1	MotionSynth
C037	Don't Hit May! EXs1	Drums/Hits
C038	Arco Pro Strings XL EXs1	Strings
C039	"Gentle Guitar SW1,2 EXs1"	Guitar/Plucked
C040	Asian MC EXs1	World
C041	Late Night Jam EXs1	BPM Sync
C042	Pipe Organ onFader1 EXs1	Organ
C043	Starry Night Pad EXs1	Pads/Vocal
C044	DynaOct Strings VJS EXs1	Strings
C045	Metal Blimp Blues EXs1	LeadSplits
C046	4 Vector Bells EXs1	Bell/Mallet/Perc
C047	Endless Choir EXs1	Pads/Vocal
C048	Hardfloor EXs1	Synth
C049	Koochie Groovy EXs1	BassSplits
C050	Flute Sound Track EXs1	Orchestral
C051	Follow the Leader EXs1	BassSplits
C052	Collective Moving EXs1	MotionSynth
C053	Jam on da Pads EXs1	Drums/Hits
C054	Natural Strings EXs1	Strings
C055	New Age Harp VJS EXs1	Guitar/Plucked
C056	Kilimanjaro EXs1	World
C057	70's Synth Fusion EXs1	LeadSplits
C058	"Recital SW,Knobs EXs1"	Keyboard
C059	High Above Hills EXs1	Pads/Vocal
C060	Doublereed Suite EXs1	Brass/Reed
C061	At An EXi-bition EXs1	LeadSplits
C062	Warm Pad Strings EXs1	Strings
C063	New Copland EXs1	Pads/Vocal

#	Name	Category
C064	Compressed Air EXs1	Synth
C065	Galactic Excursion EXs1	Keyboard
C066	Dyna Slow/Fast Orch EXs1	Orchestral
C067	She Walks into ... EXs1	BassSplits
C068	Oboe & Orchestra EXs1	LeadSplits
C069	Retro-Fusion EXs1	LeadSplits
C070	Dynamic Strings EXs1	Strings
C071	Winter Guitar EXs1	Guitar/Plucked
C072	WaterfrontMandolins EXs1	World
C073	Chopped Rhythm EXs1	BPM Sync
C074	Melt those Valves! EXs1	LeadSplits
C075	Super Stereo Choir EXs1	Pads/Vocal
C076	Brass/Reed/Str Orch EXs1	Orchestral
C077	Guitar Heaven/Rbn EXs1	LeadSplits
C078	Udu Hop VJS EXs1	BassSplits
C079	Endless Strings EXs1	Pads/Vocal
C080	Bearded-Vulcan Epic EXs1	LeadSplits
C081	Gospel Church EXs1	Keyboard
C082	Ceremony for a King EXs1	Orchestral
C083	Jew's Harp Hop EXs1	BassSplits
C084	Voice/Ethnic Flute EXs1	LeadSplits
C085	Tiger by the Tail EXs1	World
C086	X-FadeStringTremolo EXs1	Strings
C087	Monster Metal Stack EXs1	Guitar/Plucked
C088	ChineseBallade VJS EXs1	World
C089	Old West Theme EXs1	LeadSplits
C090	Pipe Organ onFader2 EXs1	Organ
C091	Matrix Recursive EXs1	Pads/Vocal
C092	"Orch Menu SW1,2 EXs1"	Orchestral
C093	Smooth Groove EXs1	LeadSplits
C094	Heavy Metal Split EXs1	LeadSplits
C095	Those Rainy Dayz EXs1	Pads/Vocal
C096	Miami Split EXs1	LeadSplits
C097	Tine E.P. & Pan Pad EXs1	Keyboard
C098	Brass&Strings Orch EXs1	Orchestral
C099	Tricki Wah EXs1	BassSplits
C100	Alligator Swamp... EXs1	LeadSplits
C101	Celtic Heart EXs1	World
C102	Movie Landscapes EXs1	Orchestral
C103	Slappy Fingers EXs1	Guitar/Plucked
C104	Eastern Aire EXs1	World
C105	Orchestral Vari. EXs1	Orchestral
C106	"Legendary ""B"" Jazz EXs1"	Organ
C107	Proud Pad EXs1	Pads/Vocal
C108	Tremolo Strings -Y EXs1	Strings
C109	CostaRican Strummer EXs1	LeadSplits
C110	Reflective Tone EXs1	Bell/Mallet/Perc
C111	Water Colours EXs1	Pads/Vocal
C112	JPop Cover Girl EXs1	LeadSplits
C113	Eternal Visionary EXs1	Keyboard
C114	Flutes Orch&Strings EXs1	Orchestral
C115	Roller Disco EXs1	BassSplits
C116	Lost at Sea EXs1	Pads/Vocal
C117	Rawk Tool Kit EXs1	LeadSplits
C118	Grand Strings VJS EXs1	Strings
C119	Inverno in Venezia EXs1	World
C120	Far away from home EXs1	World
C121	Movie Score Ens. EXs1	Orchestral
C122	Pipes/Strings/Brass EXs1	Organ
C123	Vocalraiser EXs1	Pads/Vocal
C124	Slow Pad String XL EXs1	Strings
C125	The Quartet EXs1	LeadSplits
C126	Moving Synth-Bells EXs1	Bell/Mallet/Perc
C127	A Subtle Remark EXs1	Pads/Vocal

Voice Name List

Programs

Bank INT-A [HD-1]

#	Name	Category
A000	S OASYS Piano	Keyboard
A001	D Dreaming Sweeper	MotionSynth
A002	D Nylon Guitar 1 Knob5 Atk	Guitar/Plucked
A003	D Stereo Oct Strings SW1	Strings
A004	Ⓞ Studio Standard Kit	Drums
A005	D Cosmic Furnace	FastSynth
A006	D Acoustic Bass 1 SW1	Bass/Synth Bass
A007	D Scat Voices	Vocal/Airy
A008	D Power Organ SW1	Organ
A009	D Full Brass Section	Brass
A010	D Vibrato Flute	Woodwind/Reed
A011	S Multi Orch Hits	Short Decay/Hit
A012	D The 5th Vector	SlowSynth
A013	S SaxSynth Lead SW1	LeadSynth
A014	D Space Gliders	SFX
A015	S Bright WaveSeq Bell VJS	Bell/Mallet
A016	S Real Suit E.Piano	Keyboard
A017	D Liquid Evolution VJS	MotionSynth
A018	S Dirty Guitar + AC30	Guitar/Plucked
A019	D String Quartet	Strings
A020	Ⓞ Insane FX Kit	Drums
A021	D Sine Synth	FastSynth
A022	S Funkylicious Bass	Bass/Synth Bass
A023	D Alpine Voice Pad	Vocal/Airy
A024	D Pipe Organ Mixture	Organ
A025	D Sensitive Trumpet	Brass
A026	D Vibrato Saxes JS-Y Growl	Woodwind/Reed
A027	D R&B Planet	Short Decay/Hit
A028	D Ripplator	SlowSynth
A029	D Espresso Lead	LeadSynth
A030	D Distant Ice	SFX
A031	S Vibraphone Soft Mallet	Bell/Mallet
A032	D Clav 1/Mute SW1	Keyboard
A033	D Random Pitch Split/Pad	MotionSynth
A034	D Steel Acoustic Guitar	Guitar/Plucked
A035	D Analog Strings	Strings
A036	Ⓞ Wild Rock Kit	Drums
A037	D Fresh Air	FastSynth
A038	S Finger Bass 1	Bass/Synth Bass
A039	D Arctic Voices	Vocal/Airy
A040	D Velo Perc Organ 2 SW1	Organ
A041	D Mute Tp/Tb Ensemble	Brass
A042	D Oboe SW1 Key Noise	Woodwind/Reed
A043	D We All Fall Down	Short Decay/Hit
A044	D Whale's World SW1	SlowSynth
A045	D Syncified Lead	LeadSynth
A046	D Sonic Blast	SFX
A047	D Clear Morning Bells	Bell/Mallet
A048	D L.A. E.Piano	Keyboard
A049	D Evolving	MotionSynth
A050	D Screaming Tube Guitar	Guitar/Plucked
A051	D Cello Solo/Pizz SW1	Strings
A052	Ⓞ Mashed Kit	Drums
A053	D Fun Comp Synth	FastSynth
A054	D Harmonic Bass/Lead	Bass/Synth Bass
A055	D Ooh Voices L&R	Vocal/Airy
A056	S Dyno E.Piano	Keyboard
A057	D Mute Trumpet	Brass
A058	D Soprano Sax JS-Y Growl	Woodwind/Reed
A059	Ⓞ Deep AmbiChill Kit	Drums
A060	D Slow Sine Pad	SlowSynth
A061	D Fear Not	LeadSynth
A062	D Perfect Storm	SFX
A063	D Finger Cymbal Bells	Bell/Mallet

↑ S: single program, D: double program,
Ⓞ: drums program

#	Name	Category
A064	D Sparkling Piano	Keyboard
A065	D Mellow Electric	MotionSynth
A066	D Glassy Strat	Guitar/Plucked
A067	D Beautiful Camera Strings	Strings
A068	Ⓞ Original Perc. Kit	Drums
A069	D Storm Chaser	FastSynth
A070	D Slap Bass Sting SW1 Noiz	Bass/Synth Bass
A071	D Eternity	MotionSynth
A072	D House Organ	Organ
A073	D Trombones X-Fade	Brass
A074	D Bass Clarinet SW1 Duo	Woodwind/Reed
A075	D Synth Hit Morpher	MotionSynth
A076	D Paddylicious	SlowSynth
A077	D Galactic Bounty Hunter	MotionSynth
A078	D Orbiting Probes	SFX
A079	D VS Bells 1	Bell/Mallet
A080	S Reed E.Piano	Keyboard
A081	D Smoothie Motion	MotionSynth
A082	D Sitar SW2 AT-Bend	Guitar/Plucked
A083	D Platinum Strings	Strings
A084	Ⓞ Tricky kit	Drums
A085	D Spiky Analog	FastSynth
A086	D JungleHead	Bass/Synth Bass
A087	D Pad-O-Rama	SlowSynth
A088	D Church Organ 1	Organ
A089	D Trumpets X-Fade	Brass
A090	D Tenor Sax Hard -Y Growl	Woodwind/Reed
A091	S Finger Bass 7	Bass/Synth Bass
A092	D High Octane HPF Sweep	SlowSynth
A093	D Domination Bass	Bass/Synth Bass
A094	D Sweep-n-Drop	SFX
A095	D Soft Glockenspiel	Bell/Mallet
A096	D Buzzy Clav	Keyboard
A097	D Locomotion	MotionSynth
A098	S Vintage Tremolo Guitar	Guitar/Plucked
A099	D Legato Stereo Strings	Strings
A100	D VCF Vector mod	MotionSynth
A101	D 5th WaveStab SW2	FastSynth
A102	S Deeeep Pick Bass	Bass/Synth Bass
A103	D Santur Dynamic X-Fade	Guitar/Plucked
A104	D FM Chorus Piano	Keyboard
A105	D Horns & Brass	Brass
A106	D Bassoon & Bass Clarinet	Woodwind/Reed
A107	D eXposure	MotionSynth
A108	D Givin' Out Vibes	SlowSynth
A109	S Raunchy Bass	Bass/Synth Bass
A110	D Black Hole	MotionSynth
A111	D Silver Solar Bells	Bell/Mallet
A112	D Breathly EP Pad	Keyboard
A113	D Transformation	MotionSynth
A114	D Mega Mute Guitar	Guitar/Plucked
A115	D Dark RnB Piano	Keyboard
A116	Ⓞ Crazy Triki Kit	Drums
A117	D Neo Pulsation	MotionSynth
A118	S FM Syn Bass	Bass/Synth Bass
A119	D Sticky Finga Clav	Keyboard
A120	S Ballade E.Piano	Keyboard
A121	D Thin Stereo Brass	Brass
A122	D Uilleann Pipe VeloSwitch	Woodwind/Reed
A123	D Finger Bass 5 SW1	Bass/Synth Bass
A124	D Weightless	MotionSynth
A125	D Giorgio Bass Ribbon	Bass/Synth Bass
A126	D Mild Suitcase E.Piano	Keyboard
A127	D African Kalimba	Bell/Mallet

↑ S: single program, D: double program,
Ⓞ: drums program

Bank INT-B [HD-1]

#	Name	Category
B000	S 3 Way Stereo Grand	Keyboard
B001	D Benny's Bounce	MotionSynth
B002	D Nylon Guitar 2 Knob5 Atk	Guitar/Plucked
B003	D Legato Strings	Strings
B004	@ Jazz/Brush Kit	Drums
B005	D Syn Brass The Sailor	FastSynth
B006	D Acoustic Bass 2 SW1	Bass/Synth Bass
B007	D Male Scat Voices	Vocal/Airy
B008	D Perc Jazz 1a SW1	Organ
B009	D Dark Stereo Brass	Brass
B010	D Magical Flute	Woodwind/Reed
B011	S 19 Orch/Band HITS Knob5	Short Decay/Hit
B012	D Angel World	SlowSynth
B013	D Wikid Lead	LeadSynth
B014	D Into The Nebula SW1	SFX
B015	D WS/Vs Shifting Bells	Bell/Mallet
B016	S 3-Way Suitcase E.Piano	Keyboard
B017	D Lost & FallinG	MotionSynth
B018	S Tube Sat SemiDist Guitar	Guitar/Plucked
B019	D Quartet Strings/Pizz SW1	Strings
B020	@ Hip Hop Kit	Drums
B021	D Syn. Mallet 5ths	FastSynth
B022	D RnB Bass/Lead	Bass/Synth Bass
B023	D Classic Choir	Vocal/Airy
B024	D Church Organ Pos/Full 2	Organ
B025	D Trumpet Overblown	Brass
B026	D Tenor Sax Vibrato	Woodwind/Reed
B027	D Tinkle Hit	Short Decay/Hit
B028	D Reed Pad	SlowSynth
B029	S Leading Sines	LeadSynth
B030	S Coin Thwack	SFX
B031	D Steel Drums SW1	Bell/Mallet
B032	D Clav 2/Mute SW1	Keyboard
B033	D Secret Chambers	MotionSynth
B034	D Planetary WaveSeq Guitar	Guitar/Plucked
B035	D Stereo Analog Strings	Strings
B036	@ Orch./Ethnic Kit	Drums
B037	D Ski Song	MotionSynth
B038	D Velocity Bend Bass	Bass/Synth Bass
B039	D Light Voices L&R	Vocal/Airy
B040	D Velo Perc Organ 1 SW1	Organ
B041	D Cup Mutes Tp/Tb Ensemble	Brass
B042	D Bassoon SW1 Key Noise	Woodwind/Reed
B043	D Synth Hitter	Short Decay/Hit
B044	D Tranquil Pad	SlowSynth
B045	D Funky Tine E.Piano	Keyboard
B046	D SubSonik War Drums	SFX
B047	D Little Fuzz Bell	Bell/Mallet
B048	D ...lead to Rome E.P.	Keyboard
B049	D The Good Fairy's Pad	MotionSynth
B050	S OASYS Mono Piano 2	Keyboard
B051	D Solo Viola /Pizz SW1	Strings
B052	@ Electro Rock Kit	Drums
B053	D Padme & Leadme	FastSynth
B054	D Phone Home Bass	Bass/Synth Bass
B055	D Soft & Sweet Voices	Vocal/Airy
B056	D Vintage E.Piano	Keyboard
B057	D Mute Trombone	Brass
B058	D Alto Sax Soft -Y Breath	Woodwind/Reed
B059	D Timpani Splits SW2 Roll	Drums
B060	D Film Score Pad	SlowSynth
B061	D Round Poppy Lead	LeadSynth
B062	D Steam Sweeps	SFX
B063	D FM Tubular Bells	Bell/Mallet

↑ S: single program, D: double program,
@: drums program

#	Name	Category
B064	D Pure Stereo Piano	Keyboard
B065	D Pulsatronik	MotionSynth
B066	S New Age Hybrid Guitar	Guitar/Plucked
B067	D Few Bows Stereo	Strings
B068	@ Cuban Perc. Kit	Drums
B069	D FM Fever	FastSynth
B070	D Thumb Bass 1 SW1	Bass/Synth Bass
B071	D Sea Glass	MotionSynth
B072	D Vox Organ SW2 Tabs	Organ
B073	D Trombones 4 Velocity	Brass
B074	D Clarinet SW1 Breath	Woodwind/Reed
B075	D Stereo Power Hit	Short Decay/Hit
B076	S Slow Metal Pad	SlowSynth
B077	D Out to Lunch	MotionSynth
B078	D Cosmic Waves	SFX
B079	S Glass Bell	Bell/Mallet
B080	D Woody Wurly E.Piano	Keyboard
B081	D Butterflies	MotionSynth
B082	D Sitar & Tambura	Guitar/Plucked
B083	D Big Camera Strings	Strings
B084	D Conversations	MotionSynth
B085	D Powerful Euphoria	FastSynth
B086	D Evil Eye Bass	Bass/Synth Bass
B087	S La Mer	MotionSynth
B088	D Positive Organ 2	Organ
B089	D Metallic Water	MotionSynth
B090	D Alto Sax Hard -Y Growl	Woodwind/Reed
B091	@ Psycho Pitch Kit	Drums
B092	D Cross Sweeper	SlowSynth
B093	D PowerBar Bass	Bass/Synth Bass
B094	S Dying in Space	SFX
B095	D Hard Glockenspiel	Bell/Mallet
B096	D 8' Harpsichord + Key Off	Keyboard
B097	D Wave Girlz	MotionSynth
B098	D Rotary Guitar	Guitar/Plucked
B099	D Standard E.Piano	Keyboard
B100	D Here it Comes	MotionSynth
B101	D Symphonic L.F.O	MotionSynth
B102	S Picked Precision Bass	Bass/Synth Bass
B103	S V.Switch WS Clav	Keyboard
B104	D 3 Way E.Piano	Keyboard
B105	D French Horn Duo	Brass
B106	D Clarinets	Woodwind/Reed
B107	S Harp 'Nails'	Guitar/Plucked
B108	D Splash From The Past	SlowSynth
B109	D VJS Decimation Bass	Bass/Synth Bass
B110	D 12 String Guitar	Guitar/Plucked
B111	D VS Bells 2	Bell/Mallet
B112	D Wave Sweep E.Piano	Keyboard
B113	D Pods In The Pad	MotionSynth
B114	D Whack-a-Wah SW1	Guitar/Plucked
B115	D Hard Stage Piano	Keyboard
B116	@ Velo-Pitch Hip Hop Kit	Drums
B117	S PedalSteel PreBend Gtr	Guitar/Plucked
B118	D House Organ BASS	Bass/Synth Bass
B119	D Bouzuki Octave Strings	Guitar/Plucked
B120	D Crystal Vector E.Piano	Keyboard
B121	D Wide Stereo Brass	Brass
B122	D Astor's Bandoneon	Woodwind/Reed
B123	D Finger Bass 6 SW1	Bass/Synth Bass
B124	D Whirl Pad	MotionSynth
B125	D Dark Floor Bass	Bass/Synth Bass
B126	D Clocked Noises	SFX
B127	D The Kalimba	Bell/Mallet

↑ S: single program, D: double program,
@: drums program

Voice Name List

Bank INT-C [HD-1]

#	Name	Category
C000	D Stereo Concert Piano	Keyboard
C001	D BPM Pulse	MotionSynth
C002	D Fretless Guitar	Guitar/Plucked
C003	D Arco Stereo Strings	Strings
C004	Ⓞ Funk Kit	Drums
C005	D Power Synth	FastSynth
C006	S HB Fretless Bass	Bass/Synth Bass
C007	D Female Scat Voices	Vocal/Airy
C008	D Ballade Organ	Organ
C009	D Session Brass	Brass
C010	D Nay	Woodwind/Reed
C011	D Dance & House Hits	Short Decay/Hit
C012	D Airy Tails	SlowSynth
C013	D TeknoSink Lead	LeadSynth
C014	D Compu Beacon	SFX
C015	D Wave Seq Bells	Bell/Mallet
C016	D Custom E.Piano	Keyboard
C017	D Dream Catcher	MotionSynth
C018	D JS Wah Lead Gtr JS+Y	Guitar/Plucked
C019	D Violin Solo RibbonBend	Strings
C020	Ⓞ Trance Kit	Drums
C021	D Happy Air Synth	FastSynth
C022	D DistortionHead	Bass/Synth Bass
C023	D Vocal Ah	Vocal/Airy
C024	D Church Organ Pos/Full 1	Organ
C025	D Trumpet Open Tone	Brass
C026	D Baritone Sax JS-Y Growl	Woodwind/Reed
C027	D Sky Boy	Short Decay/Hit
C028	D Breeze Pad	SlowSynth
C029	D Singing Lead	LeadSynth
C030	S Meditation Tree	SFX
C031	D Birds in the Kalimba SW1	Bell/Mallet
C032	D Snappy Clav	Keyboard
C033	D Ready for Liftoff	MotionSynth
C034	S 3-Way SteelString Guitar	Guitar/Plucked
C035	D String Pad 1	Strings
C036	D Tour de Fingers	MotionSynth
C037	D Pop Synth Pad	FastSynth
C038	S Finger Bass 2	Bass/Synth Bass
C039	D Dream Voices	Vocal/Airy
C040	D M1 E.Organ SW1	Organ
C041	D French Horn Ensemble	Brass
C042	D English Horn SW1 Key	Woodwind/Reed
C043	S Maj - HipHop Brass Hit	Short Decay/Hit
C044	D Synth Brass Pad	SlowSynth
C045	D Mega Sync Lead	LeadSynth
C046	S Cosmic Frisbee	SFX
C047	D VS Twinkle Dust Bells	Bell/Mallet
C048	D Piano Power Pad	Keyboard
C049	D Aqua Phonics	MotionSynth
C050	S Cool AutoWah Gtr	Guitar/Plucked
C051	D Soft Pizzicato SW1 ->Solo	Strings
C052	Ⓞ Hard House Kit	Drums
C053	S Ocarina Attack Knob5	Woodwind/Reed
C054	D Hard Sync Bass	Bass/Synth Bass
C055	D Umm Vocals	Vocal/Airy
C056	S Stage E.Piano	Keyboard
C057	D Flugelhorn mf	Brass
C058	D Tenor Sax Soft SW1 Key	Woodwind/Reed
C059	S Marktree	Drums
C060	S Dirty Organic Pad	SlowSynth
C061	S Harmonica SW1 Distortion	Woodwind/Reed
C062	D New Voyage	SFX
C063	S Tubular Bells Rack	Bell/Mallet

↑ S: single program, D: double program,
Ⓞ: drums program

#	Name	Category
C064	D Romance Piano Bell-Knob5	Keyboard
C065	S Orbit Blip	MotionSynth
C066	S Fly Studio Guitar	Guitar/Plucked
C067	D Intimate Strings	Strings
C068	Ⓞ Brazilian Perc. Kit	Drums
C069	D Are See A Vector!	FastSynth
C070	D Thumb Bass 2 SW1	Bass/Synth Bass
C071	D Gating Voice Pad	MotionSynth
C072	D Distortion Organ SW1	Organ
C073	D Piccolo Flute	Woodwind/Reed
C074	D PanFlute +Overtones	Woodwind/Reed
C075	D "BPM Sweep SW1,2"	MotionSynth
C076	D Debussian Pad	SlowSynth
C077	D Random Arp Advancer	MotionSynth
C078	D Hemispheres	SFX
C079	D FM Pluck Bells	Bell/Mallet
C080	S Open E.Piano	Keyboard
C081	D Flying Machines	MotionSynth
C082	D Mandolin Pick	Guitar/Plucked
C083	D Symphony Strings	Strings
C084	Ⓞ House Kit	Drums
C085	D Warm Analog	FastSynth
C086	D Trauma Bass	Bass/Synth Bass
C087	D Flutter Pad	MotionSynth
C088	D Church Organ Pos/Full 3	Organ
C089	D Tuba Dynamic X-Fade	Brass
C090	D Accordion 8+8' Cassotto	Woodwind/Reed
C091	S Stinger Bass	Bass/Synth Bass
C092	D Filter Bank	SlowSynth
C093	D Filfy Bass!	Bass/Synth Bass
C094	D Noize Sweep	SFX
C095	D Orchestral Celesta	Bell/Mallet
C096	D Kompton Clav	Keyboard
C097	D Sea Creature	MotionSynth
C098	D E.Guitar Dynamic Pick	Guitar/Plucked
C099	S FM E.Piano	Keyboard
C100	D Wavetrance	MotionSynth
C101	D Brite Rezyzy Synth SW1	FastSynth
C102	D Picked Bass 1 Preci SW1	Bass/Synth Bass
C103	D Velo Clav Mutes	Keyboard
C104	D 4 Way Switch E.Piano	Keyboard
C105	D Stereo Brass & Tubas	Brass
C106	D Shakuhachi Velo X-Fade	Woodwind/Reed
C107	S Metal Arp (top 8va)	Short Decay/Hit
C108	D {(Meditate)}	SlowSynth
C109	D Mud Bass	Bass/Synth Bass
C110	D Metal Resonator Guitar	Guitar/Plucked
C111	D Happy Kids Bells	Bell/Mallet
C112	D Tiny Tine E.Piano	Keyboard
C113	D Feature Shock	MotionSynth
C114	D E.Guitar Dyna Mute	Guitar/Plucked
C115	D Smooth Operators	Keyboard
C116	Ⓞ Filtered Trance Kit	Drums
C117	D JazzGuitar & AmpCabinet	Guitar/Plucked
C118	D Arp Syn Bass	Bass/Synth Bass
C119	D Dyna Banjo	Guitar/Plucked
C120	D Dynamic E.Piano	Keyboard
C121	D Stereo Hybrid Brass	Brass
C122	D Musette + Principal	Woodwind/Reed
C123	S VelSw Stinger Bass	Bass/Synth Bass
C124	D Ribbon Gatepad	MotionSynth
C125	S Deep Energy Bass	Bass/Synth Bass
C126	D Close the Blast Doors	SFX
C127	S Xylophone Dynamic X-Fade	Bell/Mallet

↑ S: single program, D: double program,
Ⓞ: drums program

Bank INT-D [HD-1]

#		Name	Category
D000	D	Classic Piano Knob6	Keyboard
D001	D	BPM Ribbon Trance	MotionSynth
D002	D	A.Guitar Dynamic Pick	Guitar/Plucked
D003	D	Symphonic Bows	Strings
D004	@	New Processed Kit	Drums
D005	D	Attacking Synth	FastSynth
D006	D	Pro Fretless Bass SW1	Bass/Synth Bass
D007	D	Aaah Stereo Voices	Vocal/Airy
D008	D	WS Organ SW1	Organ
D009	D	Brass Velocity Fall	Brass
D010	D	Flute Dynamic	Woodwind/Reed
D011	D	Lo<->Hi Hit	Short Decay/Hit
D012	D	Whispering Flutes	SlowSynth
D013	D	Stealth Sync Lead	LeadSynth
D014	D	Ask For Directions	SFX
D015	D	Itty Bitty Bell EP	Bell/Mallet
D016	D	Xfade StagePianoATK Kn5	Keyboard
D017	S	The Changeling	MotionSynth
D018	D	Guitar Chords & FX	Guitar/Plucked
D019	D	Violin Solo/Pizz SW1	Strings
D020	@	Drum'n'Bass Kit	Drums
D021	D	Synth Mallet	FastSynth
D022	S	Syn Reso Bass	Bass/Synth Bass
D023	D	Classical Choir	Vocal/Airy
D024	D	Church Organ Pos/Full 4	Organ
D025	D	Trombone 4 Velocity	Brass
D026	D	AltoSax Dyna->Falls	Woodwind/Reed
D027	D	Synth Hit Arp (Vel)	Short Decay/Hit
D028	D	Pad Hissing Pad	SlowSynth
D029	D	Lead Ting	LeadSynth
D030	D	Crypt-on	SFX
D031	S	Marimba Hard Mallet	Bell/Mallet
D032	D	Piano & Technology	Keyboard
D033	D	TrashMan Groove	MotionSynth
D034	D	Calm Guitar	Guitar/Plucked
D035	D	String Pad 2	Strings
D036	@	Acoustic Pop Kit	Drums
D037	D	Perky Vox Synth	FastSynth
D038	D	Precision E.Bass	Bass/Synth Bass
D039	D	Dreaming of Blue	Vocal/Airy
D040	D	Soft Perc Organ SW1	Organ
D041	D	Brass & Saxophones	Brass
D042	D	Dreed Family	Woodwind/Reed
D043	D	All Night Long	MotionSynth
D044	D	Soft Talk Pad	SlowSynth
D045	D	Pulse Morph Lead	LeadSynth
D046	D	Rebel Cannon	SFX
D047	D	DigiMetal Bell	Bell/Mallet
D048	D	Layered E.Piano Pad	Keyboard
D049	D	Time Machines	MotionSynth
D050	S	Elec Guitar + Twin	Guitar/Plucked
D051	D	Pizz Ensemble	Strings
D052	@	Nu Style Kit	Drums
D053	D	Soft Rezz Synth	FastSynth
D054	D	Strong/Baadd Bass	Bass/Synth Bass
D055	D	Uh-Wooh M&F Voices	Vocal/Airy
D056	D	Suitcase Bell E.Piano	Keyboard
D057	D	Solo French Horn	Brass
D058	D	Tenor & Alto Saxes Forte	Woodwind/Reed
D059	D	China Gong (Tam Tam)	Drums
D060	D	Sad Wood Pad	SlowSynth
D061	D	Syn Pipes	LeadSynth
D062	S	New North Wind	SFX
D063	D	Bali Gamelan	Bell/Mallet

↑ S: single program, D: double program,
@: drums program

#		Name	Category
D064	D	Stereo Dyno E.Piano	Keyboard
D065	D	Running Out of Time	MotionSynth
D066	D	E.Guitar XF->OpenTone	Guitar/Plucked
D067	D	Supreme Strings	Strings
D068	D	Jiffy Popper Lines	MotionSynth
D069	D	Pulse Morph Comp	FastSynth
D070	D	Thumb Bass 4 SW1	Bass/Synth Bass
D071	D	Air Voices	Vocal/Airy
D072	D	Perc Attack Organ SW1	Organ
D073	D	Tine E.Piano	Keyboard
D074	D	Tin Whistle	Woodwind/Reed
D075	D	Meet Oscar	MotionSynth
D076	D	Musette + 4'	Woodwind/Reed
D077	D	Pitch Invasion	MotionSynth
D078	D	The Great Wall	SFX
D079	D	VS Bells 3	Bell/Mallet
D080	D	Wurly E.Piano	Keyboard
D081	D	Mirror*rorriM Waves	MotionSynth
D082	D	Oud Dynamic X-Fade	Guitar/Plucked
D083	D	Hollywood Strings	Strings
D084	@	Gated/Distorted DnB Kit	Drums
D085	D	Rez Bottle Synth	FastSynth
D086	D	Kryptonik Bass	Bass/Synth Bass
D087	D	Wave Song	MotionSynth
D088	D	Positive Organ 1	Organ
D089	D	Piccolo Trumpet	Brass
D090	D	Musette	Woodwind/Reed
D091	D	New Mega Drum Hit	Drums
D092	D	Freedom Pad	SlowSynth
D093	D	01 Dubbya Bass	Bass/Synth Bass
D094	S	Granular Laughing	SFX
D095	D	Vibraphone Hard Mallet	Bell/Mallet
D096	S	Crunch Clav	Keyboard
D097	D	Whispering	MotionSynth
D098	D	Piezo+Pickup Guitar	Guitar/Plucked
D099	D	Vintage Analog Strings	Strings
D100	D	Hot Bod Boogie	MotionSynth
D101	D	Metal Syn-Guitar	FastSynth
D102	D	Picked Bass 2 Sting SW1	Bass/Synth Bass
D103	D	Tingly E.Piano	Keyboard
D104	D	"Perc Organ SW1,2"	Organ
D105	D	Trombone Duo mf	Brass
D106	D	Silver Flute	Woodwind/Reed
D107	S	Dist Satellite	FastSynth
D108	D	Deepest Vox Pad	SlowSynth
D109	S	Ol' Doc Distratto-Bass	Bass/Synth Bass
D110	D	Low and ** Bass	MotionSynth
D111	D	Glass Pluck Bells	Bell/Mallet
D112	D	VS Wave Piano	Keyboard
D113	D	Rumble Breather Pad	MotionSynth
D114	S	Muted Pick Guitar 2	Guitar/Plucked
D115	D	Sparkle E.Piano	Keyboard
D116	@	Sweep the House Kit	Drums
D117	D	16'+8' Harpsichord +Pluk	Keyboard
D118	D	Ragin' Bass	Bass/Synth Bass
D119	D	Spike Rez Clav	Keyboard
D120	S	TX mezzo EP	Keyboard
D121	D	Dyna->Falls Brass SW1	Brass
D122	D	Bag Pipes & Drone Bass	Woodwind/Reed
D123	D	Thumb Switch Bass	Bass/Synth Bass
D124	D	Top of the Popper	MotionSynth
D125	D	Vector Clicker Bass	Bass/Synth Bass
D126	D	AlienTalk	SFX
D127	D	Island Mallets	Bell/Mallet

↑ S: single program, D: double program,
@: drums program

Voice Name List

Bank INT-E [HD-1]

#	Name	Category
E000	D OASYS Piano-Damper EXs1	Keyboard
E001	D Coming Home EXs1	MotionSynth
E002	D Dist.Guit -Y Mute EXs1	Guitar/Plucked
E003	D Tremolo Strings Kn5 EXs1	Strings
E004	Ⓞ Studio Standard Kit EXs1	Drums
E005	D Leader of Trance EXs1	FastSynth
E006	D VelSw Slap Bass 2 EXs1	Bass/Synth Bass
E007	D Mountain Voices EXs1	Vocal/Airy
E008	D Slow/Fast Organ SW2 EXs1	Organ
E009	D SFZ Brass	Brass
E010	D Oboe Vib. SW1 Key EXs1	Woodwind/Reed
E011	S 22 Synth Hits Knob5 EXs1	Short Decay/Hit
E012	D Dream Pad Sweep EXs1	SlowSynth
E013	D WS Classic Lead	LeadSynth
E014	D Outside Elements EXs1	SFX
E015	D Strung Bells EXs1	Bell/Mallet
E016	D Stereo Piano Boesy EXs1	Keyboard
E017	D The Temple SW1 EXs1	MotionSynth
E018	D Dyn NylonGuitar Kn5 EXs1	Guitar/Plucked
E019	D Section Strings EXs1	Strings
E020	Ⓞ DJ Set EXs1	Drums
E021	D Flute Pad	FastSynth
E022	D Round A'Kustik Bass EXs1	Bass/Synth Bass
E023	D 3 Way Scat Voices EXs1	Vocal/Airy
E024	D Pipe Full Organ EXs1	Organ
E025	D Slow Brass	Brass
E026	D Woodwind Section EXs1	Woodwind/Reed
E027	S Voice SFX EXs1	Short Decay/Hit
E028	D Arithmancy 2 EXs1	SlowSynth
E029	S Pro 5 Synth Lead	LeadSynth
E030	D TV News EXs1	MotionSynth
E031	D Pure Satin Bells	Bell/Mallet
E032	D Water Piano EXs1	Keyboard
E033	D Dust & Dawn EXs1	MotionSynth
E034	D "O.DriveGuitar SW1,2 EXs1"	Guitar/Plucked
E035	D Slow StereoStrings EXs1	Strings
E036	Ⓞ Funk Kit EXs1	Drums
E037	Ⓞ Original Perc. Kit EXs1	Drums
E038	D Future Klocker Bass EXs1	Bass/Synth Bass
E039	D Bar-Da Scat Voice EXs1	Vocal/Airy
E040	D Drawbars adds High EXs1	Organ
E041	D Stereo Orchestral Brass	Brass
E042	S Clarinet Vibrato EXs1	Woodwind/Reed
E043	S Band Hits EXs1	Short Decay/Hit
E044	D Arithmancy 1 EXs1	SlowSynth
E045	D War Path Pad EXs1	MotionSynth
E046	Ⓞ Jazz/Brush Kit EXs1	Drums
E047	D Broken Bell EXs1	Bell/Mallet
E048	S Bright Mono Piano 1 EXs1	Keyboard
E049	D Dancing Princess EXs1	MotionSynth
E050	D Mandolin Trem & Str EXs1	Guitar/Plucked
E051	D Arco Strings EXs1	Strings
E052	Ⓞ Rap/Gospel Hits EXs1	Drums
E053	D Acting Very Busy EXs1	MotionSynth
E054	D Pick Switch Bass	Bass/Synth Bass
E055	D Tchu Voices Ens. EXs1	Vocal/Airy
E056	D Church Organ 2 EXs1	Organ
E057	Ⓞ Conga Variation Kit EXs1	Drums
E058	D Harmonica Dyna-Wah EXs1	Woodwind/Reed
E059	D Hit The Road! EXs1	Short Decay/Hit
E060	D Virtual Orchestra EXs1	SlowSynth
E061	D Fretless SW1 NeckNoise	Bass/Synth Bass
E062	D Passed Out	MotionSynth
E063	D Calm Bell Synth	Bell/Mallet

↑ S: single program, D: double program,
Ⓞ : drums program

#	Name	Category
E064	D 2 Way Stereo Grand SW1	Keyboard
E065	D Windy Atmosohere EXs1	MotionSynth
E066	D Power Guitar FX EXs1	Guitar/Plucked
E067	D Stereo Oct Strings EXs1	Strings
E068	Ⓞ Misc. Perc. Kit EXs1	Drums
E069	D Metal is Everywhere EXs1	FastSynth
E070	D Slap'n'Tickle Split EXs1	Bass/Synth Bass
E071	D Hummmmmm M&F Voices EXs1	Vocal/Airy
E072	D Drawbars soft->full EXs1	Organ
E073	D Stereo Open Brass	Brass
E074	D E.Horn Vib. SW1 Key EXs1	Woodwind/Reed
E075	D Bounce BPM EXs1	Short Decay/Hit
E076	D Lost Puppies EXs1	SlowSynth
E077	D Vectrola Foe EXs1	MotionSynth
E078	D Les Elementals JS-Y EXs1	SFX
E079	D The Log Drum	Bell/Mallet
E080	Ⓞ BD/SD/CymKit1 TAKb8 EXs1	Drums
E081	D Rhythmscape Wah EXs1	MotionSynth
E082	D Koto SW1 AT-Bend EXs1	Guitar/Plucked
E083	D Stereo Strings EXs1	Strings
E084	Ⓞ Psycho/Chill Kit	Drums
E085	D Syn Gothic EXs1	FastSynth
E086	D Picked Bass 4 SW1	Bass/Synth Bass
E087	D Oooh Stereo Voices EXs1	Vocal/Airy
E088	D Jazzy(Med) Cel.Vib. EXs1	Organ
E089	D Warm Brass	Brass
E090	D Contrabassoon&Oboe EXs1	Woodwind/Reed
E091	Ⓞ Orch./Ethnic Kit EXs1	Drums
E092	D PickMuteBass Sting SW1	Bass/Synth Bass
E093	Ⓞ New Processed Kit EXs1	Drums
E094	D Flashlight Wave Pad	MotionSynth
E095	D Analog Bell/Harp	Bell/Mallet
E096	D Daydream Piano EXs1	Keyboard
E097	D Dreamthreads EXs1	MotionSynth
E098	D Shamisen SW1 Atack EXs1	Guitar/Plucked
E099	Ⓞ BD/SD/CymKit2 TAKb8 EXs1	Drums
E100	Ⓞ Cuban Perc. Kit EXs1	Drums
E101	Ⓞ Brazilian Perc. Kit EXs1	Drums
E102	D VelSw Slap Bass 1 EXs1	Bass/Synth Bass
E103	D Vintage Tape Choir EXs1	Vocal/Airy
E104	Ⓞ Wild Rock Kit EXs1	Drums
E105	D Mono Brass	Brass
E106	D ContraBassoon SW1 EXs1	Woodwind/Reed
E107	S SynPianoxy	Keyboard
E108	D 4 Way Ooh/Aah Mix EXs1	Vocal/Airy
E109	S Music Box	Bell/Mallet
E110	D Finger Bass 4 SW1	Bass/Synth Bass
E111	D Balaphone	Bell/Mallet
E112	D Dyno Suitcase E.Piano	Keyboard
E113	D Bum-ChuckaSplit SW1 EXs1	MotionSynth
E114	D Picked Bass 3 SW1	Bass/Synth Bass
E115	D FM Spark Chorus Piano	Keyboard
E116	Ⓞ Industry/VocoderSet EXs1	Drums
E117	Ⓞ Acoustic Pop Kit EXs1	Drums
E118	D Thumb Bass 3 SW1 EXs1	Bass/Synth Bass
E119	D Vocoder EXs1	Vocal/Airy
E120	D Ocarina Classic Tone	Woodwind/Reed
E121	D Big Stereo Brass	Brass
E122	D Recorder Knob5 Insts	Woodwind/Reed
E123	Ⓞ Vinyl Loop Kit EXs1	Drums
E124	D Finger Bass 3 SW1	Bass/Synth Bass
E125	D Take Me Home Bass	Bass/Synth Bass
E126	S Muted Pick Guitar 1	Guitar/Plucked
E127	D Power Piano EXs1	Keyboard

↑ S: single program, D: double program,
Ⓞ : drums program

Bank INT-F [EXi]

#	EXi1/2	Name	Category
F000	A/A	Giant Rotary SW1,2	MotionSynth
F001	A/A	Vocalisms SW1 Split	Vocal/Airy
F002	A/A	Piano Wire SW1	Keyboard
F003	A/A	Super Saw Brass	FastSynth
F004	A/A	Vintage SciFi Lead	LeadSynth
F005	A/A	Old Style Syn Bass	Bass/Synth Bass
F006	A/A	Grand Wirey Pad SW1	SlowSynth
F007	A/A	WindKistBells	Bell/Mallet
F008	A/-	ooWEEoo/Vox Ribbon=Glide	LeadSynth
F009	A/A	Bounce Shot	MotionSynth
F010	A/A	Stradivarious Sync	LeadSynth
F011	A/A	Pipes on Sunday	Organ
F012	A/A	OrX HITz	Short Decay/Hit
F013	A/A	TechnoMix Control =C2=	MotionSynth
F014	A/-	Combination Filters	SlowSynth
F015	A/-	Analogue Pad	SlowSynth
F016	A/-	Endlessly Rising	SlowSynth
F017	A/-	Massive Pad JS-Y	SlowSynth
F018	A/A	Harmonium	SlowSynth
F019	A/-	Swirling Notch Pad	SlowSynth
F020	A/A	The Sublime Mariner	SlowSynth
F021	A/A	Slo-Filter Pad	SlowSynth
F022	A/A	Saw Sweep-n-Drop	SlowSynth
F023	A/A	ReasSEMBally Knobs5,6,7	SlowSynth
F024	A/A	PWM Pad	SlowSynth
F025	A/-	Atmosphere Bells SW1	Bell/Mallet
F026	A/-	Stop Following Me Bells	Bell/Mallet
F027	A/A	WineGlass Bell + Xtras	Bell/Mallet
F028	A/-	Celeste AL-1	Bell/Mallet
F029	A/A	Mystery Bells	Bell/Mallet
F030	A/A	Big Texture Strings	Strings
F031	A/A	Lucious Strings	Strings
F032	A/A	Tremolo Tension Strings	Strings
F033	A/A	Dreamweaver Strings	Strings
F034	A/A	Marcato Strings Knob5	Strings
F035	A/-	Cinematique Strings	Strings
F036	A/A	Saw Strings	Strings
F037	A/-	PWM Village Ghetto Strs.	Strings
F038	A/A	String/Brass Pad	Strings
F039	A/A	Cumulus Voxalicus	Vocal/Airy
F040	A/A	Vox Oasis	Vocal/Airy
F041	A/A	Russian Winter SW1	Vocal/Airy
F042	A/A	Zydeco Accordion	Woodwind/Reed
F043	A/-	FM Sync Bass	Bass/Synth Bass
F044	A/-	Antic Bass	Bass/Synth Bass
F045	A/-	Dark Bass	Bass/Synth Bass
F046	A/-	Knock on da Booty Bass	Bass/Synth Bass
F047	A/-	Deep Decay Bass	Bass/Synth Bass
F048	A/-	Falling Jungle Bass	Bass/Synth Bass
F049	A/-	Deep Kicker Bass	Bass/Synth Bass
F050	A/-	Mushroom Bassman	Bass/Synth Bass
F051	A/-	Random Decay Arp Bass	Bass/Synth Bass
F052	A/A	Square Head Bass	Bass/Synth Bass
F053	A/A	Klub Bass	Bass/Synth Bass
F054	A/-	Blatt Bass	Bass/Synth Bass
F055	A/A	TopEnd Bass	Bass/Synth Bass
F056	A/-	Pulse Octave Bass	Bass/Synth Bass
F057	A/A	Two ClassicBasses SW1	Bass/Synth Bass
F058	A/A	Dirty Little Girl	Bass/Synth Bass
F059	A/A	Upbeat Bass Morpher	Bass/Synth Bass
F060	A/-	DanceBassMenu	Bass/Synth Bass
F061	A/A	Timpanic Bass	Bass/Synth Bass
F062	A/-	Aggro Bass SW1,2	Bass/Synth Bass
F063	A/-	Velocity Filter Basssss	Bass/Synth Bass

↑ A: AL-1, C: CX-3, M7: MOD-7, MS: MS-20EX,
P6: PolysixEX, S: STR-1, -: Off

#	EXi1/2	Name	Category
F064	A/-	Silver Bass	Bass/Synth Bass
F065	A/A	TeKnoLife Split	Bass/Synth Bass
F066	A/A	80's Stereo Bass SW1	Bass/Synth Bass
F067	A/-	TuBaSs + Xtras	Bass/Synth Bass
F068	A/-	Punctuation Bass	Bass/Synth Bass
F069	A/-	No Frets Bass	Bass/Synth Bass
F070	A/A	TeKbAs & Sweeps Split	Bass/Synth Bass
F071	A/-	30303 Toolkit	Bass/Synth Bass
F072	A/A	Dynamic FM Keys	Keyboard
F073	A/A	Grand Electric	Keyboard
F074	A/A	Contemplative E. Piano	Keyboard
F075	A/A	Custom E. Piano Knob5,6	Keyboard
F076	A/A	Pad Tine E. Piano	Keyboard
F077	A/A	Giant FM Keys	Keyboard
F078	A/A	Vintage Dance Piano	Keyboard
F079	A/-	PulseWave Keys	Keyboard
F080	A/A	Double Harpsichord SW1	Keyboard
F081	A/-	Custom Harpsichord Kn5,6	Keyboard
F082	A/-	Custom Clav Knob5,6	Keyboard
F083	A/A	SynthBrass	FastSynth
F084	A/-	80s Poly Synth	FastSynth
F085	A/A	Rez Sweep	FastSynth
F086	A/A	Afterburn	FastSynth
F087	A/-	Stinger Syn Brass	FastSynth
F088	A/-	Funky Comp Synth	FastSynth
F089	A/-	Pure Lead Comp	FastSynth
F090	A/A	Softy Pad	FastSynth
F091	A/A	Rezbo	FastSynth
F092	A/-	SynBrass / Pulse SW1	FastSynth
F093	A/A	Sweepers Knob	FastSynth
F094	A/A	Power of Synth	FastSynth
F095	A/A	Random Arp Pulser	FastSynth
F096	A/A	Uniformity	FastSynth
F097	A/A	Bright Synth Decay	FastSynth
F098	A/A	Square Rez	FastSynth
F099	A/A	Widow Maker	FastSynth
F100	A/-	Gliding Squares	FastSynth
F101	A/A	Phone Boy	FastSynth
F102	A/A	Ducky Synth	FastSynth
F103	A/A	Glory Keys	FastSynth
F104	A/A	The Power & The Glory	FastSynth
F105	A/A	Got Funk?	FastSynth
F106	A/A	Poly Six Thousand	FastSynth
F107	A/A	PWM Stab Synth	FastSynth
F108	A/-	Five-Alive Synth	FastSynth
F109	A/A	Synthly Plinky	FastSynth
F110	A/A	Power Attacker	FastSynth
F111	A/A	Lead w/ a Vengeance	LeadSynth
F112	A/A	ResRes One	LeadSynth
F113	A/A	Thin AnaLead	LeadSynth
F114	A/-	Sync Soloist	LeadSynth
F115	A/A	Mega Lead	LeadSynth
F116	A/-	Pure Square Lead	LeadSynth
F117	A/A	Ana Brass/Lead	LeadSynth
F118	A/A	Rich Lead	LeadSynth
F119	A/-	Huggy Lead	LeadSynth
F120	A/-	Amsterdam Momma	LeadSynth
F121	A/-	Bright Saw Lead	LeadSynth
F122	A/A	TaBoo Lead	LeadSynth
F123	A/-	Sharp Saw Lead	LeadSynth
F124	A/-	Leading Triangle	LeadSynth
F125	A/-	Hookie Lead	LeadSynth
F126	A/-	Trance Form Lead	LeadSynth
F127	A/A	Touch Lead	LeadSynth

↑ A: AL-1, C: CX-3, M7: MOD-7, MS: MS-20EX,
P6: PolysixEX, S: STR-1, -: Off

Voice Name List

Bank USER-C [EXi] MOD-7

#	EXi1/2	Name	Category
C064	M7/-	Bright UltraWide Pad	SlowSynth
C065	M7/-	Harmonic Heights	SlowSynth
C066	M7/-	Wind In The Pad	SlowSynth
C067	M7/-	Powerful Universe	SlowSynth
C068	M7/-	Mostly Mellow	SlowSynth
C069	M7/-	Alien Crickets	SlowSynth
C070	M7/-	HollowSkape	SlowSynth
C071	M7/-	Singin Sine Pad KARMA AT	SlowSynth
C072	M7/-	Cathedral of the New Age	SlowSynth
C073	M7/-	The Innocence	SlowSynth
C074	M7/-	Cold Mornings	SlowSynth
C075	M7/-	Lo/HiFi TensionPad SW1,2	SlowSynth
C076	M7/-	Angels and Butterflies	SlowSynth
C077	M7/-	Gone Forever	SlowSynth
C078	M7/-	Massive Synth Brass Kn6	FastSynth
C079	M7/S	Jericho	FastSynth
C080	M7/-	Pointed Anthem	FastSynth
C081	M7/-	FeedbackNois HP Synth	FastSynth
C082	M7/-	Thrasher	LeadSynth
C083	M7/-	Frantic Opera Lead VJS	LeadSynth
C084	M7/-	HardSync? Yep.	LeadSynth
C085	M7/-	18 OSC Monster Lead	LeadSynth
C086	M7/-	Vel Expression Lead	LeadSynth
C087	M7/-	Rez Lead & Bass	LeadSynth
C088	M7/-	Dare 2 B Square	LeadSynth
C089	M7/-	VJS SyncBlaster Lead	LeadSynth
C090	M7/-	Funky ReziLead	LeadSynth
C091	M7/-	Rated (PPG for "Bell")	Bell/Mallet
C092	M7/-	Stereo Bells	Bell/Mallet
C093	M7/-	Carillon Variations	Bell/Mallet
C094	M7/-	The Magic Chalice	Bell/Mallet
C095	M7/-	Lotus Garden SW1,2 Knob6	Bell/Mallet
C096	M7/-	Crystal Bells SW1	Bell/Mallet
C097	M7/-	Ensem-Bell	Bell/Mallet
C098	M7/-	Brite Sprite Bell	Bell/Mallet
C099	M7/-	Vintage Bell Wind	Bell/Mallet
C100	M7/-	Trash Can 'Rimba	Bell/Mallet
C101	M7/-	Plaintive Choir SW1,2	Vocal/Airy
C102	M7/-	Trumpetscape (cntrls!)	Brass
C103	M7/-	MOD-7 Orchestra SW1,2	Brass
C104	M7/-	Elec Didjoo **JS-Y**	Woodwind/Reed
C105	M7/-	Andes Pipes	Woodwind/Reed
C106	M7/-	Mystery Alto Flute SW1	Woodwind/Reed
C107	M7/-	Harmonica AT,SW	Woodwind/Reed
C108	M7/-	MOD-7 Guitar Pad SW1	Guitar/Plucked
C109	M7/-	Alchemy Guitars SW1	Guitar/Plucked
C110	M7/-	Pure Nitro Rock Star	Guitar/Plucked
C111	M7/-	Butterfly E.Gtr VJS,Rbn	Guitar/Plucked
C112	M7/-	Sitar & Tambura	Guitar/Plucked
C113	M7/S	Haleakala SW1,2 Knob5,6	Guitar/Plucked
C114	M7/-	Alien Warning System	SFX
C115	M7/-	Waveburst	SFX
C116	M7/-	Convergence	SFX
C117	M7/-	Zombie Choir	SFX
C118	M7/-	Space Siren SW1	SFX
C119	M7/-	Boiling Oil Pad	SFX
C120	M7/-	Inside the Gong	SFX
C121	M7/-	Hold ON for Help	SFX
C122	M7/-	Air Mallet/JunkJam SW1,2	Short Decay/Hit
C123	M7/-	Short Synth Mallet	Short Decay/Hit
C124	M7/-	PreNuclear Stab Synth	Short Decay/Hit
C125	M7/-	Short and Snappy	Short Decay/Hit
C126	M7/-	DONKADrums	Drums
C127	M7/-	Godzilla Gong SW1,cntrls	Drums

↑ A: AL-1, C: CX-3, M7: MOD-7, MS: MS-20EX,
P6: PolysixEX, S: STR-1, -: Off

#	EXi1/2	Name	Category
C000	M7/-	MOD-7 E.Piano Pad SW1	Keyboard
C001	M7/-	L8-Lee Bass	Bass/Synth Bass
C002	M7/-	Synth Lead Memories	LeadSynth
C003	M7/-	All that Glitters.....	MotionSynth
C004	M7/-	JS+Y Stardust(move slow)	Bell/Mallet
C005	M7/-	The Pluck Rings	FastSynth
C006	M7/-	DigiClavitar	Keyboard
C007	M7/S	VectorianBellscape SW1,2	Bell/Mallet
C008	M7/-	Double Plucked	Guitar/Plucked
C009	M7/-	Transformer Lead VJS,Kn6	LeadSynth
C010	M7/-	Pure Power Bass	Bass/Synth Bass
C011	M7/-	Harmonic Dancer SW1	Short Decay/Hit
C012	M7/-	Dancing Waveshapes SW1	MotionSynth
C013	M7/-	When a Robot Dreams	SFX
C014	M7/-	Dark (G)S-2 E.Piano	Keyboard
C015	M7/-	Harmonik E.P. Knob5,6	Keyboard
C016	M7/M7	Funky EP	Keyboard
C017	M7/-	Tinetable E.Piano SW1	Keyboard
C018	M7/-	Pulse E.Piano	Keyboard
C019	M7/-	VJS Reed E.Piano	Keyboard
C020	M7/-	VJS Clav SW1,Rbn,Knobs	Keyboard
C021	M7/M7	Contemporary Pianist SW2	Keyboard
C022	M7/M7	Full Organ (Sliders)	Organ
C023	M7/-	Knee-Deep Bass knob 5,6	Bass/Synth Bass
C024	M7/-	Ugly Mud Bass	Bass/Synth Bass
C025	M7/-	D'Bass SW1	Bass/Synth Bass
C026	M7/-	Gonzo Bass	Bass/Synth Bass
C027	M7/-	Pfat Boy (all controls!)	Bass/Synth Bass
C028	M7/-	Nuklear DOG Bass	Bass/Synth Bass
C029	M7/-	Rappin' Foreva Bass	Bass/Synth Bass
C030	M7/-	Disko Hammer Bass	Bass/Synth Bass
C031	M7/-	Switched On Bass SW1,2	Bass/Synth Bass
C032	M7/-	Pickman Bass	Bass/Synth Bass
C033	M7/-	Dist Squid Bass	Bass/Synth Bass
C034	M7/-	Evil Square Lord	Bass/Synth Bass
C035	M7/-	Solar Winds	MotionSynth
C036	M7/-	Dreams of Neptune (hold)	MotionSynth
C037	M7/-	Morning Indication 10sec	MotionSynth
C038	M7/-	Ominous Motion SW1,2	MotionSynth
C039	M7/-	New Age Starter Kit	MotionSynth
C040	M7/-	Bell Transforms Knob 5	MotionSynth
C041	M7/-	Lost in an Ion Storm	MotionSynth
C042	M7/-	Wave Rotation SW1	MotionSynth
C043	M7/-	Summer Night by the Orb	MotionSynth
C044	M7/-	Beyond the Clouds (hold)	MotionSynth
C045	M7/M7	Thin Fluid	MotionSynth
C046	M7/-	Candlelight Pad	MotionSynth
C047	M7/S	Granular Motions	MotionSynth
C048	M7/-	Triangle Pop JS, Knob6	MotionSynth
C049	M7/-	Rainy Windows	MotionSynth
C050	M7/-	Starlight Parade	MotionSynth
C051	M7/-	Synced In Motion SW1,2	MotionSynth
C052	M7/-	Fantasy Clubland	MotionSynth
C053	M7/-	Ethno Aliens SW1	MotionSynth
C054	M7/-	Tight Squeeze SW1,2 AT	MotionSynth
C055	M7/S	Split Rhythm Maker SW1,2	MotionSynth
C056	M7/-	Jambica CNTRLS, kn5=shakr	MotionSynth
C057	M7/-	Low Flying Objects	MotionSynth
C058	M7/-	Busy Body	MotionSynth
C059	M7/-	Moonlight Parade	MotionSynth
C060	M7/-	Secret Toy Room	MotionSynth
C061	M7/A	Multiple Engines SW1,2	MotionSynth
C062	M7/-	Rain from Heaven	MotionSynth
C063	M7/-	Following the Suspect	MotionSynth

↑ A: AL-1, C: CX-3, M7: MOD-7, MS: MS-20EX,
P6: PolysixEX, S: STR-1, -: Off

Bank USER-D [EXi] LAC-1

#	EXi1/2	Name	Category
D000	P6/MS	Doubled Screamer	FastSynth
D001	MS/-	Power of the Ring	SlowSynth
D002	P6/-	Short Shift Pulse	Short Decay/Hit
D003	MS/-	Noise Shots	FastSynth
D004	P6/-	Phunky Power Bass	Bass/Synth Bass
D005	P6/-	Peanut Lead	LeadSynth
D006	P6/-	Polysix Strings	SlowSynth
D007	MS/A	Wink Vox Pad	MotionSynth
D008	MS/P6	Lonely Song	FastSynth
D009	P6/-	Sus4 Stab Hit	Short Decay/Hit
D010	MS/C	CX3 / MS20 Lead Split	LeadSynth
D011	P6/-	Square Bass	Bass/Synth Bass
D012	MS/-	Hoover Uni Bass	Bass/Synth Bass
D013	P6/-	Fat Line Bass	Bass/Synth Bass
D014	P6/-	Thick Synth Bass	Bass/Synth Bass
D015	MS/-	Darkside X-Bass	Bass/Synth Bass
D016	P6/-	Phat Bass	Bass/Synth Bass
D017	MS/-	Acid Bass	Bass/Synth Bass
D018	P6/-	Electro Clash Bass	Bass/Synth Bass
D019	MS/-	Boost Sonic Bass	Bass/Synth Bass
D020	P6/-	Velocity Bass	Bass/Synth Bass
D021	P6/-	Kidz N America	Bass/Synth Bass
D022	MS/-	Punch Bass	Bass/Synth Bass
D023	MS/-	Simple Tri Bass	Bass/Synth Bass
D024	MS/-	Steppers Bass	Bass/Synth Bass
D025	MS/-	Mean Bass Grit	Bass/Synth Bass
D026	P6/-	Solid Phase Bass SW1	Bass/Synth Bass
D027	MS/-	MS Dirty Bass	Bass/Synth Bass
D028	MS/-	Acid Square Bass	Bass/Synth Bass
D029	MS/-	Deep Point Bass	Bass/Synth Bass
D030	MS/P6	Ultra Wide Deep Bass	Bass/Synth Bass
D031	P6/MS	Big Pad	SlowSynth
D032	MS/P6	Resonate Pad SW1	SlowSynth
D033	MS/-	Airy Fairy Pad	SlowSynth
D034	P6/P6	Spacious Pad	SlowSynth
D035	P6/-	Healing Pad	SlowSynth
D036	P6/-	Ana Strings	SlowSynth
D037	P6/-	Silky Hollow Pad	SlowSynth
D038	P6/-	FAP7 Cave Choir	SlowSynth
D039	P6/-	SpacePad SW1	SlowSynth
D040	P6/-	Influx Pad	SlowSynth
D041	MS/-	DarkPad BPF SW1, JSY	SlowSynth
D042	P6/P6	Fluffy Pads	SlowSynth
D043	P6/-	Morph Pad SW1	SlowSynth
D044	MS/P6	The Last Olympian	SlowSynth
D045	MS/-	S&H 5th Comp	FastSynth
D046	P6/-	Stab Saw	FastSynth
D047	MS/-	Nu Breaks Drive	FastSynth
D048	P6/P6	UltimateTranceAnthem -Y	FastSynth
D049	P6/-	Unison Stab Saw	FastSynth
D050	MS/P6	Healing Guitar	FastSynth
D051	P6/P6	5th World Stab	FastSynth
D052	MS/P6	4OSC Plain Stab	FastSynth
D053	P6/-	Ana Power Brass	FastSynth
D054	P6/-	Fliteration -Y	FastSynth
D055	MS/-	Porta Stab -Y VJS	FastSynth
D056	P6/-	Velo PS6 Reso SW1	FastSynth
D057	P6/-	Trance Anthem -Y	FastSynth
D058	P6/P6	Big Sunrise Pad	FastSynth
D059	P6/P6	Dark Poly Stack	FastSynth
D060	P6/-	FAP7 Morph -Y	FastSynth
D061	P6/-	Polysynth	FastSynth
D062	P6/-	Big Sleep	FastSynth
D063	P6/-	String Pad -Y	FastSynth

↑ A: AL-1, C: CX-3, M7: MOD-7, MS: MS-20EX,
P6: PolysixEX, S: STR-1, -: Off

#	EXi1/2	Name	Category
D064	P6/S	STR-1 & Poly6 Pad Layer	FastSynth
D065	P6/-	VCF Oscillation	FastSynth
D066	MS/P6	Air Mallet	FastSynth
D067	MS/-	Dilated Pupils Lead	LeadSynth
D068	MS/-	Simple Saw Lead	LeadSynth
D069	P6/-	Unison Tek Lead	LeadSynth
D070	MS/-	Grit Lead	LeadSynth
D071	MS/-	Hard Sync Lead	LeadSynth
D072	MS/-	FunKey Lead	LeadSynth
D073	MS/-	Feedback Lead	LeadSynth
D074	P6/-	PolysixEX Lead ChordSW1	LeadSynth
D075	P6/-	Smooth Screaming Lead	LeadSynth
D076	MS/-	Lounge Lead	LeadSynth
D077	P6/-	Velo Filter Lead	LeadSynth
D078	P6/-	Trance Lead	LeadSynth
D079	P6/-	PolysixEX Square Lead	LeadSynth
D080	MS/-	Simple Square Lead	LeadSynth
D081	MS/-	Awaken Sign KN6	LeadSynth
D082	MS/-	Instant Viagraphy	LeadSynth
D083	P6/-	Sour n' Sweet	LeadSynth
D084	P6/-	PWM Flange Lead	LeadSynth
D085	MS/P6	Mermaids	MotionSynth
D086	MS/MS	Flutter Yoi	MotionSynth
D087	P6/-	Gated PWM Pad	MotionSynth
D088	MS/P6	Vaporization Pad	MotionSynth
D089	MS/-	Ancient Memories SW1	MotionSynth
D090	P6/P6	Hold 5 Sec Reso Pad	MotionSynth
D091	MS/-	BPF Sweep Pad	MotionSynth
D092	MS/-	Trill Pad	MotionSynth
D093	P6/P6	Phenomenize	MotionSynth
D094	MS/P6	Chillfactor	MotionSynth
D095	MS/-	Phasey Parallel Pad	MotionSynth
D096	MS/P6	Step Envelope	MotionSynth
D097	MS/P6	Bubble Pad SW1, JS-Y	MotionSynth
D098	P6/P6	Vector Resonance	MotionSynth
D099	MS/-	Vector Motion	MotionSynth
D100	MS/-	MS Freewheeling Pad	MotionSynth
D101	MS/P6	Deep Searchin'	MotionSynth
D102	MS/P6	The Square Kauri II	MotionSynth
D103	MS/P6	Stutter Synth	MotionSynth
D104	P6/P6	Night Times	MotionSynth
D105	MS/P6	Ring Ring T.V.	MotionSynth
D106	MS/-	Intro Heaven	MotionSynth
D107	P6/P6	VCF Circuits	MotionSynth
D108	P6/-	Spiral Pad	MotionSynth
D109	MS/P6	Modulation Pad	MotionSynth
D110	MS/-	MS-20EX Sci-Fi	SFX
D111	MS/-	SulphuricSky SW,JS+Y	SFX
D112	MS/-	Inside the Tube	SFX
D113	MS/MS	ElevenThirtyEight	SFX
D114	MS/MS	Waterphonics	SFX
D115	P6/-	Trance Arp Bliss	Short Decay/Hit
D116	P6/-	Euphoricity	Short Decay/Hit
D117	P6/-	Brave a Danger	Short Decay/Hit
D118	MS/P6	PWM Nag	Short Decay/Hit
D119	MS/-	Signs of Sine -Y	Short Decay/Hit
D120	P6/P6	Downward Trend	Short Decay/Hit
D121	P6/-	Morphing Minor 7th	Short Decay/Hit
D122	P6/-	Fantasy(Vel85)	Short Decay/Hit
D123	P6/P6	PS Vibe	Bell/Mallet
D124	MS/-	Additive Bell	Bell/Mallet
D125	P6/-	Polysix Gamelan	Bell/Mallet
D126	MS/MS	Analog Bell -Y	Bell/Mallet
D127	P6/MS	Resonance Bell	Bell/Mallet

↑ A: AL-1, C: CX-3, M7: MOD-7, MS: MS-20EX,
P6: PolysixEX, S: STR-1, -: Off

Voice Name List

Bank USER-E [EXi]

#	EXi1/2	Name	Category
E000	S/S	Nylon STR-1 Acoustic	Guitar/Plucked
E001	S/S	6 Steel Strings	Guitar/Plucked
E002	S/-	Lovely Acoustic Guitar	Guitar/Plucked
E003	S/S	Distortion Guitar 1 VJS	Guitar/Plucked
E004	S/-	Sitar SW1 STR-1	Guitar/Plucked
E005	S/-	A.Bass JS-Y	Bass/Synth Bass
E006	S/-	Deep Finger Bass	Bass/Synth Bass
E007	S/-	Harpsichord 1 STR-1	Keyboard
E008	S/-	Clavinet 1 STR-1	Keyboard
E009	S/-	Magical Tremolo VJS	MotionSynth
E010	S/-	Sea World	SFX
E011	S/A	Motion String Pad	FastSynth
E012	S/-	Classic STR-1 E.Piano	Keyboard
E013	S/-	Carillon	Bell/Mallet
E014	S/-	Harp Bisbigliando SW1	Guitar/Plucked
E015	S/A	Pluck Goes Under Cover	MotionSynth
E016	S/-	Flamenco Guitar	Guitar/Plucked
E017	S/-	Acoustic STR-1 Guitar	Guitar/Plucked
E018	S/-	Nylon Stalkings	Guitar/Plucked
E019	S/S	Nylon Dynamic Guitar	Guitar/Plucked
E020	S/-	Lovers Guitar	Guitar/Plucked
E021	S/S	Lo/Hi Velocity Acoustic	Guitar/Plucked
E022	S/S	Steel String	Guitar/Plucked
E023	S/S	Steel STR-1 Guitar VJS	Guitar/Plucked
E024	S/S	Low Bridge Blues Guitar	Guitar/Plucked
E025	S/-	Old Hat Jazz Guitar	Guitar/Plucked
E026	S/-	Tremolo/Surf Guitar	Guitar/Plucked
E027	S/-	Spaghetti Guitar	Guitar/Plucked
E028	S/S	Electric Guitar VJS	Guitar/Plucked
E029	S/S	Funky E.Guitar VJS	Guitar/Plucked
E030	S/-	Chime Guitar	Guitar/Plucked
E031	S/S	Clean E.Guitar VJS	Guitar/Plucked
E032	S/-	Plectrachime	Guitar/Plucked
E033	S/-	Straits Solo Guitar	Guitar/Plucked
E034	S/-	Buzzy String Guitar	Guitar/Plucked
E035	S/S	Overdriven Guitar VJS	Guitar/Plucked
E036	S/-	Dist. Lead	Guitar/Plucked
E037	S/S	Dist.Feedback Guitar VJS	Guitar/Plucked
E038	S/-	Tamboura/Sitar SW1	Guitar/Plucked
E039	S/S	Ambient Sitar SW1,2	Guitar/Plucked
E040	S/S	Sympathetic Sitar	Guitar/Plucked
E041	S/S	Harp in Orchestra Place	Guitar/Plucked
E042	S/-	Celtic Harp	Guitar/Plucked
E043	S/-	Tsugaru Shamisen	Guitar/Plucked
E044	S/S	Reversing Clangor	Guitar/Plucked
E045	S/-	Ethnic Pluck+NOnLin Knb6	Guitar/Plucked
E046	S/S	High Mandolins	Guitar/Plucked
E047	S/S	Mandolin Strings	Guitar/Plucked
E048	S/S	Bouzuki Strings	Guitar/Plucked
E049	S/-	Hammered Dulcimer	Guitar/Plucked
E050	S/S	Banjo (body=SW1/2)	Guitar/Plucked
E051	S/S	Lute Classic Strings	Guitar/Plucked
E052	S/S	Ethnic Koto Strings	Guitar/Plucked
E053	S/-	Solo NoisY A.Bass	Bass/Synth Bass
E054	S/S	Double-Bass Fingered	Bass/Synth Bass
E055	S/-	A.Bass Solo	Bass/Synth Bass
E056	S/-	Fretless Dark Bass	Bass/Synth Bass
E057	S/-	Fretless Bass STR-1	Bass/Synth Bass
E058	S/-	E.Bass STR-1	Bass/Synth Bass
E059	S/-	Modified P. Bass	Bass/Synth Bass
E060	S/-	Stein Bass STR-1	Bass/Synth Bass
E061	S/-	Slap Bass 1 STR-1	Bass/Synth Bass
E062	S/-	Slap Bass 2 STR-1	Bass/Synth Bass
E063	S/-	Prime Time Slapper	Bass/Synth Bass

↑ A: AL-1, C: CX-3, M7: MOD-7, MS: MS-20EX,
P6: PolysixEX, S: STR-1, -: Off

#	EXi1/2	Name	Category
E064	S/A	Thing Bass	Bass/Synth Bass
E065	S/-	Stanky Hybrid Slap	Bass/Synth Bass
E066	S/-	Physical E.Piano	Keyboard
E067	S/-	Dirty STR-1 E.Piano	Keyboard
E068	S/-	Vintage STR-1 E.Piano	Keyboard
E069	S/-	Wurlie-Like STR-1 EP	Keyboard
E070	S/-	Magic Tine EP	Keyboard
E071	S/S	DoubleHarpsichord SW1,2	Keyboard
E072	S/-	Harpsichord 2 STR-1	Keyboard
E073	S/-	Clavichord STR-1	Keyboard
E074	S/S	NoisyKeys E.Clav VJS	Keyboard
E075	S/-	Clavinet 2 STR-1	Keyboard
E076	S/S	Half Mute E.Clav VJS	Keyboard
E077	S/S	Bell Factory VJS/Kn5,6	Bell/Mallet
E078	S/-	Xylotopia	Bell/Mallet
E079	S/A	Spectra Chime SW1	Bell/Mallet
E080	S/-	Thinner Chimes	Bell/Mallet
E081	S/S	Physical Mallet VJS/JS-Y	Bell/Mallet
E082	S/-	Cel-limba	Bell/Mallet
E083	S/-	Celeste STR-1	Bell/Mallet
E084	S/-	Xylophone STR-1	Bell/Mallet
E085	S/-	Cavernous Toy Pluk	Bell/Mallet
E086	S/-	Kalimba STR-1	Bell/Mallet
E087	S/S	Crystal Air Mallet Kn5,6	Bell/Mallet
E088	S/S	Vn/Va Pizzicato SW1	Strings
E089	S/S	Veeoleen Split VJS	Strings
E090	S/-	Moooving Vox Pad	Vocal/Airy
E091	S/-	Air Pluck	Vocal/Airy
E092	S/-	Tuned Steam VJS/SW1,2	Vocal/Airy
E093	S/S	Sazzophone Split VJS	Woodwind/Reed
E094	S/S	Harzmonika Split VJS	Woodwind/Reed
E095	S/-	Slow Metal Stryker	SlowSynth
E096	S/-	Banshee SW1,2	SlowSynth
E097	S/-	White Light Pad	SlowSynth
E098	S/A	Icecream Pad	SlowSynth
E099	S/-	Healing Waters	SlowSynth
E100	S/-	The Living Calliope	FastSynth
E101	S/-	Synth Vibration	FastSynth
E102	S/-	Renaissance Fair	FastSynth
E103	S/-	Solar Split	FastSynth
E104	S/-	EvilDispersionSyn SW1,2	FastSynth
E105	S/-	Air Anvil	FastSynth
E106	S/-	Honey Comb	LeadSynth
E107	S/-	Synthonimic Stab	MotionSynth
E108	S/A	Betelgeuse	MotionSynth
E109	S/-	The Magic Box SW1,2	MotionSynth
E110	S/A	The First Sunrise	MotionSynth
E111	S/A	Mandoloid Trem Pad JS	MotionSynth
E112	S/-	Vocal Wavulation	MotionSynth
E113	S/S	Auto Picking (xform)	MotionSynth
E114	S/A	Border Patrol	MotionSynth
E115	S/-	Vokal Dancing	MotionSynth
E116	S/-	Chomp Comp	MotionSynth
E117	S/S	Bad Man	MotionSynth
E118	S/-	1.5 Seconds Left	MotionSynth
E119	S/A	L.F.O. Planet	MotionSynth
E120	S/-	Waterphonics SW1	SFX
E121	S/-	Bowed Waterphone	SFX
E122	S/S	The Final Frontier	SFX
E123	S/-	Death Angels	SFX
E124	S/-	The Engulfed Cathedral	SFX
E125	S/-	Desert Racer	SFX
E126	S/-	Timbale (play C4,5,6,7)	Drums
E127	S/-	Tabloop (play 3 16ths)	Drums

↑ A: AL-1, C: CX-3, M7: MOD-7, MS: MS-20EX,
P6: PolysixEX, S: STR-1, -: Off

Bank USER-F [EXI]

#	EXI1/2	Name	Category
F000	C/-	Felix'sDaKat	Organ
F001	C/-	Perc Organ 1 SW1	Organ
F002	C/-	Memphis Soul	Organ
F003	C/-	Mr. Nice :-)	Organ
F004	C/-	Wave Organ 1 SW1	Organ
F005	C/C	Dark & Perc	Organ
F006	C/-	Jazzy Ballad	Organ
F007	C/-	Cat On aMoJo	Organ
F008	C/-	Joey' Jazz	Organ
F009	C/-	Full Organ	Organ
F010	C/-	EX Otones	Organ
F011	C/-	EX Church	Organ
F012	C/-	Bright	Organ
F013	C/C	CX-3 Trem Organ	Organ
F014	C/C	Mega Organ SW1	Organ
F015	C/-	Preachin'	Organ
F016	C/-	ShoTown	Organ
F017	C/-	LS DirtyFunk	Organ
F018	C/-	LSGospelFunk	Organ
F019	C/-	Quiet Hymn	Organ
F020	C/-	BA THE Sound	Organ
F021	C/-	TC EX-Glassy	Organ
F022	C/-	Wave Organ 2 SW1	Organ
F023	C/-	Jazzy Organ 1 SW1	Organ
F024	C/-	Jazzy Organ 2 SW1	Organ
F025	C/-	Jazzy Organ 3 SW1	Organ
F026	C/-	Prog Chords 1 SW1	Organ
F027	C/-	Prog Chords 2 SW1	Organ
F028	C/-	Rich Organ SW1	Organ
F029	C/-	CX-3 Organ 8881a SW1	Organ
F030	C/-	LowerManualOrgan SW1	Organ
F031	C/-	M1 Organ SW1,2	Organ
F032	C/-	Low.Manual/Jazz.Comp 1	Organ
F033	C/-	Low.Manual/Jazz.Comp 2	Organ
F034	C/C	Classic Organ SW1	Organ
F035	C/C	Gig Organ SW1	Organ
F036	C/C	Raging Organ SW1	Organ
F037	C/C	Custom Perc Organ SW1	Organ
F038	C/-	Perc Organ 2 SW1	Organ
F039	C/-	Comp	Organ
F040	C/-	Bro' J	Organ
F041	C/-	Smoke In Japan	Organ
F042	C/-	Carpet Magic	Organ
F043	C/-	GP NicePerc	Organ
F044	C/-	Go McJimmy	Organ
F045	C/-	I Gota EX!	Organ
F046	C/C	Lots O' Drawbars SW1	Organ
F047	C/-	Perc Jazz 1 SW1	Organ
F048	C/-	Perc Jazz 2 SW1	Organ
F049	C/C	Soft Jazz Perc 1	Organ
F050	C/-	Soft Jazz Perc 2	Organ
F051	C/-	Organ Perc 3rd SW1	Organ
F052	A/A	Remix Organ SW1	Organ
F053	A/A	EXistential Organ SW1	Organ
F054	A/A	Dual Deep Organs SW1	Organ
F055	A/A	TranceFormOrgan SW1	Organ
F056	A/A	Bubble Organ	Organ
F057	A/A	Organ.Dance.Now	Organ
F058	A/A	India Raga Flute Split	LeadSynth
F059	A/A	Pulsing Screaming Thing	LeadSynth
F060	A/A	Dial Up Modem Emergency	LeadSynth
F061	A/A	Going Up?	LeadSynth
F062	A/-	Twisted Filtration	LeadSynth
F063	A/A	Big Bottom Lead SW1,2	LeadSynth

↑ A: AL-1, C: CX-3, M7: MOD-7, MS: MS-20EX,
P6: PolysixEX, S: STR-1, -: Off

#	EXI1/2	Name	Category
F064	A/-	Sync Commentary	LeadSynth
F065	A/A	Double Bend Gtr Knob5	LeadSynth
F066	A/A	D-structo SW1,2	LeadSynth
F067	A/A	The Fly (Bee on Knob6)	LeadSynth
F068	A/A	Tearing Sync JS-Y	LeadSynth
F069	A/A	4 Guys Whistling	LeadSynth
F070	A/-	Long Period Complexity	MotionSynth
F071	A/-	Life on Mars	MotionSynth
F072	A/-	Sequence Bounce	MotionSynth
F073	A/A	Scatter Synth	MotionSynth
F074	A/-	Clock Dance	MotionSynth
F075	A/-	Vector Victor	MotionSynth
F076	A/A	WindSong	MotionSynth
F077	A/A	Harmonic DubbleBubble	MotionSynth
F078	A/A	Notch/Bell Pad	MotionSynth
F079	A/-	Not A Care in the World	MotionSynth
F080	A/A	Aromatherapy	MotionSynth
F081	A/-	-beat Dancerific	MotionSynth
F082	A/A	Random Rhythm Guitars	MotionSynth
F083	A/A	Homage to Mr. M...	MotionSynth
F084	A/-	Don't Lose Count Now...	MotionSynth
F085	A/A	Will You Dance With Me?	MotionSynth
F086	A/A	Watchamacallit	MotionSynth
F087	A/A	Rhythm Scanner	MotionSynth
F088	A/-	Happiness	MotionSynth
F089	A/-	Dizziness Sequence	MotionSynth
F090	A/-	Wolf Ganged	MotionSynth
F091	A/A	The Air Dance	MotionSynth
F092	A/A	Aeronautics	MotionSynth
F093	A/A	Euro Bureau =C2=	MotionSynth
F094	A/-	New Old Beat	MotionSynth
F095	A/-	RPeJi	MotionSynth
F096	A/-	A New Reggae	MotionSynth
F097	A/A	Echoing Gooberation	MotionSynth
F098	A/A	Giant Pad w/Pulse	MotionSynth
F099	A/A	The O Dance =C2=	MotionSynth
F100	A/-	Perpetual Random Motion	MotionSynth
F101	A/-	Beyond the Crypt	SFX
F102	A/-	Syn-Orchestra Warming Up	SFX
F103	A/-	Windchimes (play gliss)	SFX
F104	A/A	Shepard Tone	SFX
F105	A/-	BP Noise Sweep	SFX
F106	A/A	Bright Synth Hits	Short Decay/Hit
F107	A/-	Goober Uber Alles 1	Short Decay/Hit
F108	A/-	Goober Uber Alles 2	Short Decay/Hit
F109	A/A	Chord Control	Short Decay/Hit
F110	A/A	Punch Chords	Short Decay/Hit
F111	A/-	Pick Guita-Wah JS-Y	Short Decay/Hit
F112	A/A	Shorty Saw Lead	Short Decay/Hit
F113	A/A	Shorty Square Lead	Short Decay/Hit
F114	A/A	MajorMinorSwitchHit SW1	Short Decay/Hit
F115	A/A	Haus Kick =C2= SW2	Drums
F116	A/-	Raving Kik =C2= JS-Y	Drums
F117	A/-	Dense Kik w/Zap =C2= SW2	Drums
F118	A/-	Dark Kik & Zaps =C2= SW2	Drums
F119	A/-	Plus Sub Kick =C2=	Drums
F120	A/A	Met'l Snare & Toms SW1	Drums
F121	A/A	Stereo Fat Claps =C4=	Drums
F122	A/A	Aero Claps =C4=	Drums
F123	A/A	AL-1 TomTom Variations	Drums
F124	A/-	Why Disco Died...	Drums
F125	A/-	Multi-Hat =F#2= SW1	Drums
F126	A/-	Ana HAT + TRI =F#2= SW2	Drums
F127	A/A	OasisBasis =C4=	Drums

↑ A: AL-1, C: CX-3, M7: MOD-7, MS: MS-20EX,
P6: PolysixEX, S: STR-1, -: Off

Voice Name List

Bank G / g(1)...g(9) / g(d)

#	Name	Category
GM001 S	Acoustic Piano	Keyboard
g(1)001 S	Acoustic Piano w	Keyboard
g(2)001 S	Acoustic Piano d	Keyboard
GM002 S	Bright Piano	Keyboard
g(1)002 S	Bright Piano w	Keyboard
GM003 S	El.Grand Piano	Keyboard
g(1)003 S	El.Grand Piano w	Keyboard
GM004 D	Honkey-Tonk	Keyboard
g(1)004 D	Honkey-Tonk w	Keyboard
GM005 S	Electric Piano 1	Keyboard
g(1)005 D	Detuned E.Piano1	Keyboard
g(2)005 D	ElectricPiano1 v	Keyboard
g(3)005 S	60's E.Piano	Keyboard
GM006 S	Electric Piano 2	Keyboard
g(1)006 D	Detuned E.Piano2	Keyboard
g(2)006 D	ElectricPiano2 v	Keyboard
g(3)006 D	E.Piano Legend	Keyboard
g(4)006 D	E.Piano Phase	Keyboard
GM007 D	Harpsichord	Keyboard
g(1)007 D	Harpsi. oct-mix	Keyboard
g(2)007 S	Harpsichord w	Keyboard
g(3)007 D	Harpsi. key-off	Keyboard
GM008 D	Clavi.	Keyboard
g(1)008 S	Pulse Clavi.	Keyboard
GM009 S	Celesta	Bell/Mallet
GM010 D	Glockenspiel	Bell/Mallet
GM011 S	Music Box	Bell/Mallet
GM012 S	Vibraphone	Bell/Mallet
g(1)012 S	Vibraphone w	Bell/Mallet
GM013 S	Marimba	Bell/Mallet
g(1)013 S	Marimba w	Bell/Mallet
GM014 S	Xylophone	Bell/Mallet
GM015 S	Tubular Bells	Bell/Mallet
g(1)015 D	Church Bell	Bell/Mallet
g(2)015 D	Carillon	Bell/Mallet
GM016 S	Santur	Bell/Mallet
GM017 S	Drawbar Organ 1	Organ
g(1)017 D	Det.DrawbarOrgan	Organ
g(2)017 S	Italian60'sOrgan	Organ
g(3)017 D	Drawbar Organ 2	Organ
GM018 S	PercussiveOrgan1	Organ
g(1)018 D	Det.Perc-Organ	Organ
g(2)018 D	PercussiveOrgan2	Organ
GM019 S	Rock Organ	Organ
GM020 S	Church Organ	Organ
g(1)020 D	Church Org Oct.	Organ
g(2)020 D	Det.Church Org	Organ
GM021 S	Reed Organ	Organ
g(1)021 D	Puff Organ	Organ
GM022 D	Accordion 1	Woodwind/Reed
g(1)022 S	Accordion 2	Woodwind/Reed
GM023 S	Harmonica	Woodwind/Reed
GM024 D	Bandoneon	Woodwind/Reed
GM025 S	Nylon Guitar 1	Guitar/Plucked
g(1)025 S	Ukulele	Guitar/Plucked
g(2)025 D	NylonGtr.key-off	Guitar/Plucked
g(3)025 S	Nylon Guitar 2	Guitar/Plucked
GM026 S	Steel Guitar	Guitar/Plucked
g(1)026 S	12-StringsGuitar	Guitar/Plucked
g(2)026 D	Mandolin	Guitar/Plucked
g(3)026 S	Steel Gtr. Body	Guitar/Plucked
GM027 S	Jazz Guitar	Guitar/Plucked
g(1)027 S	Pedal Steel Gtr.	Guitar/Plucked
GM028 S	Clean Guitar	Guitar/Plucked

↑ S: single program, D: double program,
 @: drums program

#	Name	Category
g(1)028 D	Detuned Clean Gt	Guitar/Plucked
g(2)028 D	Mid Tone Guitar	Guitar/Plucked
GM029 S	Muted Guitar	Guitar/Plucked
g(1)029 S	Funky Guitar	Guitar/Plucked
g(2)029 D	Muted Guitar v	Guitar/Plucked
g(3)029 D	Jazz Man	Guitar/Plucked
GM030 S	Overdrive Guitar	Guitar/Plucked
g(1)030 S	Guitar Pinch	Guitar/Plucked
GM031 S	DistortionGuitar	Guitar/Plucked
g(1)031 D	Feedback Guitar	Guitar/Plucked
g(2)031 S	Dist. Rhythm Gtr	Guitar/Plucked
GM032 S	Guitar Harmonics	Guitar/Plucked
g(1)032 S	Guitar Feedback	Guitar/Plucked
GM033 S	Acoustic Bass	Bass/Synth Bass
GM034 S	Fingered Bass	Bass/Synth Bass
g(1)034 D	Finger Slap Bass	Bass/Synth Bass
GM035 S	Picked Bass	Bass/Synth Bass
GM036 S	Fretless Bass	Bass/Synth Bass
GM037 S	Slap Bass 1	Bass/Synth Bass
GM038 S	Slap Bass 2	Bass/Synth Bass
GM039 D	Synth Bass 1	Bass/Synth Bass
g(1)039 D	Warm Synth Bass	Bass/Synth Bass
g(2)039 D	Synth Bass 3	Bass/Synth Bass
g(3)039 D	Clavi Bass	Bass/Synth Bass
g(4)039 D	Hammer	Bass/Synth Bass
GM040 S	Synth Bass 2	Bass/Synth Bass
g(1)040 D	Synth Bass 4	Bass/Synth Bass
g(2)040 D	Rubber Bass	Bass/Synth Bass
g(3)040 S	Attack Pulse	Bass/Synth Bass
GM041 S	Violin	Strings
g(1)041 S	Slow Violin	Strings
GM042 S	Viola	Strings
GM043 S	Cello	Strings
GM044 S	Contrabass	Strings
GM045 S	Tremolo Strings	Strings
GM046 S	Pizzicato Str.	Strings
GM047 S	Orchestral Harp	Guitar/Plucked
g(1)047 D	Yang Chin	Bell/Mallet
GM048 S	Timpani	Drums
GM049 S	Strings	Strings
g(1)049 D	Strings & Brass	Strings
g(2)049 D	60's Strings	Strings
GM050 S	Slow Strings	Strings
GM051 D	Synth Strings 1	Strings
g(1)051 D	Synth Strings 3	Strings
GM052 S	Synth Strings 2	Strings
GM053 S	Choir Aahs 1	Vocal/Airy
g(1)053 S	Choir Aahs 2	Vocal/Airy
GM054 S	Voice Oohs	Vocal/Airy
g(1)054 D	Humming	Vocal/Airy
GM055 S	Synth Vox	Vocal/Airy
g(1)055 S	Analog Voice	Vocal/Airy
GM056 D	Orchestra Hit	Short Decay/Hit
g(1)056 D	Bass Hit Plus	Short Decay/Hit
g(2)056 D	6th Hit	Short Decay/Hit
g(3)056 D	Euro Hit	Short Decay/Hit
GM057 S	Trumpet	Brass
g(1)057 S	Soft Trumpet	Brass
GM058 S	Trombone 1	Brass
g(1)058 D	Trombone 2	Brass
g(2)058 S	Bright Trombone	Brass
GM059 S	Tuba	Brass
GM060 S	Muted Trumpet 1	Brass
g(1)060 S	Muted Trumpet 2	Brass

↑ S: single program, D: double program,
 @: drums program

Bank G / g(1)...g(9) / g(d) (continued)

#	Name	Category
GM061 S	French Horn	Brass
g(1)061 D	Warm French Horn	Brass
GM062 S	Brass Section 1	Brass
g(1)062 D	Brass Section 2	Brass
GM063 D	Synth Brass 1	FastSynth
g(1)063 D	Synth Brass 3	FastSynth
g(2)063 D	Analog Brass 1	FastSynth
g(3)063 D	Jump Brass	FastSynth
GM064 S	Synth Brass 2	FastSynth
g(1)064 D	Synth Brass 4	FastSynth
g(2)064 D	Analog Brass 2	FastSynth
GM065 S	Soprano Sax	Woodwind/Reed
GM066 S	Alto Sax	Woodwind/Reed
GM067 S	Tenor Sax	Woodwind/Reed
GM068 S	Baritone Sax	Woodwind/Reed
GM069 S	Oboe	Woodwind/Reed
GM070 S	English Horn	Woodwind/Reed
GM071 S	Bassoon	Woodwind/Reed
GM072 S	Clarinet	Woodwind/Reed
GM073 S	Piccolo	Woodwind/Reed
GM074 S	Flute	Woodwind/Reed
GM075 S	Recorder	Woodwind/Reed
GM076 S	Pan Flute	Woodwind/Reed
GM077 D	Blown Bottle	Woodwind/Reed
GM078 D	Shakuhachi	Woodwind/Reed
GM079 S	Whistle	Woodwind/Reed
GM080 S	Ocarina	Woodwind/Reed
GM081 D	Detuned Square	FastSynth
g(1)081 S	Simple Square	LeadSynth
g(2)081 S	Simple Sine	LeadSynth
GM082 D	Detuned Sawtooth	FastSynth
g(1)082 S	Simple Sawtooth	LeadSynth
g(2)082 D	Sawtooth + Pulse	LeadSynth
g(3)082 D	D Sawtooth	LeadSynth
g(4)082 D	Sequenced Analog	Short Decay/Hit
GM083 D	Synth Calliope	FastSynth
GM084 D	Chiff Lead	FastSynth
GM085 D	Charang	LeadSynth
g(1)085 D	Wire Lead	LeadSynth
GM086 D	Air Voice	Vocal/Airy
GM087 D	5th Sawtooth	LeadSynth
GM088 S	Bass & Lead	LeadSynth
g(1)088 D	Soft Wurl	LeadSynth
GM089 D	Fantasia	FastSynth
GM090 S	Warm Pad	SlowSynth
g(1)090 D	Sine Pad	SlowSynth
GM091 D	Polyphonic Synth	FastSynth
GM092 D	Space Voice	Vocal/Airy
g(1)092 D	Itopia	Vocal/Airy
GM093 D	Bowed Glass	SlowSynth
GM094 D	Metallic Pad	SlowSynth
GM095 D	Halo Pad	Vocal/Airy
GM096 S	Sweep Pad	SlowSynth
GM097 D	Ice Rain	FastSynth
GM098 D	Sound Track	SlowSynth
GM099 D	Crystal	Bell/Mallet
g(1)099 S	Synth Mallet	FastSynth
GM100 D	Atmosphere	FastSynth
GM101 D	Brightness	FastSynth
GM102 D	Goblins	MotionSynth
GM103 S	Echo Drops	FastSynth
g(1)103 D	Echo Bell	FastSynth
g(2)103 D	Echo Pan	FastSynth
GM104 D	Star Theme	FastSynth

↑ S: single program, D: double program,
 @: drums program

#	Name	Category
GM105 S	Sitar 1	Guitar/Plucked
g(1)105 D	Sitar 2	Guitar/Plucked
GM106 S	Banjo	Guitar/Plucked
GM107 S	Shamisen	Guitar/Plucked
GM108 S	Koto	Guitar/Plucked
g(1)108 D	Taisho Koto	Guitar/Plucked
GM109 S	Kalimba	Bell/Mallet
GM110 D	Bagpipe	Woodwind/Reed
GM111 S	Fiddle	Strings
GM112 S	Shanai	Woodwind/Reed
GM113 D	Tinkle Bell	Bell/Mallet
GM114 S	Agogo	Drums
GM115 D	Steel Drums	Bell/Mallet
GM116 S	Woodblock	Drums
g(1)116 S	Castanets	Drums
GM117 S	Taiko	Drums
g(1)117 S	Concert BassDrum	Drums
GM118 S	Melodic Tom 1	Drums
g(1)118 D	Melodic Tom 2	Drums
GM119 S	Synth Drum	Drums
g(1)119 S	Analog Tom	Drums
g(2)119 S	Electric Drum	Drums
GM120 S	Reverse Cymbal	SFX
GM121 S	Gtr.Fret Noise	Guitar/Plucked
g(1)121 S	Gtr.CuttingNoise	Guitar/Plucked
g(2)121 S	Bass String Slap	Bass/Synth Bass
GM122 S	Breath Noise	Vocal/Airy
g(1)122 S	Flute Key Click	SFX
GM123 D	Seashore	SFX
g(1)123 D	Rain	SFX
g(2)123 S	Thunder	SFX
g(3)123 D	Wind	SFX
g(4)123 S	Stream	SFX
g(5)123 D	Bubble	SFX
GM124 D	Bird Tweet 1	SFX
g(1)124 S	Dog	SFX
g(2)124 S	Horse Gallop	SFX
g(3)124 S	Bird Tweet 2	SFX
GM125 S	Telephone Ring 1	SFX
g(2)125 S	Door Creaking	SFX
g(3)125 S	Door Slamming	SFX
g(4)125 S	Scratch	SFX
g(5)125 S	Wind Chime	Drums
g(1)125 S	Telephone Ring 2	SFX
GM126 D	Helicopter	SFX
g(1)126 D	Car Engine	SFX
g(2)126 S	Car Stop	SFX
g(3)126 S	Car Pass	SFX
g(4)126 S	Car Crash	SFX
g(5)126 D	Siren	SFX
g(6)126 S	Train	SFX
g(7)126 D	Jetplane	SFX
g(8)126 D	Starship	SFX
g(9)126 D	Burst Noise	SFX
GM127 D	Applause	SFX
g(1)127 S	Laughing	SFX
g(2)127 S	Screaming	SFX
g(3)127 S	Punch	SFX
g(4)127 S	Heart Beat	SFX
g(5)127 S	Footsteps	SFX
GM128 S	Gun Shot	SFX
g(1)128 S	Machine Gun	SFX
g(2)128 D	Lasergun	SFX
g(3)128 S	Explosion	SFX

↑ S: single program, D: double program,
 @: drums program

Bank G / g(1)...g(9) / g(d) (continued)

#	Name	Category
g(d)001 d	STANDARD Kit	Drums
g(d)009 D	ROOM Kit	Drums
g(d)017 @	POWER Kit	Drums
g(d)025 @	ELECTRONIC Kit	Drums
g(d)026 @	ANALOG Kit	Drums
g(d)033 @	JAZZ Kit	Drums
g(d)041 @	BRUSH Kit	Drums
g(d)049 @	ORCHESTRA Kit	Drums
g(d)057 @	SFX Kit	SFX

↑ S: single program, D: double program,
 @: drums program

Bank USER-A [HD-1] EXs2

#	Name	Category
A000 D	OASYS Piano EXs2	Keyboard
A001 D	St. Concert Piano EXs2	Keyboard
A002 D	3 Way Stereo Grand EXs2	Keyboard
A003 D	Deep OASYS Piano EXs2	Keyboard
A004 D	Pure Stereo Piano EXs2	Keyboard
A005 D	Classic Piano Knob6 EXs2	Keyboard
A006 D	OASYS Piano mf EXs2	Keyboard
A007 D	OASYS Piano mp EXs2	Keyboard
A008		
A009 D	Vocoder (Mic Input 1)	Vocal/Airy
A010 S	Primitive01 (Demo Song)	SFX

↑ S: single program, D: double program,
 @: drums program

Drum Kits

#	Name
INT00	Trance kit
INT01	House Kit
INT02	Hard House Kit
INT03	Psycho/Chill Kit
INT04	Hip Hop Kit
INT05	Mashed Kit
INT06	Tricki kit
INT07	Electro Rock Kit
INT08	Nu Style Kit
INT09	Insane FX Kit
INT10	Drum'n'Bass Kit
INT11	Studio Standard Kit
INT12	Acoustic Pop Kit
INT13	Wild Rock Kit
INT14	New Processed Kit
INT15	Jazz/Brush Kit
INT16	Funk Kit
INT17	Orch./Ethnic Kit
INT18	Original Perc. Kit
INT19	Brazilian Perc. Kit
INT20	Cuban Perc. Kit
INT21	Studio Standard Kit EXs1
INT22	Acoustic Pop Kit EXs1
INT23	Wild Rock Kit EXs1
INT24	New Processed Kit EXs1
INT25	Jazz/Brush Kit EXs1
INT26	Funk Kit EXs1
INT27	Orch./Ethnic Kit EXs1
INT28	Original Perc. Kit EXs1
INT29	Brazilian Perc. Kit EXs1
INT30	Cuban Perc. Kit EXs1
INT31	Conga Variation Kit EXs1
INT32	Misc. Perc. Kit EXs1
INT33	Rap/Gospel Hits EXs1
INT34	DJ Set EXs1
INT35	Industry/VocoderSet EXs1
INT36	Vinyl Loop Kit EXs1
INT37	BD/SD Catalog Kit 1 EXs1
INT38	BD/SD Catalog Kit 2 EXs1
INT39	Cymbal Catalog Kit EXs1

GM Drum Kits

#	Name
GM00	STANDARD
GM01	ROOM
GM02	POWER
GM03	ELECTRONIC
GM04	ANALOG
GM05	JAZZ
GM06	BRUSH
GM07	ORCHESTRA

Voice Name List

[] = can be controlled or changed by GE Parameters.

KARMA GEs

Presets

Category: Arpeggio

#	GE Name	RTC Model	GE Type	Note Type	CC-A	CC-B	Env 1	Env 2	Env 3	Bend	Rpt	Items	Phase Pattern
0	Arp Model 01 Up/Dn	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	10	--	--	16	--	[On]	[On]	8	[1][2][1][2][1][2][1][2]
1	Arp Model 02 Dn/Up	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	10	--	--	16	--	[On]	[On]	8	[2][1][2][1][2][1][2][1]
2	Arp Model 03 Up	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	10	--	--	16	--	[On]	[On]	8	[1][1][1][1][1][1][1][1]
3	Arp Model 04 Dn	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	10	--	--	16	--	[On]	[On]	8	[2][2][2][2][2][2][2][2]
4	Arp Model 05 Rand	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	10	--	--	16	--	[On]	[On]	8	[1][2][1][2][1][2][1][2]
5	Arp Model 06 Up/Dn	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	10	--	--	16	--	[On]	[On]	8	[1][2][1][2][1][2][1][2]
6	Arp Model 07 Dn/Up	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	10	--	--	16	--	[On]	[On]	8	[2][1][2][1][2][1][2][1]
7	Arp Model 08 Up	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	10	--	--	16	--	[On]	[On]	8	[1][1][1][1][1][1][1][1]
8	Arp Model 09 Dn	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	10	--	--	16	--	[On]	[On]	8	[2][2][2][2][2][2][2][2]
9	Arp Model 10 Up/Dn	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	10	--	--	--	--	[On]	[On]	8	[1][2][1][2][1][2][1][2]
10	Arp Model 11 Dn/Up	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	10	--	--	--	--	[On]	[On]	8	[2][1][2][1][2][1][2][1]
11	Arp Model 12 Up	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	10	--	--	--	--	[On]	[On]	8	[1][1][1][1][1][1][1][1]
12	Arp Model 13 Dn	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	10	--	--	--	--	[On]	[On]	8	[2][2][2][2][2][2][2][2]
13	Arp Model 14 Up/Dn	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	[010]	--	17	16	20	[On]	[On]	8	[1][2][1][2][1][2][1][2]
14	Arp Model 15 Dn/Up	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	[010]	--	17	16	20	[On]	[On]	8	[2][1][2][1][2][1][2][1]
15	Arp Model 16 Up	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	[010]	--	17	16	20	[On]	[On]	8	[1][1][1][1][1][1][1][1]
16	Arp Model 17 Dn	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	[010]	--	17	16	20	[On]	[On]	8	[2][2][2][2][2][2][2][2]
17	Arp Model 18 Rand	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	[008]	--	17	16	20	[On]	[On]	8	[1][2][1][2][1][2][1][2]
18	Arp Model 19 DurEnv	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	10	--	--	DU	--	[On]	[On]	8	[1][2][1][2][1][2][1][2]
19	Arp Model 20 Rpt	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	72	74	--	--	--	[On]	[On]	8	1 2 1 2 1 2 1 2
20	Arp Model 21 Chrm Up	CL1 - Comp/Lead 1	Generated-Riff	[Chromatic]	--	--	--	--	--	[On]	[On]	[8]	1 1 1 1 1 1 1 1
21	Arp Model 22 Chrm Dn	CL1 - Comp/Lead 1	Generated-Riff	[Chromatic]	--	--	--	--	--	[On]	[On]	[8]	1 1 1 1 1 1 1 1
22	Basic Arp ALT1	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	[010]	--	--	[016]	--	[On]	[On]	8	1 2 1 2 1 2 1 2
23	Basic Arp ALT2	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	[010]	--	--	[016]	--	[On]	[On]	8	1 2 1 2 1 2 1 2
24	Basic Arp DOWN	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	[010]	--	--	[016]	--	[On]	[On]	8	1 1 1 1 1 1 1 1
25	Basic Arp RANDOM	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	[010]	--	--	[016]	--	[On]	[On]	4	1 1 1 1
26	Basic Arp UP	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	[010]	--	--	[016]	--	[On]	[On]	8	1 1 1 1 1 1 1 1
27	Bend-Pad-Mover Arp	CL1 - Comp/Lead 1	Generated-Riff	[Scalic]	74	10	74	2	--	[On]	[On]	8	1 1 1 1 1 1 1 1
28	Balero Celeste	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	10	--	--	--	--	[On]	[On]	8	1 1 1 1 1 1 1 1
29	Classical 1	GV1 - Gated Vel/Pat 1	Generated-Gated	[Regular]	[010]	--	--	--	--	[On]	[On]	[4]	1 1 1 1
30	Classical 2	GV1 - Gated Vel/Pat 1	Generated-Gated	[Regular]	[010]	--	--	--	--	[On]	[On]	[4]	1 1 1 1
31	Classical Arpeggiando	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	10	--	--	16	--	[On]	[On]	8	[1][2][1][2][1][2][1][2]
32	Computer 1	GV1 - Gated Vel/Pat 1	Generated-Gated	[Regular]	[010]	--	--	--	--	[On]	[On]	[4]	1 1 1 1
33	Computer 2	GV1 - Gated Vel/Pat 1	Generated-Gated	[Regular]	[010]	--	--	--	--	[On]	[On]	[4]	1 1 1 1
34	Echo Arp 1	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	10	--	--	--	--	[On]	[On]	8	[1][2][1][2][1][2][1][2]
35	Euro Bureau	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	10	81	1	--	--	[On]	[On]	[6]	1 1 2 1 1 2
36	Exp Triad	GV1 - Gated Vel/Pat 1	Generated-Gated	[Regular]	[010]	--	--	--	--	[On]	[On]	[4]	1 1 1 1
37	Five Tone Climb	GV1 - Gated Vel/Pat 1	Generated-Gated	[Regular]	[010]	--	--	--	--	[On]	[On]	[4]	1 1 1 1
38	Harmonic Double Bubble	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	80	1	--	71	--	[On]	[On]	8	1 1 1 1 1 1 1 1
39	Kalimbish 1	CL1 - Comp/Lead 1	Generated-Riff	[Scalic]	10	1	--	--	--	[On]	[On]	8	1 1 1 1 1 1 1 1
40	Minor 9th Rise	GV1 - Gated Vel/Pat 1	Generated-Gated	[Regular]	[010]	--	--	--	--	[On]	[On]	[4]	1 1 1 1
41	Monophase 1	CL1 - Comp/Lead 1	Generated-Riff	[Chromatic]	10	16	71	72	--	[On]	[On]	4	1 1 1 1
42	Ostinato 6th	CL1 - Comp/Lead 1	Generated-Riff	[Scalic2]	--	--	71	--	--	[On]	[On]	8	[1][1][1][1][1][1][1][1]
43	Ostinato 7th	CL1 - Comp/Lead 1	Generated-Riff	[Scalic2]	--	--	71	--	--	[On]	[On]	8	[1][1][1][1][1][1][1][1]
44	Pad Helper/Arp	CL1 - Comp/Lead 1	Generated-Riff	[Scalic]	72	16	--	--	--	[On]	[On]	8	[2][2][2][2][2][2][2][2]
45	Piano Arp 1	GV1 - Gated Vel/Pat 1	Generated-Gated	[Regular]	[010]	--	64	--	--	[On]	[On]	[4]	1 1 1 1
46	Pipe Riff 1	CL1 - Comp/Lead 1	Generated-Riff	[Scalic2]	10	16	--	--	--	[On]	[On]	8	[2][2][2][2][2][2][2][2]
47	PipeClassyRiff	CL1 - Comp/Lead 1	Generated-Riff	[Scalic2]	--	--	--	--	--	[On]	[On]	8	[1][1][1][1][1][1][1][1]
48	Random Slow	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	[010]	--	--	[016]	--	[On]	[On]	4	1 1 1 1
49	SimpleAlt.Arps	CL1 - Comp/Lead 1	Generated-Riff	[Scalic]	10	--	--	--	--	[On]	[On]	8	1 2 1 2 1 2 1 2
50	Ski Arp 1	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	10	16	VE	--	--	[On]	[On]	16	1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2
51	Ski Arp 2	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	10	16	VE	--	--	[On]	[On]	16	1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2
52	Step Sequencer	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	74	16	--	--	--	[On]	[On]	8	1 1 1 1 1 1 1 1
53	Str Arco Arp 4/4	GV1 - Gated Vel/Pat 1	Generated-Gated	[Regular]	[010]	--	--	--	--	[On]	[On]	[4]	1 1 1 1
54	Sweeping EP 2	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	79	10	71	16	2	[On]	[On]	8	1 2 1 2 1 2 1 2
55	WholeTone	GV1 - Gated Vel/Pat 1	Generated-Gated	[Regular]	[010]	--	--	--	--	[On]	[On]	[16]	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
56	WindChimes Gliss	CL1 - Comp/Lead 1	Generated-Riff	[Scalic2]	10	16	11	--	--	[On]	[On]	8	1 1 1 1 1 1 1 1
57	arpeggiations	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	10	83	VE	74	--	[On]	[On]	[4]	1 1 1 1
58	Arp Model 05 Up/Dn	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	8	--	2	16	--	[On]	[On]	8	[1][2][1][2][1][2][1][2]
59	Arp Model 05A Dn/Up	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	8	--	2	16	--	[On]	[On]	8	[2][1][2][1][2][1][2][1]
60	Arp Model 05B Up	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	8	--	2	16	--	[On]	[On]	8	[1][1][1][1][1][1][1][1]
61	Arp Model 05C Dn	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	8	--	2	16	--	[On]	[On]	8	[2][2][2][2][2][2][2][2]
62	Arp Model 06 Up/Dn	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	10	16	2	16	--	[On]	[On]	8	[1][2][1][2][1][2][1][2]
63	Arp Model 06A Dn/Up	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	10	16	2	16	--	[On]	[On]	8	[2][1][2][1][2][1][2][1]
64	Arp Model 06B Up	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	10	16	2	16	--	[On]	[On]	8	[1][1][1][1][1][1][1][1]
65	Arp Model 06C Dn	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	10	16	2	16	--	[On]	[On]	8	[2][2][2][2][2][2][2][2]
66	Arp Model 07 Rand	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	10	--	--	--	--	[On]	[On]	8	[1][2][1][2][1][2][1][2]
67	Arp Model 09 Poly	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	10	--	--	2	--	[On]	[On]	8	[1][2][1][2][1][2][1][2]
68	Arp Model 10 Poly	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	10	--	--	2	--	[On]	[On]	8	[1][1][1][1][1][1][1][1]

[] = can be controlled or changed by GE Parameters.

#	GE Name	RTC Model	GE Type	Note Type	CC-A	CC-B	Env 1	Env 2	Env 3	Bend	Rpt	Items	Phase Pattern
69	Bassoon 1	CL1 - Comp/Lead 1	Generated-Riff	[Scalic]	10	13	21	75	16	[On]	[On]	2	1 2
70	Bell Dancer	CL1 - Comp/Lead 1	Generated-Riff	[Scalic2]	10	2	--	--	--	[On]	[On]	8	1 2 1 2 1 2 1 2
71	Bells w/Gliss	CL1 - Comp/Lead 1	Generated-Riff	[Chromatic]	10	--	--	--	PB	[On]	[On]	8	1 2 1 2 1 2 1 2
72	BendArp	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	10	21	2	20	75	[On]	[On]	8	1 2 1 2 1 2 1 2
73	Bows Shimmer 1	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	10	--	VE	16	--	[On]	[On]	4	1 1 1 2
74	Candyland 1	CL1 - Comp/Lead 1	Generated-Riff	[Scalic]	10	--	--	--	--	[On]	[On]	[4]	[1][1][1][1]
75	Celeste Arpeggio	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	10	16	--	19	118	[On]	[On]	[2]	2 1
76	Chromatic Walk	CL1 - Comp/Lead 1	Generated-Riff	[Chromatic]	--	--	71	--	--	[On]	[On]	8	1 1 1 1 1 1 1 1
77	Clusters/EndLoop	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	10	--	--	--	--	[On]	[On]	3	1 2 1
78	Combination Filters	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	10	16	--	--	--	[On]	[On]	8	1 1 1 1 1 1 1 1
79	Crimson Copeland Glass String	CL1 - Comp/Lead 1	Generated-Riff	[Fourths]	72	--	--	--	--	[On]	[On]	8	1 1 1 1 1 1 1 1
80	DayDream Piano	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	10	16	--	TR	--	[On]	[On]	8	1 2 1 2 1 2 1 2
81	Digi-Bell 1	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	10	74	VE	--	--	[On]	[On]	4	1 2 1 2
82	Digital Bells 1	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	10	21	16	19	20	[On]	[On]	8	1 2 1 2 1 2 1 2
83	Drifting Cloud Pad Mover	CL1 - Comp/Lead 1	Generated-Riff	[Scalic]	79	10	74	71	--	[On]	[On]	8	1 1 1 1 1 1 1 1
84	Echo Arp 2	CL1 - Comp/Lead 1	Generated-Riff	[Scalic2]	17	--	--	--	--	[On]	[On]	4	1 1 1 1
85	Enchanted Forest	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	16	--	--	--	--	[On]	[On]	[4]	1 1 1 2
86	Ensemble Bell	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	10	21	16	71	20	[On]	[On]	8	1 2 1 2 1 2 1 2
87	Euro Lights	GV1 - Gated Vel/Pat 1	Generated-Gated	[Regular]	[010]	--	--	--	--	[On]	[On]	[4]	1 1 1 1
88	Fast Bowing 1	GV1 - Gated Vel/Pat 1	Generated-Gated	[Regular]	[010]	--	--	--	--	[On]	[On]	[4]	1 1 1 1
89	Fast Bowing 2	GV1 - Gated Vel/Pat 1	Generated-Gated	[Regular]	[010]	--	--	--	--	[On]	[On]	[4]	1 1 1 1
90	Filter Arp	GV1 - Gated Vel/Pat 1	Generated-Gated	[Regular]	16	--	--	--	--	[On]	[On]	[4]	1 1 1 1
91	Gamelans 1	CL1 - Comp/Lead 1	Generated-Riff	[Scalic]	10	16	--	--	--	[On]	[On]	8	1 1 1 1 1 1 1 1
92	Gamelans 2	CL1 - Comp/Lead 1	Generated-Riff	[Scalic]	10	16	71	--	--	[On]	[On]	8	1 2 1 2 1 2 1 2
93	Gamelans 3	CL1 - Comp/Lead 1	Generated-Riff	[Scalic]	10	16	--	--	--	[On]	[On]	8	1 2 1 2 1 2 1 2
94	Giant FM Keys	CL1 - Comp/Lead 1	Generated-Riff	[Scalic2]	74	80	--	16	--	[On]	[On]	4	1 2 1 2
95	Goobar Uber Alles 1	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	5	--	--	--	--	[On]	[On]	8	1 1 1 1 1 1 1 1
96	Hubble Pad	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	16	--	74	72	73	[On]	[On]	8	1 2 1 2 1 2 1 2
97	India/Flute Split	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	10	--	--	74	--	[On]	[On]	8	1 2 1 2 1 2 1 2
98	KaleidoBell	CL1 - Comp/Lead 1	Generated-Riff	[Scalic]	10	--	79	79	--	[On]	[On]	4	[2][2][2][2]
99	KalimbaGrv	GV1 - Gated Vel/Pat 1	Generated-Gated	[Regular]	[010]	--	--	--	--	[On]	[On]	[4]	1 1 1 1
100	Kalimbish 2	CL1 - Comp/Lead 1	Generated-Riff	[Scalic]	10	1	--	--	--	[On]	[On]	4	[1][1][1][1]
101	Koto Gliss	CL1 - Comp/Lead 1	Generated-Riff	[Scalic]	1	--	VE	TR	--	[On]	[On]	8	1 2 1 2 1 2 1 2
102	LongGliss-Abs	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	10	--	VE	TA	--	[On]	[On]	2	1 2
103	LongGliss-Rel	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	10	--	VE	TR	--	[On]	[On]	2	1 2
104	Mallet Repeats 2	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	10	--	--	--	--	[On]	[On]	8	1 1 1 1 1 1 1 1
105	Mallet Wave	CL1 - Comp/Lead 1	Generated-Riff	[Chromatic]	10	--	VE	TA	--	[On]	[On]	8	1 1 1 1 1 1 1 1
106	MalletGame 01	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	10	16	--	--	--	[On]	[On]	4	[2][1][2][1]
107	MalletGame 02	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	10	16	--	--	--	[On]	[On]	4	[1][1][1][2]
108	MalletGame 03	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	10	16	VE	--	--	[On]	[On]	8	1 1 1 1 1 1 1 1
109	Minor 3rds Up & Down	GV1 - Gated Vel/Pat 1	Generated-Gated	[Regular]	[010]	--	--	--	--	[On]	[On]	[16]	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
110	NewAge Ostinato	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	64	--	--	--	--	[On]	[On]	8	1 1 1 1 1 1 1 1
111	Noble Brite Pad	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	16	--	74	72	73	[On]	[On]	8	1 2 1 2 1 2 1 2
112	Notch/Bell Pad	CL1 - Comp/Lead 1	Generated-Riff	[Scalic2]	80	--	--	16	--	[On]	[On]	8	1 2 1 2 1 2 1 2
113	OrxHit Dance 1	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	10	80	74	16	11	[On]	[On]	8	1 2 1 2 1 2 1 2
114	Ork Hit Xtravaganzoid	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	10	16	--	--	--	[On]	[On]	8	1 2 1 2 1 2 1 2
115	Pad Helper 01	CL1 - Comp/Lead 1	Generated-Riff	[WholeTone]	10	16	--	--	--	[On]	[On]	8	1 1 1 1 1 1 1 1
116	Pad Mover 1	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	10	16	--	--	--	[On]	[On]	16	1 2 1 2 1 2 1 2 1 2 1 2 1 2
117	PadAnimator 1	CL1 - Comp/Lead 1	Generated-Riff	[Scalic2]	10	16	71	11	--	[On]	[On]	8	[1][1][1][1][1][1][1][1]
118	Piano 4 Liberate	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	--	--	74	64	11	[On]	[On]	8	1 1 1 1 1 1 1 1
119	Piano Arpeggios	CL1 - Comp/Lead 1	Generated-Riff	[Scalic]	10	--	VE	TA	PB	[On]	[On]	2	1 2
120	Piano Cadenza 1	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	11	--	--	--	--	[On]	[On]	8	1 2 1 2 1 2 1 2
121	Piano Cadenza 2	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	11	--	--	--	--	[On]	[On]	8	1 2 1 2 1 2 1 2
122	Piano Chord	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	10	16	VE	TA	--	[On]	[On]	8	1 1 1 1 1 1 1 1
123	Piano Pad 2	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	74	--	64	--	--	[On]	[On]	8	1 2 1 2 1 2 1 2
124	Pink Guitar 1	CL1 - Comp/Lead 1	Generated-Riff	[Chromatic]	64	--	--	--	--	[On]	[On]	8	[1][1][1][1][1][1][1][1]
125	Pipe Organ Bachesque	CL1 - Comp/Lead 1	Generated-Riff	[Chromatic]	10	--	--	16	--	[On]	[On]	[2]	1 2
126	Planet KARMA 1	CL1 - Comp/Lead 1	Generated-Riff	[Chromatic]	10	--	VE	--	--	[On]	[On]	8	[1][2][1][2][1][2][1][2]
127	Planet KARMA 2	CL1 - Comp/Lead 1	Generated-Riff	[Scalic]	10	--	VE	--	--	[On]	[On]	8	[1][2][1][2][1][2][1][2]
128	Planet KARMA 3	CL1 - Comp/Lead 1	Generated-Riff	[Scalic]	10	--	VE	--	--	[On]	[On]	8	[1][2][1][2][1][2][1][2]
129	Power Balladeer	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	10	16	--	--	--	[On]	[On]	8	1 2 1 2 1 2 1 2
130	Power Piano Thing	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	88	73	2	88	--	[On]	[On]	8	1 2 1 2 1 2 1 2
131	Psychedelic Pad Mover	CL1 - Comp/Lead 1	Generated-Riff	[Scalic]	79	10	--	71	--	[On]	[On]	8	1 1 1 1 1 1 1 1
132	Random Mallets	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	10	--	VE	--	--	[On]	[On]	8	1 2 1 2 1 2 1 2
133	Random Pitch	CL1 - Comp/Lead 1	Generated-Riff	[Scalic]	10	16	11	--	--	[On]	[On]	1	1
134	Rest and Riff	GV1 - Gated Vel/Pat 1	Generated-Gated	[Regular]	[010]	--	--	--	--	[On]	[On]	[16]	1 2 1 2 1 2 1 2 1 2 1 2 1 2
135	Riff and Rest	GV1 - Gated Vel/Pat 1	Generated-Gated	[Regular]	[010]	--	--	--	--	[On]	[On]	[4]	1 2 1 2
136	Simple Guitar arp	CL1 - Comp/Lead 1	Generated-Riff	[Scalic]	10	--	--	--	--	[On]	[On]	8	[1][2][1][2][1][2][1][2]
137	SimpleSinePad 1	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	72	73	74	79	--	[On]	[On]	8	1 2 1 2 1 2 1 2
138	Slow Synth Mover 1	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	10	2	--	--	--	[On]	[On]	4	1 1 1 1
139	Slow Synth Mover 2	CL1 - Comp/Lead 1	Generated-Riff	[Scalic]	79	16	74	10	--	[On]	[On]	8	1 2 1 2 1 2 1 2
140	Slow Synth Mover 3	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	--	2	11	16	--	[On]	[On]	4	1 1 1 1
141	Square 30303	CL1 - Comp/Lead 1	Generated-Riff	[Scalic2]	16	--	18	71	--	[On]	[On]	8	1 2 1 2 1 2 1 2
142	Stepping	GV1 - Gated Vel/Pat 1	Generated-Gated	[Regular]	[010]	--	--	--	--	[On]	[On]	[4]	1 1 1 1

Voice Name List

[] = can be controlled or changed by GE Parameters.

#	GE Name	RTC Model	GE Type	Note Type	CC-A	CC-B	Env 1	Env 2	Env 3	Bend	Rpt	Items	Phase Pattern
143	Super Sweeper 1	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	16	--	74	72	73	[On]	[On]	8	1 2 1 2 1 2 1 2
144	Sweeping EP 1	CL1 - Comp/Lead 1	Generated-Riff	[Fourths]	79	10	2	16	--	[On]	[On]	8	1 2 1 2 1 2 1 2
145	Synth Sweeper	MR1 - Melodic Repeat	Real-Time	Regular	--	--	72	16	74	[On]	[On]	1	1
146	Tempo Env 1	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	10	--	VE	TA	--	[On]	[On]	8	1 2 1 2 1 2 1 2
147	Tempo Env 2	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	10	--	VE	TA	--	[On]	[On]	8	1 2 1 2 1 2 1 2
148	Tempo Env 3	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	10	--	VE	TA	--	[On]	[On]	8	1 2 1 2 1 2 1 2
149	Tempo Env 4	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	10	--	VE	TA	--	[On]	[On]	8	1 2 1 2 1 2 1 2
150	The Power and the Glory	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	10	--	--	--	--	[On]	[On]	[4]	1 2 1 2
151	Tremolo Tension Strings	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	16	--	--	--	--	[On]	[On]	8	1 2 1 2 1 2 1 2
152	Triplet Arp	CL1 - Comp/Lead 1	Generated-Riff	[Augmented]	10	16	--	--	--	[On]	[On]	8	1 1 1 1 1 1 1 1
153	Violin Riff 1	CL1 - Comp/Lead 1	Generated-Riff	[Scalic2]	--	--	--	--	--	[On]	[On]	8	1 2 1 2 1 2 1 2
154	Wait for it? 1	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	10	10	--	--	--	[On]	[On]	[1]	1
155	Wait for it? 2	CL1 - Comp/Lead 1	Generated-Riff	[Scalic]	10	10	--	--	--	[On]	[On]	8	1 1 1 1 1 1 1 1
156	WindSong	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	74	--	--	--	--	[On]	[On]	8	1 1 1 1 1 1 1 1
157	Wurly Morse Code	CL1 - Comp/Lead 1	Generated-Riff	[Scalic]	10	2	--	--	--	[On]	[On]	8	1 2 1 2 1 2 1 2
158	classical arpeggiation	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	10	16	11	--	--	[On]	[On]	8	1 1 1 1 1 1 1 1

Category: Melodic

#	GE Name	RTC Model	GE Type	Note Type	CC-A	CC-B	Env 1	Env 2	Env 3	Bend	Rpt	Items	Phase Pattern
159	4tone Trance	GV1 - Gated Vel/Pat 1	Generated-Gated	[Regular]	[010]	--	--	--	--	[On]	[On]	[4]	1 1 1 1
160	Aromatherapy Gone Awry	CL1 - Comp/Lead 1	Generated-Riff	[Chromatic]	10	17	74	--	83	[On]	[On]	8	1 1 1 1 1 1 1 1
161	BassTuba Riff	CL1 - Comp/Lead 1	Generated-Riff	[Scalic2]	--	--	--	--	--	[On]	[On]	4	[1][1][1][2]
162	Beyond the Crypt Bell Toll	CL1 - Comp/Lead 1	Generated-Riff	[Chromatic]	10	--	--	71	--	[On]	[On]	8	1 2 1 2 1 2 1 2
163	Big Bottom Lead	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	8	--	2	16	--	[On]	[On]	8	1 1 1 1 1 1 1 1
164	Brass Phrase	CL1 - Comp/Lead 1	Generated-Riff	[Scalic2]	10	--	--	--	--	[On]	[On]	4	1 1 1 1
165	BrightPulseLead	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	16	--	20	1	19	[On]	[On]	4	1 1 1 1
166	Clarinet Riff	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	10	--	--	--	--	[On]	[On]	8	[1]1 1 1 1 1 1 1 1
167	Classical 3	GV1 - Gated Vel/Pat 1	Generated-Gated	[Regular]	[010]	--	--	--	--	[On]	[On]	[4]	1 1 1 1
168	Classical 4	GV1 - Gated Vel/Pat 1	Generated-Gated	[Regular]	[010]	--	--	--	--	[On]	[On]	[4]	1 1 1 1
169	Classical Strings	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	10	16	VE	--	--	[On]	[On]	8	1 1 1 1 1 1 1 1
170	Dance Buzz Kik	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	16	1	--	--	--	[On]	[On]	8	1 2 1 2 1 2 1 2
171	Dbl Reed Riff	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	10	--	--	--	--	[On]	[On]	8	[2]2 2 2 2 2 2 2 2
172	Dittos	GV1 - Gated Vel/Pat 1	Generated-Gated	[Regular]	[010]	--	--	--	--	[On]	[On]	[4]	1 1 1 1
173	Electro Lead	CL1 - Comp/Lead 1	Generated-Riff	[Scalic2]	10	--	VE	19	17	[On]	[On]	8	1 1 1 1 1 1 1 1
174	English Horn 1 (VJS)	CL1 - Comp/Lead 1	Generated-Riff	[Scalic2]	118	119	VE	--	--	[On]	[On]	16	1 2 1 1 2 1 1 2 1 1 1 2 1 1
175	Flute 1	CL1 - Comp/Lead 1	Generated-Riff	[Scalic2]	--	16	VE	1	--	[On]	[On]	8	1 2 1 2 1 2 1 2
176	Flute Riff (Bar 1)	CL1 - Comp/Lead 1	Generated-Riff	[Chromatic]	--	74	--	--	--	[On]	[On]	[8]	1 2 2 2 2 2 2 2
177	Gliss Down 1	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	10	--	VE	TR	--	[On]	[On]	1	2
178	Going Up	CL1 - Comp/Lead 1	Generated-Riff	[Chromatic]	--	--	2	11	--	[On]	[On]	8	1 1 1 1 1 1 1 1
179	Gong Roller	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	10	71	VE	--	PB	[On]	[On]	8	1 2 1 2 1 2 1 2
180	HH Mono	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	10	17	74	--	11	[On]	[On]	8	1 2 1 2 1 2 1 2
181	Happiness Seq.	CL1 - Comp/Lead 1	Generated-Riff	[Fifths]	10	17	17	16	--	[On]	[On]	14	1 1 1 1 1 1 1 1 1 1 1 1 1 1
182	Hemispheres	DM1 - Drum Melodic 1	Generated-Drum	[WholeTone]	10	21	73	16	2	[On]	[On]	16	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 2
183	Horn Triplet	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	10	--	--	--	--	[On]	[On]	8	1 2 1 2 1 2 1 2
184	Lil Melodies	CL1 - Comp/Lead 1	Generated-Riff	[Scalic2]	10	16	--	--	--	[On]	[On]	8	1 2 1 2 1 2 1 2
185	Lonely Harmonica	CL1 - Comp/Lead 1	Generated-Riff	[Scalic2]	72	16	--	--	--	[On]	[On]	4	1 2 1 2
186	Mallet Repeats 1	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	10	--	--	1	--	[On]	[On]	8	1 1 1 1 1 1 1 1
187	Mallet Roller 1	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	10	--	VE	TR	--	[On]	[On]	8	1 2 1 2 1 2 1 2
188	Mallet Roller 2	GV1 - Gated Vel/Pat 1	Generated-Gated	[Regular]	[010]	--	--	--	--	[On]	[On]	[4]	1 1 1 1
189	Meditate 1	GV1 - Gated Vel/Pat 1	Generated-Gated	[Regular]	[010]	--	--	--	--	[On]	[On]	[4]	1 1 1 1
190	Monophase 2	CL1 - Comp/Lead 1	Generated-Riff	[Chromatic]	10	16	71	--	--	[On]	[On]	1	1
191	Monophase 3	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	10	16	--	--	--	[On]	[On]	8	1 1 1 1 1 1 1 1
192	NoBend Gtr.Riff	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	10	--	--	--	--	[On]	[On]	8	[1][1][1][1][1][1][1][1]
193	Oasis Basis	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	1	2	20	80	--	[On]	[On]	8	1 1 1 1 1 1 1 1
194	Octave Strings 1	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	10	16	16	71	18	[On]	[On]	2	1 2
195	Orch Hitter	DM1 - Drum Melodic 1	Generated-Drum	WholeTone	10	16	--	--	--	[On]	[On]	16	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 2
196	Orch. Timpani	DM1 - Drum Melodic 1	Generated-Drum	WholeTone	--	--	--	--	--	[On]	[On]	16	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 2
197	Organ Riff 7/8	CL1 - Comp/Lead 1	Generated-Riff	[Scalic]	10	--	--	--	--	[On]	[On]	8	1 1 1 2 1 1 1 2
198	Pizz.SlowNotes	CL1 - Comp/Lead 1	Generated-Riff	[Chromatic]	--	--	--	--	--	[On]	[On]	8	[1][1][1][1][1][1][1][1]
199	Quarks 1	GV1 - Gated Vel/Pat 1	Generated-Gated	[Regular]	[010]	--	71	79	75	[On]	[On]	[8]	1 1 1 1 1 1 1 1
200	Rhythmic Synth	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	16	16	--	--	--	[On]	[On]	8	1 1 1 1 1 1 1 1
201	Route Up&Down	GV1 - Gated Vel/Pat 1	Generated-Gated	[Regular]	[010]	--	--	--	--	[On]	[On]	[4]	1 1 1 1
202	Russian Strings	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	72	16	--	--	--	[On]	[On]	8	1 2 1 2 1 2 1 2
203	Russian Winter	CL1 - Comp/Lead 1	Generated-Riff	[Scalic]	10	16	--	--	--	[On]	[On]	8	1 1 1 1 1 1 1 1
204	Santur 1	CL1 - Comp/Lead 1	Generated-Riff	[Scalic]	10	--	--	--	--	[On]	[On]	8	1 1 1 1 1 1 1 1
205	Simple Arco	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	10	16	--	--	--	[On]	[On]	8	1 1 1 1 1 1 1 1
206	Spatial	GV1 - Gated Vel/Pat 1	Generated-Gated	[Regular]	[010]	--	--	--	--	[On]	[On]	[4]	1 1 1 1
207	Speed Seq.	GV1 - Gated Vel/Pat 1	Generated-Gated	[Regular]	[010]	--	--	--	--	[On]	[On]	[4]	1 1 1 1
208	StepSaw Down	GV1 - Gated Vel/Pat 1	Generated-Gated	[Regular]	[010]	--	--	--	--	[On]	[On]	[4]	1 1 1 1
209	String Melody	GV1 - Gated Vel/Pat 1	Generated-Gated	[Regular]	[010]	--	--	--	--	[On]	[On]	[4]	1 2 1 2
210	Subtle Mallet	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	10	16	--	--	--	[On]	[On]	8	1 1 1 1 1 1 1 1
211	Super Sweep	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	16	--	74	72	73	[On]	[On]	8	1 2 1 2 1 2 1 2
212	Swirling Notch Pad 1	CL1 - Comp/Lead 1	Generated-Riff	[Scalic2]	10	16	16	--	--	[On]	[On]	8	1 2 1 2 1 2 1 2

[] = can be controlled or changed by GE Parameters.

#	GE Name	RTC Model	GE Type	Note Type	CC-A	CC-B	Env 1	Env 2	Env 3	Bend	Rpt	Items	Phase Pattern
213	Talking Mod 1	CL1 - Comp/Lead 1	Generated-Riff	[Scalic2]	8	--	83	83	--	[On]	[On]	8	1 1 1 1 1 1 1 2
214	Techno Riff 1	GV1 - Gated Vel/Pat 1	Generated-Gated	[Regular]	[010]	--	--	--	--	[On]	[On]	[4]	1 1 1 1
215	Techno Riff 2	GV1 - Gated Vel/Pat 1	Generated-Gated	[Regular]	[010]	--	--	--	--	[On]	[On]	[4]	1 1 1 1
216	Theremin	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	10	--	--	--	--	[On]	[On]	8	1 2 1 2 1 2 1 2
217	Tom Fill Variations	CL1 - Comp/Lead 1	Generated-Riff	[Diminished]	83	80	80	74	TR	[On]	[On]	8	1 1 1 1 1 1 1 1
218	Trance Riff 1	GV1 - Gated Vel/Pat 1	Generated-Gated	[Regular]	[010]	--	--	--	--	[On]	[On]	[4]	1 1 1 1
219	Trance Riff 2	GV1 - Gated Vel/Pat 1	Generated-Gated	[Regular]	[010]	--	--	--	--	[On]	[On]	[4]	1 1 1 1
220	Trance Riff 3	GV1 - Gated Vel/Pat 1	Generated-Gated	[Regular]	[010]	--	--	--	--	[On]	[On]	[4]	1 1 1 1
221	Trance Riff 4	GV1 - Gated Vel/Pat 1	Generated-Gated	[Regular]	[010]	--	--	--	--	[On]	[On]	[4]	1 1 1 1
222	Trance Simple	CL1 - Comp/Lead 1	Generated-Riff	[Chromatic]	--	74	--	--	--	[On]	[On]	8	1 2 1 2 1 2 1 2
223	TripHop Vibe	CL1 - Comp/Lead 1	Generated-Riff	[WholeTone]	--	--	--	--	--	[On]	[On]	[4]	1 1 1 2
224	Tubular E Maj	DPI - Drum/Perc 1	Generated-Drum	WholeTone	[010]	--	--	--	--	[On]	[On]	16	1 1 1 1 1 1 1 1 1 1 1 1 1 2
225	Volume Fade Gtr	CL1 - Comp/Lead 1	Generated-Riff	[Scalic2]	10	16	--	--	--	[On]	[On]	8	1 1 1 1 1 1 1 1
226	Watchamacallit	GV1 - Gated Vel/Pat 1	Generated-Gated	[Regular]	16	64	--	--	--	[On]	[On]	8	1 2 1 2 1 2 1 2
227	Alto Sax Riff	CL1 - Comp/Lead 1	Generated-Riff	[Scalic2]	16	--	2	--	--	[On]	[On]	4	1 2 2 2
228	Angular Improv	CL1 - Comp/Lead 1	Generated-Riff	[Scalic]	8	--	--	--	--	[On]	[On]	8	1 2 1 2 1 2 1 2
229	Armadillo Organ	CL1 - Comp/Lead 1	Generated-Riff	[Chromatic]	10	--	--	--	--	[On]	[On]	[8]	1 1 1 1 1 1 1 2
230	Arp w/End Loop	CL1 - Comp/Lead 1	Generated-Riff	[Scalic]	10	--	VE	11	--	[On]	[On]	8	1 1 1 1 1 1 1 1
231	Atonal 1	CL1 - Comp/Lead 1	Generated-Riff	[Chromatic]	10	--	--	--	--	[On]	[On]	8	1 1 1 1 1 1 1 1
232	Atonal 2	CL1 - Comp/Lead 1	Generated-Riff	[Chromatic]	10	--	--	--	--	[On]	[On]	8	1 1 1 1 1 1 1 1
233	Atonal 3	CL1 - Comp/Lead 1	Generated-Riff	[Chromatic]	10	--	--	--	--	[On]	[On]	8	1 1 1 1 1 1 1 1
234	Atonal 4	CL1 - Comp/Lead 1	Generated-Riff	[Chromatic]	10	--	--	--	--	[On]	[On]	8	1 2 1 2 1 2 1 2
235	Atonal 5	CL1 - Comp/Lead 1	Generated-Riff	[Chromatic]	10	--	--	--	--	[On]	[On]	8	1 1 1 1 1 1 1 1
236	Atonal 6	CL1 - Comp/Lead 1	Generated-Riff	[Chromatic]	10	--	--	--	--	[On]	[On]	8	1 1 1 1 1 1 1 1
237	Atonal 7	DPI - Drum/Perc 1	Generated-Drum	WholeTone	10	--	--	--	--	[On]	[On]	16	1 1 1 1 1 1 1 1 1 1 1 1 1 2
238	Baroquen	CL1 - Comp/Lead 1	Generated-Riff	[Scalic2]	10	--	--	16	--	[On]	[On]	[8]	1 2 1 2 1 2 1 2
239	Bass Abyss	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	16	18	--	--	--	[On]	[On]	[4]	1 1 1 2
240	Bassoon 2	CL1 - Comp/Lead 1	Generated-Riff	[Scalic]	10	13	21	75	16	[On]	[On]	2	1 2
241	Brass March	CL1 - Comp/Lead 1	Generated-Riff	[Scalic2]	PB	72	--	--	--	[On]	[On]	8	[1][2][1][2][1][2][1][2]
242	Cinema Piccolo	CL1 - Comp/Lead 1	Generated-Riff	[Scalic]	--	--	--	--	--	[On]	[On]	4	1 1 2 2
243	Clarinet Phrase	CL1 - Comp/Lead 1	Generated-Riff	[Scalic]	10	--	--	--	--	[On]	[On]	4	1 2 1 2
244	Comb & Pipe	GV1 - Gated Vel/Pat 1	Generated-Gated	[Regular]	[010]	--	--	--	--	[On]	[On]	[4]	1 1 1 1
245	Computer 3	GV1 - Gated Vel/Pat 1	Generated-Gated	[Regular]	[010]	--	--	--	--	[On]	[On]	[4]	1 1 1 1
246	CrescDecresc	GV1 - Gated Vel/Pat 1	Generated-Gated	[Regular]	[010]	--	--	--	--	[On]	[On]	[4]	1 1 1 1
247	DJ Touch	DM1 - Drum Melodic 1	Generated-Drum	WholeTone	80	--	--	--	--	[On]	[On]	16	1 1 1 1 1 1 1 1 1 1 1 1 1 2
248	Dance Comp 1	GV1 - Gated Vel/Pat 1	Generated-Gated	[Regular]	[010]	--	--	--	--	[On]	[On]	[8]	1 1 1 1 1 1 1 1
249	Dark Kik/Zaps Raving	CL1 - Comp/Lead 1	Generated-Riff	[Chromatic]	80	83	--	--	--	[On]	[On]	8	1 2 2 2 2 2 2 2
250	Dbj Reed Scales	CL1 - Comp/Lead 1	Generated-Riff	[Scalic2]	--	16	--	1	--	[On]	[On]	8	1 2 1 2 1 2 1 2
251	Echo Melody	GV1 - Gated Vel/Pat 1	Generated-Gated	[Regular]	[010]	--	--	--	--	[On]	[On]	[4]	1 1 1 1
252	English Horn 2	CL1 - Comp/Lead 1	Generated-Riff	[Scalic2]	--	16	VE	--	--	[On]	[On]	16	1 2 1 1 2 1 1 2 1 1 1 2 1 1
253	Ethnic Sitar	DM1 - Drum Melodic 1	Generated-Drum	WholeTone	PB	PB	--	--	--	[On]	[On]	16	1 1 1 1 1 1 1 1 1 1 1 1 1 2
254	FX Trigger	DM1 - Drum Melodic 1	Generated-Drum	WholeTone	11	16	--	--	--	[On]	[On]	16	1 1 1 1 1 1 1 1 1 1 1 1 1 1
255	Fast Bowing 3	GV1 - Gated Vel/Pat 1	Generated-Gated	[Regular]	[010]	--	--	--	--	[On]	[On]	[4]	1 1 1 1
256	Flip Blip	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	71	79	74	71	10	[On]	[On]	8	1 2 1 2 1 2 1 2
257	Flute 2	CL1 - Comp/Lead 1	Generated-Riff	[Scalic2]	--	16	VE	--	--	[On]	[On]	8	1 2 1 2 1 2 1 2
258	Flute 3	CL1 - Comp/Lead 1	Generated-Riff	[Scalic2]	--	16	VE	1	--	[On]	[On]	8	1 2 1 2 1 2 1 2
259	Flute Desc Echo	CL1 - Comp/Lead 1	Generated-Riff	[Scalic2]	10	16	--	TR	--	[On]	[On]	8	1 1 1 1 1 1 1 1
260	Flute Improv	CL1 - Comp/Lead 1	Generated-Riff	[Scalic]	10	--	1	--	--	[On]	[On]	8	2 1 2 1 2 1 2 1
261	Flute/Piccolo	CL1 - Comp/Lead 1	Generated-Riff	[Scalic]	10	--	--	--	--	[On]	[On]	8	1 2 1 2 1 2 1 2
262	Funky Orx Hits	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	17	16	10	20	--	[On]	[On]	4	1 2 1 2
263	Gliss Down 2	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	10	--	VE	TR	--	[On]	[On]	1	2
264	Gliss Down then Up	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	10	--	VE	TR	--	[On]	[On]	2	2 1
265	HammerOn	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	10	--	VE	16	--	[On]	[On]	8	[2][1][2][1][2][1][2][1]
266	Haus Kik Transitions	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	1	20	--	--	11	[On]	[On]	8	1 2 1 2 1 2 1 2
267	Improv Lead 1	CL1 - Comp/Lead 1	Generated-Riff	[Scalic2]	10	2	1	--	--	[On]	[On]	8	1 2 1 2 1 2 1 2
268	Improv Lead 2	CL1 - Comp/Lead 1	Generated-Riff	[Scalic2]	10	74	2	--	--	[On]	[On]	8	1 2 1 2 1 2 1 2
269	Improv Lead 3	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	10	16	1	--	--	[On]	[On]	8	1 2 1 2 1 2 1 2
270	Jungle Lines	CL1 - Comp/Lead 1	Generated-Riff	[Scalic2]	16	79	71	--	--	[On]	[On]	8	1 1 1 2 1 1 2 2
271	Koto Phrase	CL1 - Comp/Lead 1	Generated-Riff	[Scalic]	1	--	--	--	--	[On]	[On]	8	1 2 1 2 1 2 1 2
272	Lil Counterpoint	CL1 - Comp/Lead 1	Generated-Riff	[Chromatic]	10	16	--	--	--	[On]	[On]	[8]	1 2 1 2 1 2 1 2
273	Main St. Electric	CL1 - Comp/Lead 1	Generated-Riff	[Scalic]	2	10	16	--	74	[On]	[On]	[4]	1 1 1 2
274	Major Minor Switch Hit	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	10	80	74	2	11	[On]	[On]	8	1 1 1 1 1 1 1 1
275	Muted Trumpet	CL1 - Comp/Lead 1	Generated-Riff	[Scalic2]	16	--	--	--	--	[On]	[On]	8	1 2 1 2 1 2 1 2
276	Phat Saw Lead	CL1 - Comp/Lead 1	Generated-Riff	[Scalic2]	72	21	VE	16	--	[On]	[On]	8	1 1 1 1 1 1 1 1
277	Pipe Riff 2	CL1 - Comp/Lead 1	Generated-Riff	[Scalic]	10	16	--	--	--	[On]	[On]	8	[1][2][1][2][1][2][1][2]
278	Pipe Riff 3	CL1 - Comp/Lead 1	Generated-Riff	[Scalic2]	--	--	--	--	--	[On]	[On]	8	1 2 1 2 1 2 1 2
279	Palka Riff	CL1 - Comp/Lead 1	Generated-Riff	[Scalic2]	10	16	--	--	--	[On]	[On]	9	1 2 1 2 1 2 1 2 2
280	Press. Strings 1	CL1 - Comp/Lead 1	Generated-Riff	[Scalic2]	--	--	--	--	--	[On]	[On]	[2]	1 2
281	Quarks 2	GV1 - Gated Vel/Pat 1	Generated-Gated	[Regular]	[010]	--	--	--	--	[On]	[On]	[4]	1 1 1 1
282	R&B Planet Thing	CL1 - Comp/Lead 1	Generated-Riff	[Scalic2]	10	16	--	--	--	[On]	[On]	8	1 2 1 2 1 2 1 2
283	RandPno8bar(7/1)	CL1 - Comp/Lead 1	Generated-Riff	[Scalic]	10	--	--	--	--	[On]	[On]	8	1 1 1 1 1 1 1 2
284	Recorder	CL1 - Comp/Lead 1	Generated-Riff	[Scalic]	75	16	VE	1	--	[On]	[On]	8	1 2 1 2 1 2 1 2
285	Santur 2	CL1 - Comp/Lead 1	Generated-Riff	[Chromatic]	72	--	--	--	--	[On]	[On]	8	1 1 1 1 1 1 1 1
286	Santur 3	CL1 - Comp/Lead 1	Generated-Riff	[Scalic]	10	72	--	--	--	[On]	[On]	8	1 2 1 2 1 2 1 2

Voice Name List

[] = can be controlled or changed by GE Parameters.

#	GE Name	RTC Model	GE Type	Note Type	CC-A	CC-B	Env 1	Env 2	Env 3	Bend	Rpt	Items	Phase Pattern
287	Shakuhachi	CL1 - Comp/Lead 1	Generated-Riff	[Fourths]	1	--	--	--	PB	[On]	[On]	8	1 1 1 1 1 1 1 1
288	SitarSitar 1	DM1 - Drum Melodic 1	Generated-Drum	WholeTone	10	--	71	--	--	[On]	[On]	16	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 2
289	Sixteenth Note Strings	GV1 - Gated Vel/Pat 1	Generated-Gated	[Regular]	16	73	--	--	--	[On]	[On]	8	1 1 1 1 1 1 1 1
290	SmoothSineLead	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	16	18	73	1	--	[On]	[On]	4	1 1 1 2
291	Squirrels at Play	CL1 - Comp/Lead 1	Generated-Riff	[Scalic2]	10	16	--	--	--	[On]	[On]	[3]	1 2 1
292	String Single Line	CL1 - Comp/Lead 1	Generated-Riff	[Scalic]	--	--	--	--	--	[On]	[On]	4	1 1 1 2
293	Strings Long Line	CL1 - Comp/Lead 1	Generated-Riff	[Scalic2]	--	--	72	--	--	[On]	[On]	8	[1][1][1][1][1][1][1][1]
294	SuperSoloTriplet	CL1 - Comp/Lead 1	Generated-Riff	[Scalic]	10	--	--	--	--	[On]	[On]	4	1 2 1 2
295	Swirling Notch Pad 2	CL1 - Comp/Lead 1	Generated-Riff	[Scalic2]	10	16	16	--	--	[On]	[On]	8	1 2 1 2 1 2 1 2
296	Syn Santur	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	10	--	--	--	--	[On]	[On]	8	1 2 1 2 1 2 1 2
297	Syn Techno Riff	CL1 - Comp/Lead 1	Generated-Riff	[Fourths]	74	--	--	--	--	[On]	[On]	4	1 1 2 2
298	Synthetic Piccolo	CL1 - Comp/Lead 1	Generated-Riff	[Scalic]	10	--	--	--	PB	[On]	[On]	8	2 2 2 2 2 2 2 2
299	Talking Mod 2	CL1 - Comp/Lead 1	Generated-Riff	[Scalic2]	21	16	79	--	--	[On]	[On]	8	1 1 1 2 1 1 1 2
300	Techno Riff 3	GV1 - Gated Vel/Pat 1	Generated-Gated	[Regular]	[010]	--	--	--	--	[On]	[On]	[8]	1 1 1 1 1 1 1 1
301	Techno Riff 4	GV1 - Gated Vel/Pat 1	Generated-Gated	[Regular]	[010]	--	--	--	--	[On]	[On]	[2]	1 1
302	Techno Riff 5	GV1 - Gated Vel/Pat 1	Generated-Gated	[Regular]	[010]	--	--	--	--	[On]	[On]	[8]	1 1 1 1 1 1 1 1
303	TenorSax	CL1 - Comp/Lead 1	Generated-Riff	[Scalic2]	16	--	--	--	--	[On]	[On]	4	1 2 2 2
304	TenorSax Scales	CL1 - Comp/Lead 1	Generated-Riff	[Scalic2]	16	--	--	--	--	[On]	[On]	4	1 2 2 2
305	The Fly	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	10	--	11	--	--	[On]	[On]	10	1 2 1 2 1 2 1 2 1 2
306	Timbral Shaper	CL1 - Comp/Lead 1	Generated-Riff	[Scalic2]	10	16	--	--	--	[On]	[On]	8	1 1 1 1 1 1 1 1
307	Trickle	GV1 - Gated Vel/Pat 1	Generated-Gated	[Regular]	[010]	--	--	--	--	[On]	[On]	[4]	1 2 1 2
308	Triplet Cycle	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	10	--	--	--	--	[On]	[On]	4	1 2 1 2
309	Tull	CL1 - Comp/Lead 1	Generated-Riff	[Scalic2]	10	16	--	--	--	[On]	[On]	8	1 2 1 2 1 2 1 2
310	Urgent!	CL1 - Comp/Lead 1	Generated-Riff	[Chromatic]	74	10	PB	PB	--	[On]	[On]	8	1 1 1 2 1 1 1 2
311	Vibe Dn/Roll	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	10	--	VE	--	--	[On]	[On]	8	2 1 2 1 2 1 2 1
312	Voice LargeMove	CL1 - Comp/Lead 1	Generated-Riff	[Scalic2]	64	--	11	--	--	[On]	[On]	8	[1][1][1][1][1][1][1][1]
313	Wait for itAc 3	GV1 - Gated Vel/Pat 1	Generated-Gated	[Regular]	[010]	--	--	--	--	[On]	[On]	[4]	1 2 1 2
314	Whistling	CL1 - Comp/Lead 1	Generated-Riff	[Scalic2]	1	16	--	--	--	[On]	[On]	3	1 1 2
315	Woods Line	CL1 - Comp/Lead 1	Generated-Riff	[Scalic2]	PB	72	--	--	--	[On]	[On]	8	1 2 1 2 1 2 1 2
316	jomd	DM1 - Drum Melodic 1	Generated-Drum	WholeTone	1	16	11	TR	--	[On]	[On]	2	1 2

Category: Harmonic (Poly)

#	GE Name	RTC Model	GE Type	Note Type	CC-A	CC-B	Env 1	Env 2	Env 3	Bend	Rpt	Items	Phase Pattern
317	1/7/5 organ	DM1 - Drum Melodic 1	Generated-Drum	Regular	10	16	1	2	--	[On]	[On]	16	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
318	12/4 Wash 5th/4th	CL1 - Comp/Lead 1	Generated-Riff	[Fourths]	--	16	--	--	--	[On]	[On]	4	1 1 1 1
319	Stone Vel Trip 1	GV1 - Gated Vel/Pat 1	Generated-Gated	[Regular]	[010]	--	--	--	--	[On]	[On]	[4]	1 1 1 1
320	6/8 organ	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	10	16	--	--	--	[On]	[On]	4	1 1 1 2
321	7tone Ostinat	GV1 - Gated Vel/Pat 1	Generated-Gated	[Regular]	[010]	--	--	--	--	[On]	[On]	[4]	1 1 1 1
322	A.Piano Comp	CL1 - Comp/Lead 1	Generated-Riff	[Scalic2]	64	64	VE	72	--	[On]	[On]	1	[1]
323	Acid Jazz	GV1 - Gated Vel/Pat 1	Generated-Gated	[Regular]	[010]	--	--	--	--	[On]	[On]	[4]	1 1 1 1
324	Analog Pad Mover	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	16	--	20	21	--	[On]	[On]	4	1 1 1 2
325	Arco Strings	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	16	20	19	74	71	[On]	[On]	2	2 1
326	Arcic Voices 1	DM1 - Drum Melodic 1	Generated-Drum	WholeTone	10	--	VE	74	--	[On]	[On]	16	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 2
327	Astral Pad 1	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	10	16	--	--	--	[On]	[On]	8	1 1 1 1 1 1 1 1
328	Balzando Orch. 1	GV1 - Gated Vel/Pat 1	Generated-Gated	[Regular]	11	--	--	--	--	[On]	[On]	[4]	1 1 1 1
329	Barber Pole	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	10	2	VE	TA	PB	[On]	[On]	8	2 1 2 1 2 1 2 1
330	BariSax 1	DM1 - Drum Melodic 1	Generated-Drum	WholeTone	10	20	16	2	21	[On]	[On]	16	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 2
331	BariSax 2	DM1 - Drum Melodic 1	Generated-Drum	WholeTone	10	20	16	2	21	[On]	[On]	16	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 2
332	Booty Call	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	10	--	--	--	--	[On]	[On]	[4]	1 1 1 2
333	Brass Riff 01	GV1 - Gated Vel/Pat 1	Generated-Gated	[Regular]	10	16	16	74	--	[On]	[On]	8	1 1 1 1 1 1 1 1
334	Brass Riff 02	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	--	16	--	--	--	[On]	[On]	8	[1][1][1][1][1][1][1][1]
335	Brass Riff 03	CL1 - Comp/Lead 1	Generated-Riff	[Scalic2]	--	16	VE	--	--	[On]	[On]	8	1 1 1 1 1 1 1 1
336	Brass Stabber	CL1 - Comp/Lead 1	Generated-Riff	[Scalic2]	10	16	VE	--	--	[On]	[On]	8	1 1 1 1 1 1 1 1
337	Candyland 2	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	10	--	--	--	--	[On]	[On]	[4]	1 1 1 2
338	Chameleon	DM1 - Drum Melodic 1	Generated-Drum	WholeTone	10	16	11	--	2	[On]	[On]	16	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 2
339	Choir Classical	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	1	--	--	--	--	[On]	[On]	8	1 1 1 1 1 1 1 1
340	Chord Rhythm 1	GV1 - Gated Vel/Pat 1	Generated-Gated	[Scalic]	8	--	--	16	--	[On]	[On]	8	1 2 1 2 1 2 1 2
341	Classical 5	GV1 - Gated Vel/Pat 1	Generated-Gated	[Regular]	[010]	--	--	--	--	[On]	[On]	[4]	1 1 1 1
342	Clavi Comp	GV1 - Gated Vel/Pat 1	Generated-Gated	[Regular]	[010]	--	--	--	--	[On]	[On]	[4]	1 1 1 1
343	Comp & Go	CL1 - Comp/Lead 1	Generated-Riff	[Augmented]	10	16	11	--	--	[On]	[On]	8	1 1 1 1 1 1 1 1
344	Comp Thing	CL1 - Comp/Lead 1	Generated-Riff	[Chromatic]	10	16	1	--	--	[On]	[On]	8	1 2 1 2 1 2 1 2
345	Contemplate This	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	10	--	--	--	--	[On]	[On]	8	2 2 2 2 2 2 2 2
346	Contemplate This Too!	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	10	16	--	--	--	[On]	[On]	8	2 2 2 2 2 2 2 2
347	Contemplate This againAc	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	2	--	--	--	--	[On]	[On]	8	2 2 2 2 2 2 2 2
348	Cyber Choir 1	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	2	--	19	74	--	[On]	[On]	[2]	1 1
349	Dance 1	GV1 - Gated Vel/Pat 1	Generated-Gated	[Regular]	74	--	--	11	--	[On]	[On]	8	1 1 1 1 1 1 1 1
350	Dance Comp 2	GV1 - Gated Vel/Pat 1	Generated-Gated	[Regular]	[010]	--	--	--	--	[On]	[On]	[8]	1 1 1 1 1 1 1 1
351	Disco Strings	CL1 - Comp/Lead 1	Generated-Riff	[Chromatic]	10	16	--	--	--	[On]	[On]	8	1 2 1 2 1 2 1 2
352	Dizziness Seq	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	10	34	74	--	11	[On]	[On]	4	1 1 1 1
353	E.Piano 01	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	10	--	11	71	74	[On]	[On]	1	1
354	E.Piano 02	CL1 - Comp/Lead 1	Generated-Riff	[Scalic]	10	--	11	64	--	[On]	[On]	8	1 1 1 1 1 1 1 1
355	E.Piano 03	CL1 - Comp/Lead 1	Generated-Riff	[Scalic]	10	--	11	--	--	[On]	[On]	8	1 1 1 1 1 1 1 1
356	E.Piano 04	CL1 - Comp/Lead 1	Generated-Riff	[Scalic]	10	--	11	64	--	[On]	[On]	8	1 1 1 1 1 1 1 1

[] = can be controlled or changed by GE Parameters.

#	GE Name	RTC Model	GE Type	Note Type	CC-A	CC-B	Env 1	Env 2	Env 3	Bend	Rpt	Items	Phase Pattern
357	E.Piano 05	CL1 - Comp/Lead 1	Generated-Riff	[WholeTone]	10	--	11	--	--	[On]	[On]	8	1 1 1 1 1 1 1 1
358	E.Piano 06	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	10	--	VE	--	--	[On]	[On]	8	1 1 1 1 1 1 1 1
359	E.Piano 07	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	10	16	11	--	--	[On]	[On]	8	1 1 1 1 1 1 1 1
360	E.Piano 08	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	10	16	VE	--	--	[On]	[On]	1	1
361	E.Piano Chord 1	CL1 - Comp/Lead 1	Generated-Riff	[Scalic2]	--	--	71	74	79	[On]	[On]	8	1 2 1 2 1 2 1 2
362	E.Piano Police	CL1 - Comp/Lead 1	Generated-Riff	[Scalic2]	10	--	--	--	83	[On]	[On]	8	[1][1][1][1][1][1][1][1]
363	E.Piano Riff	DM1 - Drum Melodic 1	Generated-Drum	WholeTone	21	--	VE	71	--	[On]	[On]	16	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 2
364	Express Piano	CL1 - Comp/Lead 1	Generated-Riff	[Scalic]	10	--	VE	TR	--	[On]	[On]	8	2 1 2 1 2 1 2 1
365	F.Horns Rhythm	DM1 - Drum Melodic 1	Generated-Drum	WholeTone	10	16	--	--	--	[On]	[On]	16	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
366	Fast Bowing 4	GV1 - Gated Vel/Pat 1	Generated-Gated	[Regular]	[010]	--	--	--	--	[On]	[On]	[4]	1 1 1 1
367	Fast Bowing 5	GV1 - Gated Vel/Pat 1	Generated-Gated	[Regular]	[010]	--	--	--	--	[On]	[On]	[4]	1 1 1 1
368	Fast Bowing 6	GV1 - Gated Vel/Pat 1	Generated-Gated	[Regular]	[010]	--	--	--	--	[On]	[On]	[4]	1 1 1 1
369	Finger Cymbal	CL1 - Comp/Lead 1	Generated-Riff	[Scalic2]	20	--	2	--	--	[On]	[On]	4	1 1 1 1
370	Fretless Analog	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	10	--	--	16	73	[On]	[On]	8	1 1 1 1 1 1 1 1
371	Goa Trance	GV1 - Gated Vel/Pat 1	Generated-Gated	[Regular]	[010]	--	--	--	--	[On]	[On]	[4]	1 1 1 1
372	Grand Wirey Pad	CL1 - Comp/Lead 1	Generated-Riff	[Fifths]	72	--	--	16	--	[On]	[On]	8	1 1 1 2 1 1 1 2
373	Groove Acid Riff	GV1 - Gated Vel/Pat 1	Generated-Gated	[Regular]	[008]	--	--	--	--	[On]	[On]	[2]	1 1
374	Happy Strings	CL1 - Comp/Lead 1	Generated-Riff	[Scalic2]	72	--	--	--	--	[On]	[On]	8	1 2 1 2 1 2 1 2
375	Harmonica 1	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	16	73	--	--	PB	[On]	[On]	8	1 1 1 1 1 1 1 1
376	HipHop Strings	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	10	16	--	--	--	[On]	[On]	[4]	1 1 1 2
377	Jazz Piano Comp	CL1 - Comp/Lead 1	Generated-Riff	[Scalic]	1	--	--	--	--	[On]	[On]	4	1 1 1 1
378	Kalimbish 3	CL1 - Comp/Lead 1	Generated-Riff	[Scalic2]	10	1	--	--	--	[On]	[On]	8	1 1 1 1 1 1 1 1
379	KarMarch	DM1 - Drum Melodic 1	Generated-Drum	WholeTone	10	16	--	--	--	[On]	[On]	16	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 2
380	Keith's Organ Comp	DM1 - Drum Melodic 1	Generated-Drum	WholeTone	11	16	--	--	--	[On]	[On]	16	[1][1][1][1][1][1][1][1][1][1][1][1][1][1][1][1]
381	MalletGame 04	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	10	16	VE	72	--	[On]	[On]	4	[1][2][1][2]
382	Modern Harmonies	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	10	19	74	--	--	[On]	[On]	1	1
383	Modern String Quartet	CL1 - Comp/Lead 1	Generated-Riff	[Scalic2]	73	--	--	--	--	[On]	[On]	4	1 1 1 2
384	New BowRoque	GV1 - Gated Vel/Pat 1	Generated-Gated	[Regular]	[010]	--	--	--	--	[On]	[On]	[2]	1 1
385	New Old Beat	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	1	16	1	--	--	[On]	[On]	8	1 2 1 2 1 2 1 2
386	New Sax Ensemble	CL1 - Comp/Lead 1	Generated-Riff	[Scalic2]	10	--	--	--	--	[On]	[On]	8	1 2 1 2 1 2 1 2
387	Offbeat Danceric 1	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	10	1	74	--	11	[On]	[On]	8	1 2 1 2 1 2 1 2
388	Old EP Riff	DM1 - Drum Melodic 1	Generated-Drum	WholeTone	10	1	--	1	11	[On]	[On]	16	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 2
389	Orch.Movement	CL1 - Comp/Lead 1	Generated-Riff	[Scalic2]	--	--	--	--	--	[On]	[On]	8	[1][1][1][1][1][1][1][1][1][1]
390	Orch.String Arp 1	GV1 - Gated Vel/Pat 1	Generated-Gated	[Regular]	[010]	--	--	--	--	[On]	[On]	[4]	1 1 1 1
391	Orchestra Soft	CL1 - Comp/Lead 1	Generated-Riff	[Scalic2]	PB	72	--	--	--	[On]	[On]	[2]	[1][1]
392	Orchestra Tuning Up Weird!	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	10	21	74	--	11	[On]	[On]	8	1 1 1 1 1 1 1 1
393	Organ 1	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	--	--	11	--	--	[On]	[On]	8	1 2 1 2 1 2 1 2
394	Pad Helper 02	CL1 - Comp/Lead 1	Generated-Riff	[Scalic]	10	16	--	--	--	[On]	[On]	8	1 1 1 1 1 1 1 1
395	Pad Helper 03	CL1 - Comp/Lead 1	Generated-Riff	[Scalic]	10	16	--	--	--	[On]	[On]	8	[1][2][1][2][1][2][1][2]
396	Pad Helper 04	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	10	16	73	72	74	[On]	[On]	8	1 2 1 2 1 2 1 2
397	Pad Motion	CL1 - Comp/Lead 1	Generated-Riff	[Scalic2]	10	16	--	--	--	[On]	[On]	8	1 1 1 1 1 1 1 1
398	Pizzicato Ens.	CL1 - Comp/Lead 1	Generated-Riff	[Fourth]	10	--	--	--	--	[On]	[On]	4	1 1 1 2
399	PizzoDance	GV1 - Gated Vel/Pat 1	Generated-Gated	[Regular]	[010]	--	--	--	--	[On]	[On]	[4]	1 1 1 1
400	Rhythmic Strings	CL1 - Comp/Lead 1	Generated-Riff	[Scalic2]	73	72	--	--	--	[On]	[On]	8	[1][1][1][1][1][1][1][1][1][1]
401	Rock Organ	DM1 - Drum Melodic 1	Generated-Drum	WholeTone	10	16	--	--	--	[On]	[On]	[16]	1 1 1 1 1 1 2 2 1 1 1 1 1 1 2 2
402	SF Pad	CL1 - Comp/Lead 1	Generated-Riff	[Scalic]	10	--	--	--	--	[On]	[On]	8	1 2 1 2 1 2 1 2
403	Santur 4	CL1 - Comp/Lead 1	Generated-Riff	[Scalic2]	10	--	--	--	--	[On]	[On]	8	1 2 1 2 1 2 1 2
404	Santur 5	CL1 - Comp/Lead 1	Generated-Riff	[Scalic2]	10	--	--	--	--	[On]	[On]	8	1 2 1 2 1 2 1 2
405	Saxes Riff 1	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	10	1	11	--	--	[On]	[On]	8	1 2 1 2 1 2 1 2
406	Saxes Riff 2	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	10	1	--	--	--	[On]	[On]	8	1 1 1 1 1 1 1 1
407	Simple Comp 1	GV1 - Gated Vel/Pat 1	Generated-Gated	[Scalic]	10	--	--	--	--	[On]	[On]	4	1 1 1 1
408	Simple Pizz.	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	10	--	--	--	--	[On]	[On]	8	1 2 1 2 1 2 1 2
409	SitarSitar 2	CL1 - Comp/Lead 1	Generated-Riff	[Chromatic]	10	16	--	--	--	[On]	[On]	8	[1][1][1][1][1][1][1][1][1][1]
410	Slice of Life	GV1 - Gated Vel/Pat 1	Generated-Gated	[Regular]	16	--	--	--	--	[On]	[On]	[4]	1 1 1 2
411	SlowChoir Part 1	CL1 - Comp/Lead 1	Generated-Riff	[Scalic2]	72	--	16	74	73	[On]	[On]	8	[1][1][1][1][1][1][1][1][1][1]
412	SlowChoir Part 2	CL1 - Comp/Lead 1	Generated-Riff	[Scalic2]	72	--	16	74	73	[On]	[On]	8	[1][1][1][1][1][1][1][1][1][1]
413	StabRhythm	GV1 - Gated Vel/Pat 1	Generated-Gated	[Regular]	[010]	--	--	--	--	[On]	[On]	[4]	1 1 1 1
414	StringsRit 1	GV1 - Gated Vel/Pat 1	Generated-Gated	[Regular]	[010]	--	--	--	--	[On]	[On]	[4]	1 1 1 1
415	SynDrum Fill	CL1 - Comp/Lead 1	Generated-Riff	[Fourth]	10	--	80	74	--	[On]	[On]	8	1 1 1 1 1 1 1 1
416	Synpiano 1	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	10	16	--	--	--	[On]	[On]	8	1 1 1 1 1 1 1 1
417	Synpiano 2	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	10	16	11	--	--	[On]	[On]	8	1 1 1 1 1 1 1 1
418	Tango 3	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	--	--	--	--	--	[On]	[On]	4	[1][1][1][1]
419	TangoChords 1	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	10	--	--	--	--	[On]	[On]	4	[1][1][1][1]
420	Tape Flute	CL1 - Comp/Lead 1	Generated-Riff	[Chromatic]	10	16	--	--	--	[On]	[On]	4	1 1 1 1
421	Tape Strings	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	10	16	--	--	--	[On]	[On]	4	1 1 1 1
422	Techno Anthem	GV1 - Gated Vel/Pat 1	Generated-Gated	[Scalic2]	11	--	--	--	--	[On]	[On]	4	1 1 1 1
423	TeknoLife Split v2.0	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	10	16	--	--	--	[On]	[On]	8	1 1 1 1 1 1 1 1
424	That HeavenVibe	CL1 - Comp/Lead 1	Generated-Riff	[Scalic]	10	--	20	21	--	[On]	[On]	8	1 1 1 1 1 1 1 2
425	The Smart Couple	CL1 - Comp/Lead 1	Generated-Riff	[Scalic2]	10	16	--	--	--	[On]	[On]	[6]	1 1 2 1 1 2
426	The Sublime Mariner	CL1 - Comp/Lead 1	Generated-Riff	[Fifths]	10	16	16	1	73	[On]	[On]	8	1 1 1 1 1 1 1 1
427	UhAh ChoirRiff 1	CL1 - Comp/Lead 1	Generated-Riff	[Scalic2]	72	16	--	--	--	[On]	[On]	8	1 1 1 1 1 1 1 1
428	UhAh ChoirRiff 2	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	--	16	--	--	--	[On]	[On]	8	[1][1][1][1][1][1][1][1][1][1]
429	UhAh ChoirRiff 3	CL1 - Comp/Lead 1	Generated-Riff	[Chromatic]	--	16	--	--	--	[On]	[On]	8	1 1 1 1 1 1 1 1
430	UhAh ChoirRiff 4	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	1	2	--	--	--	[On]	[On]	8	1 1 1 1 1 1 1 1

Voice Name List

[] = can be controlled or changed by GE Parameters.

#	GE Name	RTC Model	GE Type	Note Type	CC-A	CC-B	Env 1	Env 2	Env 3	Bend	Rpt	Items	Phase Pattern
431	UhAh ChoirRiff 5	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	--	--	72	--	--	[On]	[On]	8	1 1 1 1 1 1 1 1
432	Vox Oasis	CL1 - Comp/Lead 1	Generated-Riff	[Scalic2]	--	--	--	--	16	[On]	[On]	8	1 2 1 2 1 2 1 2
433	1234 Organ Shuffle	CL1 - Comp/Lead 1	Generated-Riff	[Scalic2]	1	16	--	--	--	[On]	[On]	8	1 2 1 2 1 2 1 2
434	3/4 Piano Phrase	DM1 - Drum Melodic 1	Generated-Drum	WholeTone	--	16	VE	--	--	[On]	[On]	16	1 2 1 2 1 2 1 2 1 2 1 2 1 2
435	4tone Ride	GV1 - Gated Vel/Pat 1	Generated-Gated	[Regular]	[010]	--	--	--	--	[On]	[On]	[4]	1 1 1 1
436	80's Stereo Riff	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	10	20	20	16	--	[On]	[On]	8	1 1 1 2 2 2 2 2
437	A.Piano Rhythm	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	10	--	--	--	--	[On]	[On]	[2]	1 2
438	Ad Hoc Fanfare	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	20	16	73	--	--	[On]	[On]	8	1 1 1 1 1 1 1 1
439	Aqua Phonics	CL1 - Comp/Lead 1	Generated-Riff	[Scalic]	18	21	20	79	16	[On]	[On]	8	1 2 1 2 1 2 1 2
440	Astral Pad 2	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	10	16	--	--	--	[On]	[On]	8	1 1 1 1 1 1 1 1
441	Atonal 8	CL1 - Comp/Lead 1	Generated-Riff	[Chromatic]	10	--	--	--	--	[On]	[On]	8	1 2 1 2 1 2 1 2
442	Balzano Orch. 2	GV1 - Gated Vel/Pat 1	Generated-Gated	[Regular]	[010]	--	--	--	--	[On]	[On]	[4]	1 1 1 1
443	Bass Clarinet	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	10	16	--	--	--	[On]	[On]	8	1 1 1 1 1 1 1 1
444	Bass-Chords	DM1 - Drum Melodic 1	Generated-Drum	WholeTone	8	83	--	79	--	[On]	[On]	16	1 1 1 1 1 1 1 1 1 1 1 1 1 2
445	Bending Texture	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	10	--	--	--	--	[On]	[On]	[16]	1 1 1 1 1 1 2 1 1 1 1 1 1 2
446	Bendy	GV1 - Gated Vel/Pat 1	Generated-Gated	[Regular]	10	80	VE	--	PB	[On]	[On]	8	1 2 1 2 1 2 1 2
447	Bendy Gtr Riffs	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	10	--	--	1	PB	[On]	[On]	8	[1][1][1][1][1][1][1][1]
448	Bendy Kalimba 1	DM1 - Drum Melodic 1	Generated-Drum	WholeTone	10	21	VE	--	--	[On]	[On]	16	1 1 1 1 1 1 1 1 1 1 1 1 1 2
449	Bendy Pad Mover	CL1 - Comp/Lead 1	Generated-Riff	[Scalic]	79	10	74	71	PB	[On]	[On]	8	1 1 1 1 1 1 1 1
450	Big Arp Repeater	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	10	--	[018]	--	--	[On]	[On]	4	1 1 1 2
451	Big LogDrums	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	10	16	71	79	--	[On]	[On]	8	1 2 1 2 1 2 1 2
452	Blues Harmonica	DM1 - Drum Melodic 1	Generated-Drum	WholeTone	10	16	--	--	--	[On]	[On]	16	[1][1][2][1][1][1][2][1][1][2][1][1][2]
453	Bossa Riff	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	10	--	--	--	--	[On]	[On]	4	1 1 2 1
454	Bowing	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	72	73	--	--	--	[On]	[On]	4	1 2 1 2
455	Brass Riff 04	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	10	16	16	74	--	[On]	[On]	8	[2][2][2][2][2][2][2][2]
456	Brass Riff 05	CL1 - Comp/Lead 1	Generated-Riff	[Scalic2]	10	16	--	--	--	[On]	[On]	8	1 1 1 1 1 1 1 1
457	Brass Riff 06	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	--	16	--	--	--	[On]	[On]	8	1 1 1 1 1 1 1 1
458	Brass-Gliss Up	CL1 - Comp/Lead 1	Generated-Riff	[Fourths]	1	1	--	--	--	[On]	[On]	4	1 1 1 2
459	Candyland 3	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	10	--	--	--	--	[On]	[On]	[4]	1 1 1 2
460	Choir of Light	DM1 - Drum Melodic 1	Generated-Drum	WholeTone	2	16	79	74	71	[On]	[On]	16	1 1 1 1 1 1 1 1 1 1 1 1 1 2
461	Chord + Melody	DM1 - Drum Melodic 1	Generated-Drum	WholeTone	2	10	--	--	--	[On]	[On]	16	1 1 1 1 1 1 1 1 1 1 1 1 1 2
462	Classic Fanfare	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	16	--	--	--	--	[On]	[On]	4	1 2 1 2
463	Clav Riff	DM1 - Drum Melodic 1	Generated-Drum	WholeTone	21	--	VE	71	--	[On]	[On]	16	1 1 1 1 1 1 1 1 1 1 1 1 1 2
464	Clavintronics ENV's	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	10	16	VE	74	71	[On]	[On]	8	1 2 1 2 1 2 1 2
465	Crazy Bee	GV1 - Gated Vel/Pat 1	Generated-Gated	[Regular]	[010]	--	--	--	--	[On]	[On]	[4]	1 1 1 1
466	Dance Comp 3	GV1 - Gated Vel/Pat 1	Generated-Gated	[Regular]	[010]	--	--	--	--	[On]	[On]	[8]	1 1 1 1 1 1 1 1
467	Dance/Gospel Organ	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	10	16	1	11	2	[On]	[On]	8	1 1 1 1 1 1 1 1
468	Dancing Classical	CL1 - Comp/Lead 1	Generated-Riff	[Scalic2]	10	--	--	--	--	[On]	[On]	[4]	1 2 1 2
469	Dancing Pluck	CL1 - Comp/Lead 1	Generated-Riff	[Scalic]	10	--	--	--	--	[On]	[On]	8	1 2 1 2 1 2 1 2
470	Dark Night	MR1 - Melodic Repeat	Real-Time	WholeTone	--	--	74	71	10	On	[On]	1	1
471	Dial Up Modem Emergency	CL1 - Comp/Lead 1	Generated-Riff	[Chromatic]	--	--	74	74	1	[On]	[On]	6	1 2 2 1 2 2
472	Digi-Bell 2	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	10	--	VE	--	--	[On]	[On]	2	1 2
473	Digital Bells 2	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	72	73	71	79	10	[On]	[On]	4	1 2 1 2
474	Dirty B 1	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	16	79	--	--	--	[On]	[On]	8	1 2 1 2 1 2 1 2
475	Djembe/Log Drum	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	2	--	18	21	--	[On]	[On]	8	1 1 1 1 1 1 1 2
476	Double Reed Canonica	CL1 - Comp/Lead 1	Generated-Riff	[Scalic2]	10	16	--	--	--	[On]	[On]	8	1 1 1 1 1 1 1 1
477	Drone Pipes	CL1 - Comp/Lead 1	Generated-Riff	[Scalic2]	10	16	--	--	--	[On]	[On]	8	1 2 1 2 1 2 1 2
478	Dual Filterz	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	16	--	74	72	73	[On]	[On]	8	1 2 1 2 1 2 1 2
479	E.P. Comp 7/8	CL1 - Comp/Lead 1	Generated-Riff	[Scalic]	--	16	DU	VE	80	[On]	[On]	4	1 1 1 2
480	E.Piano 09	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	10	16	11	--	--	[On]	[On]	8	1 1 1 1 1 1 1 1
481	E.Piano 10	CL1 - Comp/Lead 1	Generated-Riff	[Scalic2]	--	--	71	--	--	[On]	[On]	8	[1][1][1][1][1][1][1][1]
482	E.Piano Chord 2	CL1 - Comp/Lead 1	Generated-Riff	[WholeTone]	--	--	71	74	79	[On]	[On]	8	1 2 1 2 1 2 1 2
483	EasternRiff 1	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	--	16	--	--	--	[On]	[On]	8	[1][1][1][1][1][1][1][1]
484	EasternRiff 2	CL1 - Comp/Lead 1	Generated-Riff	[Scalic]	--	--	--	--	--	[On]	[On]	8	1 2 1 2 1 2 1 2
485	Echoing Gooberation	DM1 - Drum Melodic 1	Generated-Drum	WholeTone	71	16	2	11	--	[On]	[On]	16	1 1 1 1 1 1 1 1 1 1 1 1 1 1
486	Ethnic Mallets	CL1 - Comp/Lead 1	Generated-Riff	[Chromatic]	10	16	--	--	--	[On]	[On]	8	1 1 1 1 1 1 1 1
487	F.Horn Riff 1	CL1 - Comp/Lead 1	Generated-Riff	[Scalic2]	73	--	16	--	--	[On]	[On]	8	1 2 1 2 1 2 1 2
488	FM E. Piano mf	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	10	--	--	--	--	[On]	[On]	4	1 1 1 2
489	Fantabellz 1	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	--	--	--	--	--	[On]	[On]	8	1 1 1 1 1 1 1 1
490	Fantabellz 2	CL1 - Comp/Lead 1	Generated-Riff	[WholeTone]	--	--	--	--	--	[On]	[On]	8	1 1 1 1 1 1 1 1
491	Fire Strings DT	CL1 - Comp/Lead 1	Generated-Riff	[Scalic2]	72	--	--	--	--	[On]	[On]	8	[2][2][2][2][2][2][2][2]
492	Flashin' Arp	GV1 - Gated Vel/Pat 1	Generated-Gated	[Regular]	[010]	--	--	--	--	[On]	[On]	[4]	1 1 1 1
493	Flashlight!	DM1 - Drum Melodic 1	Generated-Drum	WholeTone	10	16	RT	--	--	[On]	[On]	16	1 1 1 1 1 1 1 1 1 1 1 1 1 1
494	Frozen Glaciers	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	16	2	--	--	--	[On]	[On]	[1]	1
495	Funk Factory	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	10	16	--	--	--	[On]	[On]	4	1 1 1 1
496	Funky Moves	GV1 - Gated Vel/Pat 1	Generated-Gated	[Regular]	[010]	--	--	--	--	[On]	[On]	[16]	1 1 1 1 1 1 1 1 1 1 1 1 1 1
497	Future Syn Pad	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	10	75	16	71	79	[On]	[On]	3	1 2 1
498	Gamelans 4	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	10	16	--	--	--	[On]	[On]	8	1 1 1 1 1 1 1 1
499	Gate and Pitch	GV1 - Gated Vel/Pat 1	Generated-Gated	[Regular]	10	16	--	--	--	[On]	[On]	8	1 1 1 1 1 1 1 1
500	Giant Rotary	CL1 - Comp/Lead 1	Generated-Riff	[Scalic]	10	2	11	--	--	[On]	[On]	8	2 2 2 2 2 2 2 2
501	Glass Bell Bright	CL1 - Comp/Lead 1	Generated-Riff	[WholeTone]	10	19	16	2	21	[On]	[On]	2	1 2
502	Goober Uber Alles 2	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	17	2	1	5	--	[On]	[On]	8	1 1 1 1 1 1 1 1
503	Gospel Riff	CL1 - Comp/Lead 1	Generated-Riff	[Chromatic]	1	16	--	11	11	[On]	[On]	4	1 2 1 2
504	Harmonic Pad	CL1 - Comp/Lead 1	Generated-Riff	[Scalic2]	10	21	2	18	16	[On]	[On]	8	1 2 1 2 1 2 1 2

[] = can be controlled or changed by GE Parameters.

#	GE Name	RTC Model	GE Type	Note Type	CC-A	CC-B	Env 1	Env 2	Env 3	Bend	Rpt	Items	Phase Pattern
505	Harmonica 2	CL1 - Comp/Lead 1	Generated-Riff	[Scalic2]	--	--	71	2	79	[On]	[On]	[4]	1 1 1 2
506	Indian Riff	CL1 - Comp/Lead 1	Generated-Riff	[Chromatic]	10	16	--	--	--	[On]	[On]	8	1 2 1 2 1 2 1 2
507	Indian Stars	DM1 - Drum Melodic 1	Generated-Drum	WholeTone	10	21	16	79	71	[On]	[On]	16	1 1 1 1 1 1 1 1 1 1 1 1 1 1 2
508	Jazz Club (nnnNice...)	CL1 - Comp/Lead 1	Generated-Riff	[Scalic2]	10	16	1	--	--	[On]	[On]	4	1 2 1 2
509	Kalimbish 4	CL1 - Comp/Lead 1	Generated-Riff	[Scalic]	10	1	--	--	--	[On]	[On]	8	1 1 1 1 1 1 1 1
510	Kalimbish 5	CL1 - Comp/Lead 1	Generated-Riff	[Scalic]	10	1	--	--	--	[On]	[On]	4	[1][2][1][2]
511	Kalimbish 6	CL1 - Comp/Lead 1	Generated-Riff	[Scalic2]	10	1	--	--	--	[On]	[On]	4	1 1 1 1
512	LFO Ride	DM1 - Drum Melodic 1	Generated-Drum	WholeTone	80	10	16	--	--	[On]	[On]	16	1 1 1 1 1 1 1 1 1 1 1 1 1 1 2
513	Latin Piano	CL1 - Comp/Lead 1	Generated-Riff	[Scalic]	10	--	--	--	--	[On]	[On]	8	1 1 1 1 1 1 1 1
514	Latinesque/Suitcase	DM1 - Drum Melodic 1	Generated-Drum	WholeTone	10	16	--	1	--	[On]	[On]	16	1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2
515	Little Rascals	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	73	--	--	--	--	[On]	[On]	4	1 2 1 2
516	MalletGame 05	CL1 - Comp/Lead 1	Generated-Riff	[Scalic2]	10	--	--	--	--	[On]	[On]	4	[1][2][1][2]
517	MalletGame 06	CL1 - Comp/Lead 1	Generated-Riff	[Scalic2]	10	16	--	--	--	[On]	[On]	8	1 1 1 1 1 1 1 1
518	MalletGame 07	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	10	16	VE	72	--	[On]	[On]	8	1 2 1 2 1 2 1 2
519	MalletGame 08	CL1 - Comp/Lead 1	Generated-Riff	[Chromatic]	10	16	--	--	--	[On]	[On]	8	[1][2][1][2][1][2][1][2]
520	Marmalade Skies	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	10	16	--	--	--	[On]	[On]	[2]	1 1
521	Mellow Pad	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	72	73	74	79	2	[On]	[On]	8	1 2 1 2 1 2 1 2
522	Modern Sax Ensemble	CL1 - Comp/Lead 1	Generated-Riff	[Scalic2]	1	16	--	--	--	[On]	[On]	4	1 2 1 2
523	Modern Shamisen	CL1 - Comp/Lead 1	Generated-Riff	[Scalic2]	10	74	11	71	TR	[On]	[On]	8	1 1 1 1 1 1 1 1
524	MondoRimba	CL1 - Comp/Lead 1	Generated-Riff	[Scalic]	10	--	74	--	--	[On]	[On]	4	1 1 1 2
525	Monkey Skulls 1	CL1 - Comp/Lead 1	Generated-Riff	[Fourths]	10	21	21	74	71	[On]	[On]	8	1 2 1 2 1 2 1 2
526	Monkey Skulls 2	CL1 - Comp/Lead 1	Generated-Riff	[Scalic]	10	21	21	74	71	[On]	[On]	8	1 2 1 2 1 2 1 2
527	Monkey Skulls 3	CL1 - Comp/Lead 1	Generated-Riff	[Scalic]	10	--	79	--	--	[On]	[On]	4	1 2 1 2
528	Multi Arp	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	10	75	2	20	21	[On]	[On]	2	1 2
529	My Greek Wedding	CL1 - Comp/Lead 1	Generated-Riff	[Scalic2]	10	16	TR	--	--	[On]	[On]	8	1 2 1 2 1 2 1 2
530	News Brie	CL1 - Comp/Lead 1	Generated-Riff	[Chromatic]	74	10	21	--	--	[On]	[On]	2	1 2
531	Night Tines EP	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	10	16	2	1	--	[On]	[On]	8	1 1 1 1 1 1 1 1
532	Now Com Organ	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	74	73	--	--	--	[On]	[On]	4	1 1 2 2
533	Offbeat Dancerific 2	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	10	17	74	--	11	[On]	[On]	8	1 2 1 2 1 2 1 2
534	OrxHit Dance 2	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	10	--	74	16	11	[On]	[On]	[2]	1 2
535	Orbital Motion	GV1 - Gated Vel/Pat 1	Generated-Gated	[Regular]	16	--	VE	79	74	[On]	[On]	8	1 2 1 2 1 2 1 2
536	Orch (12/8) 1	CL1 - Comp/Lead 1	Generated-Riff	[Scalic2]	72	PB	74	72	79	[On]	[On]	[4]	[1][2][1][2]
537	Orch.String Arp 2	GV1 - Gated Vel/Pat 1	Generated-Gated	[Regular]	[010]	--	--	--	--	[On]	[On]	[4]	1 1 1 1
538	Orch.String Arp 3	GV1 - Gated Vel/Pat 1	Generated-Gated	[Regular]	[010]	--	--	--	--	[On]	[On]	[4]	1 1 1 1
539	Orch.Strings 1	CL1 - Comp/Lead 1	Generated-Riff	[Scalic2]	--	--	--	--	--	[On]	[On]	8	[1][2][1][2][1][2][1][2]
540	Orch.Strings 2	CL1 - Comp/Lead 1	Generated-Riff	[Scalic2]	--	--	--	--	--	[On]	[On]	8	[1][2][1][2][1][2][1][2]
541	Orch.Strings 3	CL1 - Comp/Lead 1	Generated-Riff	[Scalic2]	--	--	--	--	--	[On]	[On]	8	[1][1][1][1][1][1][1][1]
542	Organ 'Fingers' (maj/min)	CL1 - Comp/Lead 1	Generated-Riff	[Scalic2]	10	16	1	--	2	[On]	[On]	8	2 2 2 2 2 2 2 2
543	Organ 2	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	--	--	11	--	--	[On]	[On]	8	1 1 1 1 1 1 1 1
544	Organ Riff	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	10	2	74	11	64	[On]	[On]	1	[1]
545	OrganRiff 1	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	11	--	--	--	--	[On]	[On]	8	1 1 1 1 1 1 1 1
546	Pad Dreamer	CL1 - Comp/Lead 1	Generated-Riff	[Scalic]	10	16	--	--	--	[On]	[On]	8	1 2 1 2 1 2 1 2
547	Pad Helper 05	CL1 - Comp/Lead 1	Generated-Riff	[Scalic2]	10	16	72	--	--	[On]	[On]	8	1 1 1 1 1 1 1 1
548	Pad Helper 06	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	10	16	73	--	--	[On]	[On]	2	1 1
549	Pad Helper 07	CL1 - Comp/Lead 1	Generated-Riff	[Scalic]	10	16	--	--	PB	[On]	[On]	8	1 1 1 1 1 1 1 1
550	Pad Helper 08	CL1 - Comp/Lead 1	Generated-Riff	[WholeTone]	10	16	71	74	79	[On]	[On]	8	[1][1][1][1][1][1][1][1]
551	Pad Helper 09	CL1 - Comp/Lead 1	Generated-Riff	[Scalic2]	10	16	11	--	--	[On]	[On]	8	1 1 1 1 1 1 1 1
552	Pad Helper 10	CL1 - Comp/Lead 1	Generated-Riff	[Scalic2]	10	16	73	72	--	[On]	[On]	8	1 2 1 2 1 2 1 2
553	Pad Helper 11	CL1 - Comp/Lead 1	Generated-Riff	[Scalic2]	10	71	79	73	--	[On]	[On]	8	1 1 1 1 1 1 1 1
554	Pad Helper 12	CL1 - Comp/Lead 1	Generated-Riff	[Scalic2]	10	72	79	1	--	[On]	[On]	8	[1][1][1][1][1][1][1][1]
555	Pad Helper 13	CL1 - Comp/Lead 1	Generated-Riff	[WholeTone]	10	16	73	--	--	[On]	[On]	8	1 1 1 1 1 1 1 1
556	Pad Helper 14	CL1 - Comp/Lead 1	Generated-Riff	[Scalic2]	10	16	71	--	--	[On]	[On]	8	1 1 1 1 1 1 1 1
557	PadAnimator 2	CL1 - Comp/Lead 1	Generated-Riff	[Scalic]	10	16	--	--	--	[On]	[On]	4	[1][2][1][2]
558	PadAnimator 3	CL1 - Comp/Lead 1	Generated-Riff	[Scalic]	10	16	--	--	--	[On]	[On]	8	1 2 1 2 1 2 1 2
559	PadAnimator 4	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	10	16	--	--	--	[On]	[On]	8	1 1 1 1 1 1 1 1
560	PadAnimator 5	CL1 - Comp/Lead 1	Generated-Riff	[Scalic]	10	16	--	--	--	[On]	[On]	8	1 1 1 1 1 1 1 1
561	PadAnimator 6	CL1 - Comp/Lead 1	Generated-Riff	[Chromatic]	1	16	--	--	--	[On]	[On]	8	[2][2][2][2][2][2][2][2]
562	PadAnimator 7	CL1 - Comp/Lead 1	Generated-Riff	[Scalic2]	10	16	--	--	--	[On]	[On]	[8]	1 2 1 2 1 2 1 2
563	PadAnimator 8	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	--	--	71	79	73	[On]	[On]	8	[1][1][1][1][1][1][1][1]
564	Perpetual Random Motion	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	10	16	--	--	--	[On]	[On]	8	1 2 1 2 1 2 1 2
565	Pipe Riff 4	CL1 - Comp/Lead 1	Generated-Riff	[Scalic]	1	--	--	--	--	[On]	[On]	8	1 1 1 1 1 1 1 1
566	PnoClustrImprov	CL1 - Comp/Lead 1	Generated-Riff	[Scalic]	10	--	--	--	--	[On]	[On]	4	1 2 1 2
567	Pods In The Pad	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	16	73	74	10	2	[On]	[On]	4	1 1 1 2
568	Poly Mover	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	[--]	2	--	--	--	[On]	[On]	4	1 1 1 1
569	Power Ramp	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	75	72	2	8	16	[On]	[On]	6	1 1 2 1 1 2
570	Press. Strings 2	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	[--]	2	11	--	--	[On]	[On]	4	1 1 1 1
571	QED in 7 + Waveseq	CL1 - Comp/Lead 1	Generated-Riff	[Fifths]	64	--	74	2	71	[On]	[On]	4	1 2 1 2
572	Random Blues	DM1 - Drum Melodic 1	Generated-Drum	WholeTone	19	--	--	--	--	[On]	[On]	16	1 1 1 1 1 1 1 1 1 1 1 1 1 1 2
573	Random Clav	CL1 - Comp/Lead 1	Generated-Riff	[Scalic]	10	--	16	--	--	[On]	[On]	8	[1][1][1][2][1][1][1][2]
574	Random Organ	DM1 - Drum Melodic 1	Generated-Drum	WholeTone	19	--	--	--	--	[On]	[On]	16	1 1 1 1 1 1 1 1 1 1 1 1 1 1 2
575	Random Techno	GV1 - Gated Vel/Pat 1	Generated-Gated	[Regular]	[010]	--	--	--	--	[On]	[On]	[4]	1 1 1 1
576	Random Up	GV1 - Gated Vel/Pat 1	Generated-Gated	[Regular]	[010]	--	--	--	--	[On]	[On]	[4]	1 1 1 1
577	Rhythmic Piano 3/4	GV1 - Gated Vel/Pat 1	Generated-Gated	[Augmented]	11	16	VE	--	--	[On]	[On]	8	1 2 1 2 1 2 1 2
578	Robot Comp 1	GV1 - Gated Vel/Pat 1	Generated-Gated	[Scalic2]	10	--	--	--	--	[On]	[On]	4	1 1 1 1

Voice Name List

[] = can be controlled or changed by GE Parameters.

#	GE Name	RTC Model	GE Type	Note Type	CC-A	CC-B	Env 1	Env 2	Env 3	Bend	Rpt	Items	Phase Pattern
579	Santur & Hit	DM1 - Drum Melodic 1	Generated-Drum	WholeTone	10	16	74	--	--	[On]	[On]	16	1111111111111111
580	Santur Enigma 1	CL1 - Comp/Lead 1	Generated-Riff	[Scalic2]	10	--	17	--	--	[On]	[On]	[8]	111111112
581	Santur Enigma 2	CL1 - Comp/Lead 1	Generated-Riff	[Scalic2]	10	--	17	--	--	[On]	[On]	[4]	1112
582	Sax Ensemble Riff	CL1 - Comp/Lead 1	Generated-Riff	[WholeTone]	11	--	79	1	--	[On]	[On]	4	[2][2][2][2]
583	Scoring	CL1 - Comp/Lead 1	Generated-Riff	[Chromatic]	72	16	74	--	--	[On]	[On]	[8]	11121212
584	Sharp n'Bendy	CL1 - Comp/Lead 1	Generated-Riff	[Scalic]	11	16	--	--	--	[On]	[On]	8	12121212
585	Shepard Tone	CL1 - Comp/Lead 1	Generated-Riff	[Chromatic]	10	16	74	--	11	[On]	[On]	8	11111111
586	Shortwave	GV1 - Gated Vel/Pat 1	Generated-Gated	[Regular]	10	--	19	74	--	[On]	[On]	[1]	1
587	SimpleSinePad 2	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	16	--	79	20	--	[On]	[On]	4	1112
588	SitarSitar 3	CL1 - Comp/Lead 1	Generated-Riff	[Chromatic]	--	--	--	--	--	[On]	[On]	8	11111111
589	SitarSitar 4	CL1 - Comp/Lead 1	Generated-Riff	[Chromatic]	10	--	--	--	--	[On]	[On]	4	[2][2][2][2]
590	Slow Choir	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	18	--	79	21	--	[On]	[On]	4	1112
591	Smoothie Pad	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	72	73	74	79	--	[On]	[On]	8	12121212
592	Soft Shuffle	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	10	--	--	PB	--	[On]	[On]	8	11111111
593	Soft Walk	CL1 - Comp/Lead 1	Generated-Riff	[Scalic2]	74	16	--	--	--	[On]	[On]	8	11121112
594	Somb-semble	DM1 - Drum Melodic 1	Generated-Drum	WholeTone	80	16	--	--	--	[On]	[On]	16	1111111111111111
595	Spectrum Alloy	DM1 - Drum Melodic 1	Generated-Drum	WholeTone	10	21	79	16	71	[On]	[On]	16	1111111111111112
596	Square Snaps	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	10	--	VE	--	--	[On]	[On]	2	11
597	Staccato Tech	GV1 - Gated Vel/Pat 1	Generated-Gated	[Regular]	[010]	--	--	--	--	[On]	[On]	[4]	1111
598	Stradivarius Sync	GV1 - Gated Vel/Pat 1	Generated-Gated	[Regular]	10	2	74	--	--	[On]	[On]	4	1212
599	StrapStrings DT	CL1 - Comp/Lead 1	Generated-Riff	[Scalic2]	72	--	--	--	--	[On]	[On]	8	12121212
600	StringsRit 2	GV1 - Gated Vel/Pat 1	Generated-Gated	[Regular]	[010]	--	--	--	--	[On]	[On]	[4]	1111
601	StringsRit 3	GV1 - Gated Vel/Pat 1	Generated-Gated	[Regular]	[010]	--	--	--	--	[On]	[On]	[4]	1111
602	StringsTremolo	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	10	16	VE	--	--	[On]	[On]	8	11111111
603	Swarming	CL1 - Comp/Lead 1	Generated-Riff	[Chromatic]	10	74	VE	74	--	[On]	[On]	2	11
604	Synpiano 3	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	10	16	11	--	--	[On]	[On]	8	11111111
605	Synpiano 4	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	10	16	71	16	11	[On]	[On]	1	1
606	Synpiano 5	CL1 - Comp/Lead 1	Generated-Riff	[Scalic2]	10	16	11	--	--	[On]	[On]	8	11111111
607	Synth Brass 1	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	10	16	71	79	--	[On]	[On]	1	[1]
608	Synth Brass 2	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	10	--	--	--	11	[On]	[On]	8	11111111
609	Techno Stat	GV1 - Gated Vel/Pat 1	Generated-Gated	[Regular]	74	72	71	--	--	[On]	[On]	8	11111111
610	TekBass	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	74	--	--	74	10	[On]	[On]	4	1111
611	The New Kashmir	CL1 - Comp/Lead 1	Generated-Riff	[Scalic2]	10	--	11	--	--	[On]	[On]	[16]	1111222211112222
612	Timpanic Bass	GV1 - Gated Vel/Pat 1	Generated-Gated	[Regular]	71	--	--	17	2	[On]	[On]	8	12121212
613	Trance Arp	GV1 - Gated Vel/Pat 1	Generated-Gated	[Regular]	[010]	--	--	--	--	[On]	[On]	8	12121212
614	Trance Riff 5	GV1 - Gated Vel/Pat 1	Generated-Gated	[Regular]	[010]	--	--	--	--	[On]	[On]	[4]	1111
615	Trance Riff 6	GV1 - Gated Vel/Pat 1	Generated-Gated	[Regular]	[072]	--	--	--	--	[On]	[On]	[4]	1111
616	TranceComp 1	GV1 - Gated Vel/Pat 1	Generated-Gated	[Regular]	[010]	--	--	--	--	[On]	[On]	[4]	1111
617	Tremolo Tension Chromatic	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	79	16	79	17	11	[On]	[On]	8	12121212
618	TripL.Balzando	CL1 - Comp/Lead 1	Generated-Riff	[Scalic2]	--	--	--	--	--	[On]	[On]	8	[1][2][1][2][1][2][1][2]
619	Triplets'n 8th	CL1 - Comp/Lead 1	Generated-Riff	[Scalic]	10	8	74	79	PB	[On]	[On]	8	[1][1][1][2][1][1][1][2]
620	Trombone	CL1 - Comp/Lead 1	Generated-Riff	[Scalic]	1	--	11	--	--	[On]	[On]	4	1212
621	Twisted Filtration	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	80	--	--	--	--	[On]	[On]	4	1112
622	UhAh ChoirRiff 6	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	17	10	--	--	--	[On]	[On]	[2]	12
623	Upbeat Bass Morph	GV1 - Gated Vel/Pat 1	Generated-Gated	[Regular]	74	--	71	75	--	[On]	[On]	4	1111
624	Venusian	DPI - Drum/Perc 1	Generated-Drum	WholeTone	10	79	16	18	71	[On]	[On]	16	1111111111111112
625	Violin Riff 2	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	1	2	--	--	--	[On]	[On]	8	11111111
626	Violin or Wind Virtuoso	CL1 - Comp/Lead 1	Generated-Riff	[Chromatic]	80	--	--	--	--	[On]	[On]	8	11111111
627	W.windNewDance	CL1 - Comp/Lead 1	Generated-Riff	[Diminished]	1	--	--	--	--	[On]	[On]	5	11112
628	White Noise Rhythm	DM1 - Drum Melodic 1	Generated-Drum	WholeTone	10	16	--	--	--	[On]	[On]	16	1111111111111112
629	Will To Strav.	CL1 - Comp/Lead 1	Generated-Riff	[Fourths]	10	--	--	--	--	[On]	[On]	[4]	1112
630	Will You Dance With Me?	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	10	16	--	11	2	[On]	[On]	[8]	12121212
631	X-Mod Raver	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	8	20	16	71	79	[On]	[On]	8	12121212
632	closemovingharmony	CL1 - Comp/Lead 1	Generated-Riff	[Scalic2]	1	16	11	--	--	[On]	[On]	[4]	1122

Category: Chord Rhythmic

#	GE Name	RTC Model	GE Type	Note Type	CC-A	CC-B	Env 1	Env 2	Env 3	Bend	Rpt	Items	Phase Pattern
633	16 Chord Beat 1	GV1 - Gated Vel/Pat 1	Generated-Gated	[Regular]	[010]	--	--	--	--	[On]	[On]	[4]	1111
634	16 Chord Beat 2	GV1 - Gated Vel/Pat 1	Generated-Gated	[Regular]	10	11	VE	74	71	[On]	[On]	[4]	1111
635	16th's On 2&4	GV1 - Gated Vel/Pat 1	Generated-Gated	[Regular]	[010]	--	--	--	--	[On]	[On]	[4]	1111
636	2tone Vel Trip 1	GV1 - Gated Vel/Pat 1	Generated-Gated	[Regular]	[010]	--	--	--	--	[On]	[On]	[4]	1111
637	2tone Vel Trip2	GV1 - Gated Vel/Pat 1	Generated-Gated	[Regular]	[010]	--	--	--	--	[On]	[On]	[4]	1111
638	4tone Vel Trip	GV1 - Gated Vel/Pat 1	Generated-Gated	[Regular]	[010]	--	--	--	--	[On]	[On]	[4]	1111
639	5tone Trance 1	GV1 - Gated Vel/Pat 1	Generated-Gated	[Regular]	[010]	--	--	--	--	[On]	[On]	[4]	1111
640	5tone Trance 2	GV1 - Gated Vel/Pat 1	Generated-Gated	[Regular]	[010]	--	--	--	--	[On]	[On]	[4]	1111
641	5tone Trance 3	GV1 - Gated Vel/Pat 1	Generated-Gated	[Regular]	[010]	--	--	--	--	[On]	[On]	[4]	1111
642	5tone Vel Trip 2	GV1 - Gated Vel/Pat 1	Generated-Gated	[Regular]	[010]	--	--	--	--	[On]	[On]	[4]	1111
643	6tone Ostinat	GV1 - Gated Vel/Pat 1	Generated-Gated	[Regular]	[010]	--	--	--	--	[On]	[On]	[4]	1111
644	8th Chunk	GV1 - Gated Vel/Pat 1	Generated-Gated	[Regular]	[010]	--	--	--	--	[On]	[On]	[4]	1111
645	90's House	GV1 - Gated Vel/Pat 1	Generated-Gated	[Regular]	[010]	--	--	--	--	[On]	[On]	[4]	1111
646	90's Piano	GV1 - Gated Vel/Pat 1	Generated-Gated	[Regular]	16	--	8	18	79	[On]	[On]	8	12121212
647	A.Piano Calm Arp	CL1 - Comp/Lead 1	Generated-Riff	[Scalic2]	10	--	--	--	--	[On]	[On]	8	[1][1][1][1][1][1][1][1]
648	Accent Bass Riff	GV1 - Gated Vel/Pat 1	Generated-Gated	[Regular]	16	--	8	18	79	[On]	[On]	8	11111111

[] = can be controlled or changed by GE Parameters.

#	GE Name	RTC Model	GE Type	Note Type	CC-A	CC-B	Env 1	Env 2	Env 3	Bend	Rpt	Items	Phase Pattern
649	Accent Chords	GV1 - Gated Vel/Pat 1	Generated-Gated	[Regular]	16	--	8	18	79	[On]	[On]	8	1 1 1 1 1 1 1 1
650	Acro Riff	GV1 - Gated Vel/Pat 1	Generated-Gated	[Regular]	[010]	--	--	--	--	[On]	[On]	[4]	1 1 1 1
651	Analog Velvet 1	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	10	74	2	71	16	[On]	[On]	4	[2][2][1][2]
652	Analog Velvet 2	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	10	74	2	71	16	[On]	[On]	4	[1][1][1][1]
653	Analog Velvet 3	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	16	73	20	10	--	[On]	[On]	4	1 1 1 2
654	Anna Clavichordia	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	10	--	--	--	--	[On]	[On]	8	2 1 2 1 2 1 2 1
655	Arctic Voices 2	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	--	--	16	1	2	[On]	[On]	4	1 2 1 2
656	Arp Angels	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	10	20	21	16	71	[On]	[On]	4	[1][2][1][2]
657	Arp-o Strings	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	--	--	--	--	--	[On]	[On]	8	1 1 1 1 1 1 1 1
658	Attack Piano	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	10	16	2	71	79	[On]	[On]	8	1 2 1 2 1 2 1 2
659	Auto Pilot mod	GV1 - Gated Vel/Pat 1	Generated-Gated	[Regular]	16	2	20	21	79	[On]	[On]	4	1 1 1 2
660	Blues Arco 8ths	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	73	16	--	--	--	[On]	[On]	8	1 1 1 1 1 1 1 1
661	Brass Ens 1	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	10	--	--	--	--	[On]	[On]	4	[1][1][1][2]
662	Brass Riff 07	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	10	16	--	--	--	[On]	[On]	8	1 1 1 1 1 1 1 1
663	Brass Riff 08	GV1 - Gated Vel/Pat 1	Generated-Gated	[Regular]	10	16	16	--	--	[On]	[On]	8	1 1 1 1 1 1 1 1
664	Brass Riff 09	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	10	16	16	--	--	[On]	[On]	8	1 1 1 1 1 1 1 1
665	Brass Riff 10	CL1 - Comp/Lead 1	Generated-Riff	[Scalic2]	10	16	16	74	--	[On]	[On]	8	1 1 1 1 1 1 1 1
666	BrassRit 1	GV1 - Gated Vel/Pat 1	Generated-Gated	[Regular]	[010]	--	--	--	--	[On]	[On]	[4]	1 1 1 1
667	BrassRit 2	GV1 - Gated Vel/Pat 1	Generated-Gated	[Regular]	[010]	--	--	--	--	[On]	[On]	[4]	1 1 1 1
668	BrassRit 3	GV1 - Gated Vel/Pat 1	Generated-Gated	[Regular]	[010]	--	--	--	--	[On]	[On]	[4]	1 1 1 1
669	BrassRit 4	GV1 - Gated Vel/Pat 1	Generated-Gated	[Regular]	[010]	--	--	--	--	[On]	[On]	[4]	1 1 1 1
670	Brok'n Chords	GV1 - Gated Vel/Pat 1	Generated-Gated	[Regular]	[010]	--	--	--	--	[On]	[On]	[4]	1 1 1 1
671	Camera Strings 1	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	10	16	VE	--	--	[On]	[On]	4	[1][1][1][1]
672	Camera Strings 2	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	10	16	VE	--	--	[On]	[On]	4	[1][1][1][2]
673	Chord Rhythm 2	GV1 - Gated Vel/Pat 1	Generated-Gated	[Regular]	8	--	--	16	--	[On]	[On]	8	1 2 1 2 1 2 1 2
674	Cinematic 6/8	GV1 - Gated Vel/Pat 1	Generated-Gated	[Regular]	73	16	--	--	--	[On]	[On]	8	1 1 1 1 1 1 1 1
675	Composonic	GV1 - Gated Vel/Pat 1	Generated-Gated	[Regular]	[016]	--	--	--	--	[On]	[On]	[2]	1 1
676	Cumulus Gate (reverb)	GV1 - Gated Vel/Pat 1	Generated-Gated	[Regular]	10	21	21	--	--	[On]	[On]	8	1 1 1 1 1 1 1 1
677	Cyber Choir 2	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	2	--	19	74	--	[On]	[On]	4	1 1 1 1
678	Dance Organ	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	10	--	--	--	--	[On]	[On]	8	[2][2][2][2][2][2][2][2]
679	Dark and Warm	GV1 - Gated Vel/Pat 1	Generated-Gated	[Regular]	10	16	79	21	71	[On]	[On]	8	1 2 1 2 1 2 1 2
680	Dirty B 2	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	--	--	11	--	--	[On]	[On]	8	2 1 2 1 2 1 2 1
681	DreamTrans	GV1 - Gated Vel/Pat 1	Generated-Gated	[Regular]	[010]	--	--	--	--	[On]	[On]	[4]	1 1 1 1
682	Dynamic Orch.	GV1 - Gated Vel/Pat 1	Generated-Gated	[Regular]	[010]	--	--	--	--	[On]	[On]	[4]	1 1 1 1
683	Dynamics	GV1 - Gated Vel/Pat 1	Generated-Gated	[Regular]	[010]	--	--	--	--	[On]	[On]	[4]	1 1 1 1
684	E.Piano 11	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	10	16	11	--	--	[On]	[On]	8	1 1 1 1 1 1 1 1
685	E.Piano 12	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	10	16	VE	--	--	[On]	[On]	1	1
686	Echo Chords 1	GV1 - Gated Vel/Pat 1	Generated-Gated	[Regular]	[010]	--	--	--	--	[On]	[On]	[4]	1 1 1 1
687	Echo Chords 2	GV1 - Gated Vel/Pat 1	Generated-Gated	[Regular]	[010]	--	--	--	--	[On]	[On]	[4]	1 1 1 1
688	Echo Chords 3	GV1 - Gated Vel/Pat 1	Generated-Gated	[Regular]	[010]	--	--	--	--	[On]	[On]	[4]	1 1 1 1
689	Echo Chords 4	GV1 - Gated Vel/Pat 1	Generated-Gated	[Regular]	[010]	--	--	--	--	[On]	[On]	[4]	1 1 1 1
690	Epic Trance Riff	GV1 - Gated Vel/Pat 1	Generated-Gated	[Regular]	[008]	--	--	--	--	[On]	[On]	[2]	1 1
691	EpicTrance	GV1 - Gated Vel/Pat 1	Generated-Gated	[Regular]	[010]	--	--	--	--	[On]	[On]	[4]	1 1 1 1
692	F.Horn Riff 2	GV1 - Gated Vel/Pat 1	Generated-Gated	[Regular]	16	--	16	--	--	[On]	[On]	4	1 2 1 2
693	F.Horn Riff 3	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	10	16	VE	--	--	[On]	[On]	4	1 1 1 1
694	F.Horn Riff 4	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	10	16	VE	16	11	[On]	[On]	1	1
695	Full & Accented 1	GV1 - Gated Vel/Pat 1	Generated-Gated	[Regular]	[010]	--	--	--	--	[On]	[On]	[4]	1 1 1 1
696	Full & Accented 2	GV1 - Gated Vel/Pat 1	Generated-Gated	[Regular]	16	--	--	--	--	[On]	[On]	[4]	1 1 1 1
697	Full Drawbars	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	--	--	11	--	--	[On]	[On]	8	1 2 1 2 1 2 1 2
698	Full On	GV1 - Gated Vel/Pat 1	Generated-Gated	[Regular]	[010]	--	--	--	--	[On]	[On]	[16]	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
699	Geisellich	DM1 - Drum Melodic 1	Generated-Drum	WholeTone	11	10	--	--	--	[On]	[On]	16	1 1 1 1 1 1 1 1 1 1 1 1 1 1 2
700	Giant Pad w/Pulse	GV1 - Gated Vel/Pat 1	Generated-Gated	[Regular]	10	16	--	--	--	[On]	[On]	8	1 1 1 1 1 1 1 1
701	Groove Globe	GV1 - Gated Vel/Pat 1	Generated-Gated	[Regular]	[008]	--	--	--	--	[On]	[On]	[2]	1 1
702	Groove Trance	GV1 - Gated Vel/Pat 1	Generated-Gated	[Regular]	[008]	--	--	--	--	[On]	[On]	[2]	1 1
703	Groove Venus	GV1 - Gated Vel/Pat 1	Generated-Gated	[Regular]	[008]	--	--	--	--	[On]	[On]	[2]	1 1
704	Groove Zoo	GV1 - Gated Vel/Pat 1	Generated-Gated	[Regular]	[008]	--	--	--	--	[On]	[On]	[2]	1 1
705	HipHop Piano 1	DM1 - Drum Melodic 1	Generated-Drum	WholeTone	10	16	--	--	--	[On]	[On]	16	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
706	House Organ	GV1 - Gated Vel/Pat 1	Generated-Gated	[Regular]	[010]	--	--	--	--	[On]	[On]	[4]	1 1 1 1
707	House Piano	GV1 - Gated Vel/Pat 1	Generated-Gated	[Regular]	[010]	--	--	--	--	[On]	[On]	[4]	1 1 1 1
708	Hybrid Strg Cho 1	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	--	--	--	--	--	[On]	[On]	4	1 2 1 2
709	Hybrid Strg Cho 2	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	--	--	--	--	--	[On]	[On]	4	1 2 1 2
710	Jazz Organ 1	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	1	--	--	--	--	[On]	[On]	8	1 1 1 1 1 1 1 1
711	Jazz Organ 2	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	--	--	11	--	--	[On]	[On]	8	1 2 1 2 1 2 1 2
712	Keio Elec Lab.	GV1 - Gated Vel/Pat 1	Generated-Gated	[Regular]	[074]	--	--	--	--	[On]	[On]	[2]	1 1
713	Killer	GV1 - Gated Vel/Pat 1	Generated-Gated	[Regular]	[010]	--	--	--	--	[On]	[On]	[4]	1 1 1 1
714	Log Drum & Bells	GV1 - Gated Vel/Pat 1	Generated-Gated	[Regular]	10	20	21	16	71	[On]	[On]	3	1 2 1
715	Long Comp	GV1 - Gated Vel/Pat 1	Generated-Gated	[Regular]	[010]	--	--	--	--	[On]	[On]	[2]	1 1
716	M1 Organ	GV1 - Gated Vel/Pat 1	Generated-Gated	[Regular]	74	79	21	--	--	[On]	[On]	8	1 2 1 2 1 2 1 2
717	MalletGame 09	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	10	16	VE	--	--	[On]	[On]	4	[1][1][1][2]
718	Not A Care in the World	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	10	--	74	--	--	[On]	[On]	8	1 1 1 1 1 1 1 1
719	NuHopChrd	GV1 - Gated Vel/Pat 1	Generated-Gated	[Regular]	[010]	--	--	--	--	[On]	[On]	[4]	1 2 1 2
720	NuTrance	GV1 - Gated Vel/Pat 1	Generated-Gated	[Regular]	[010]	--	--	--	--	[On]	[On]	[4]	1 1 1 1
721	Oo wop	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	10	16	--	--	--	[On]	[On]	8	1 1 1 1 1 1 1 1
722	OohAah Staggered	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	10	10	72	73	72	[On]	[On]	8	1 2 1 2 1 2 1 2

Voice Name List

[] = can be controlled or changed by GE Parameters.

#	GE Name	RTC Model	GE Type	Note Type	CC-A	CC-B	Env 1	Env 2	Env 3	Bend	Rpt	Items	Phase Pattern
723	Organ 3	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	--	--	11	--	--	[On]	[On]	8	[1][1][1][1][1][1][1][1]
724	Organ Reggae	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	10	16	--	--	--	[On]	[On]	8	1 1 1 1 1 1 1 1
725	OrganRiff 2	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	10	16	11	--	--	[On]	[On]	8	[1][1][1][1][1][1][1][1]
726	Pad Helper 15	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	10	16	72	75	73	[On]	[On]	2	1 2
727	Pad Holder	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	10	--	--	--	--	[On]	[On]	8	1 1 1 1 1 1 1 1
728	Pad Mover 2	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	10	16	74	71	--	[On]	[On]	8	1 1 1 1 1 1 1 1
729	Pad Mover 3	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	10	16	--	--	--	[On]	[On]	8	1 1 1 1 1 1 1 1
730	Paloma Style	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	10	16	--	--	--	[On]	[On]	8	1 1 1 1 1 1 1 1
731	Periodic Chords	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	--	--	71	74	79	[On]	[On]	8	[1][2][1][2][1][2][1][2]
732	Pest	GV1 - Gated Vel/Pat 1	Generated-Gated	[Regular]	[010]	--	--	--	--	[On]	[On]	[4]	1 1 1 1
733	Piano Arp 2	GV1 - Gated Vel/Pat 1	Generated-Gated	[Regular]	[010]	--	--	--	--	[On]	[On]	[4]	1 1 1 1
734	Piano Comp 1	GV1 - Gated Vel/Pat 1	Generated-Gated	[Regular]	[010]	--	--	--	--	[On]	[On]	[4]	1 1 1 1
735	Piano Comp 2	GV1 - Gated Vel/Pat 1	Generated-Gated	[Regular]	[010]	--	--	--	--	[On]	[On]	[4]	1 1 1 1
736	Piano Pad 1	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	74	--	--	--	--	[On]	[On]	8	1 2 1 2 1 2 1 2
737	Polka	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	--	--	--	--	--	[On]	[On]	4	[1][1][1][2]
738	Poly arp 1	GV1 - Gated Vel/Pat 1	Generated-Gated	[Regular]	[010]	--	--	--	--	[On]	[On]	[4]	1 1 1 1
739	Poly arp 2	GV1 - Gated Vel/Pat 1	Generated-Gated	[Regular]	[010]	--	--	--	--	[On]	[On]	[4]	1 1 1 1
740	Poly arp 3	GV1 - Gated Vel/Pat 1	Generated-Gated	[Regular]	[010]	--	--	--	--	[On]	[On]	[4]	1 1 1 1
741	Poly arp 4	GV1 - Gated Vel/Pat 1	Generated-Gated	[Regular]	[010]	--	--	--	--	[On]	[On]	[4]	1 1 1 1
742	Poly arp 5	GV1 - Gated Vel/Pat 1	Generated-Gated	[Regular]	[010]	--	--	--	--	[On]	[On]	[16]	1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2
743	R&B E.Piano 1	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	80	--	--	--	--	[On]	[On]	8	1 2 1 2 1 2 1 2
744	Rand Piano Comp	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	10	--	--	--	--	[On]	[On]	4	[1][1][1][2]
745	Random Clusters	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	10	--	72	74	79	[On]	[On]	8	1 1 1 1 1 1 1 1
746	Rhythm Scanner	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	71	--	16	--	--	[On]	[On]	8	1 1 1 1 1 1 1 1
747	Robot Comp 2	GV1 - Gated Vel/Pat 1	Generated-Gated	[Regular]	[010]	--	--	--	--	[On]	[On]	[4]	1 1 1 1
748	Rumbo	GV1 - Gated Vel/Pat 1	Generated-Gated	[Regular]	[010]	--	--	--	--	[On]	[On]	[4]	1 2 1 2
749	SFZ Brass 2	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	10	16	VE	--	--	[On]	[On]	8	1 1 1 1 1 1 1 1
750	SFZ Brass 3	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	10	16	11	--	--	[On]	[On]	8	[1][1][1][1][1][1][1][1]
751	Simple Comp 2	GV1 - Gated Vel/Pat 1	Generated-Gated	[Regular]	[010]	--	--	--	--	[On]	[On]	[4]	1 1 1 1
752	Simple Gate	GV1 - Gated Vel/Pat 1	Generated-Gated	[Regular]	74	79	21	--	--	[On]	[On]	4	1 1 1 2
753	Simple Polka	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	--	--	--	--	--	[On]	[On]	4	[1][2][1][2]
754	Simple String	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	--	--	--	--	--	[On]	[On]	8	1 1 1 1 1 1 1 1
755	Soft Chords 1	GV1 - Gated Vel/Pat 1	Generated-Gated	[Regular]	16	--	8	18	79	[On]	[On]	8	1 1 1 1 1 1 1 1
756	Soft Chords 2	GV1 - Gated Vel/Pat 1	Generated-Gated	[Regular]	16	--	8	18	79	[On]	[On]	8	1 1 1 1 1 1 1 1
757	Steady!	GV1 - Gated Vel/Pat 1	Generated-Gated	[Regular]	[010]	--	--	--	--	[On]	[On]	[4]	1 1 1 1
758	Stride Piano LH	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	--	--	--	--	--	[On]	[On]	8	1 1 1 1 1 1 1 1
759	String Offbeat	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	--	--	--	--	--	[On]	[On]	8	1 1 1 1 1 1 1 1
760	StringsRit 4	GV1 - Gated Vel/Pat 1	Generated-Gated	[Regular]	[010]	--	--	--	--	[On]	[On]	[4]	1 1 1 1
761	StringsRit 5	GV1 - Gated Vel/Pat 1	Generated-Gated	[Regular]	[010]	--	--	--	--	[On]	[On]	[4]	1 1 1 1
762	Super Sweeper 2	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	10	16	21	70	2	[On]	[On]	8	1 2 1 2 1 2 1 2
763	Suspended Riff	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	10	16	--	--	--	[On]	[On]	8	1 1 1 1 1 1 1 1
764	Synpiano 6	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	10	16	--	--	--	[On]	[On]	[4]	1 1 1 1
765	Synth Pianoid	GV1 - Gated Vel/Pat 1	Generated-Gated	[Regular]	10	--	VE	16	71	[On]	[On]	4	1 1 1 1
766	Tagadah 1	GV1 - Gated Vel/Pat 1	Generated-Gated	[Regular]	[010]	--	--	--	--	[On]	[On]	[4]	1 1 1 1
767	Tagadah 2	GV1 - Gated Vel/Pat 1	Generated-Gated	[Regular]	[010]	--	--	--	--	[On]	[On]	[4]	1 1 1 1
768	Tango 1	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	--	--	--	--	--	[On]	[On]	4	[1][1][1][2]
769	Tango 2	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	10	--	--	--	--	[On]	[On]	4	[1][1][1][2]
770	TangoChords 2	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	10	--	--	--	--	[On]	[On]	4	[1][1][1][1]
771	TangoChords 3	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	--	--	--	--	--	[On]	[On]	4	[1][1][1][1]
772	TangoChords 4	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	--	--	--	--	--	[On]	[On]	4	[1][1][1][1]
773	TangoChords 5	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	10	16	--	--	--	[On]	[On]	4	[1][1][1][2]
774	TangoChords 6	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	--	16	16	--	--	[On]	[On]	4	[1][1][1][1]
775	Tek Chords	GV1 - Gated Vel/Pat 1	Generated-Gated	[Regular]	[010]	--	--	--	--	[On]	[On]	[4]	1 1 1 1
776	Tekkno	GV1 - Gated Vel/Pat 1	Generated-Gated	[Regular]	[010]	--	--	--	--	[On]	[On]	[4]	1 1 1 1
777	Tramp Comper	DM1 - Drum Melodic 1	Generated-Drum	WholeTone	--	--	71	79	--	[On]	[On]	16	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 2
778	Trance Chord	GV1 - Gated Vel/Pat 1	Generated-Gated	[Regular]	[010]	--	--	--	--	[On]	[On]	[4]	1 1 1 1
779	Trance Comp	GV1 - Gated Vel/Pat 1	Generated-Gated	[Regular]	[010]	--	--	--	--	[On]	[On]	[4]	1 1 1 1
780	Trance Riff 7	GV1 - Gated Vel/Pat 1	Generated-Gated	[Regular]	[010]	--	--	--	--	[On]	[On]	[4]	1 1 1 1
781	Trance Riff 8	GV1 - Gated Vel/Pat 1	Generated-Gated	[Regular]	[010]	--	--	--	--	[On]	[On]	[4]	1 1 1 1
782	Uplifting	GV1 - Gated Vel/Pat 1	Generated-Gated	[Regular]	[010]	--	--	--	--	[On]	[On]	[4]	1 1 1 1
783	Violin Riff 3	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	1	--	--	--	--	[On]	[On]	8	1 1 1 1 1 1 1 1
784	Violin Riff 4	CL1 - Comp/Lead 1	Generated-Riff	[Scalic2]	1	--	--	--	--	[On]	[On]	8	1 1 1 1 1 1 1 1
785	Violin Riff 5	CL1 - Comp/Lead 1	Generated-Riff	[Augmented]	--	--	--	--	--	[On]	[On]	8	1 1 1 1 1 1 1 1
786	Vocalse	GV1 - Gated Vel/Pat 1	Generated-Gated	[Regular]	10	--	--	--	--	[On]	[On]	4	1 1 1 2
787	Waltzer	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	--	--	--	--	--	[On]	[On]	4	[1][1][1][2]
788	Waltzes	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	74	--	74	--	--	[On]	[On]	8	1 1 1 1 1 1 1 1
789	Wurl/Organ Funk	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	10	16	--	--	--	[On]	[On]	4	1 1 1 2
790	16th StraightComp	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	--	--	--	--	--	[On]	[On]	8	[2][2][2][2][2][2][2][2]
791	3/4 String Adventure	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	1	16	--	--	--	[On]	[On]	8	1 2 1 2 1 2 1 2
792	6/4 Ballade Thing	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	10	--	VE	16	--	[On]	[On]	8	1 1 1 1 1 1 1 1
793	Accordion Acmp	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	16	10	--	--	--	[On]	[On]	8	1 1 1 2 1 1 1 2
794	Accordion Line	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	--	--	--	--	--	[On]	[On]	8	[2][2][2][2][2][2][2][2]
795	Aero Gate Simulation	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	2	21	74	--	11	[On]	[On]	4	1 1 1 1
796	Air Drops/Air Pad	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	73	16	--	--	--	[On]	[On]	8	1 1 1 1 1 1 1 1

[] = can be controlled or changed by GE Parameters.

#	GE Name	RTC Model	GE Type	Note Type	CC-A	CC-B	Env 1	Env 2	Env 3	Bend	Rpt	Items	Phase Pattern
797	Analog Velvet 4	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	16	73	20	10	--	[On]	[On]	4	1 1 1 2
798	Auto Pilot	GV1 - Gated Vel/Pat 1	Generated-Gated	[Regular]	16	2	20	21	79	[On]	[On]	4	1 1 1 2
799	Big Fat Riffer 1	GV1 - Gated Vel/Pat 1	Generated-Gated	[Regular]	[010]	--	--	--	--	[On]	[On]	[4]	1 1 1 1
800	Big Fat Riffer 2	GV1 - Gated Vel/Pat 1	Generated-Gated	[Regular]	[010]	--	--	--	--	[On]	[On]	[4]	1 1 1 1
801	BottleBlow	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	16	21	20	10	79	[On]	[On]	4	1 1 1 2
802	Bows Shimmer 2	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	10	--	VE	16	--	[On]	[On]	4	1 1 1 2
803	Brass Ens 2	CL1 - Comp/Lead 1	Generated-Riff	[Fourths]	10	--	--	--	PB	[On]	[On]	1	1
804	Brass Riff 11	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	10	16	16	74	--	[On]	[On]	8	[2][2][2][2][2][2][2]
805	Brass Riff 12	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	10	16	11	--	--	[On]	[On]	8	1 1 1 1 1 1 1 1
806	Brass Riff 13	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	--	16	16	74	--	[On]	[On]	8	[1][1][1][1][1][1][1][1]
807	BrassRit 5	GV1 - Gated Vel/Pat 1	Generated-Gated	[Regular]	[010]	--	--	--	--	[On]	[On]	[4]	1 1 1 1
808	BrassRit 6	GV1 - Gated Vel/Pat 1	Generated-Gated	[Regular]	[010]	--	--	--	--	[On]	[On]	[4]	1 1 1 1
809	BrassRit 7	GV1 - Gated Vel/Pat 1	Generated-Gated	[Regular]	[010]	--	--	--	--	[On]	[On]	[4]	1 1 1 1
810	Burnin' Brass	GV1 - Gated Vel/Pat 1	Generated-Gated	[Regular]	10	21	16	71	79	[On]	[On]	8	1 2 1 2 1 2 1 2
811	Camera Strings 3	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	10	16	--	--	--	[On]	[On]	8	1 1 1 1 1 1 1 1
812	Camera Strings 4	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	10	16	--	--	--	[On]	[On]	8	1 1 1 1 1 1 1 1
813	Camera Strings 5	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	10	16	--	--	--	[On]	[On]	8	1 1 1 1 1 1 1 1
814	Classical 6	GV1 - Gated Vel/Pat 1	Generated-Gated	[Regular]	[010]	--	--	--	--	[On]	[On]	[4]	1 1 1 1
815	Clav	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	10	--	--	--	--	[On]	[On]	[4]	1 1 1 2
816	Destructo	GV1 - Gated Vel/Pat 1	Generated-Gated	[Regular]	10	2	11	--	--	[On]	[On]	8	1 1 1 1 1 1 1 1
817	Digi Ice Pad	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	71	73	74	10	72	[On]	[On]	4	1 1 1 2
818	DigiLayer Keys	GV1 - Gated Vel/Pat 1	Generated-Gated	[Regular]	10	--	VE	20	18	[On]	[On]	8	1 1 1 1 1 1 1 1
819	Dolphin Ride	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	20	73	74	10	72	[On]	[On]	4	1 1 1 2
820	Dream Voices	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	72	73	74	10	--	[On]	[On]	2	1 2
821	Epic	GV1 - Gated Vel/Pat 1	Generated-Gated	[Regular]	[010]	--	--	--	--	[On]	[On]	[16]	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
822	F.Horn Riff 5	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	10	16	--	--	--	[On]	[On]	8	1 1 1 1 1 1 1 1
823	Fast Bowing 7	GV1 - Gated Vel/Pat 1	Generated-Gated	[Regular]	[010]	--	--	--	--	[On]	[On]	[4]	1 1 1 1
824	Film Brass	GV1 - Gated Vel/Pat 1	Generated-Gated	[Regular]	10	--	16	--	--	[On]	[On]	4	1 1 1 2
825	Fire Wave	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	10	21	VE	16	72	[On]	[On]	4	1 2 1 2
826	Gospel PercOrg	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	1	--	VE	--	--	[On]	[On]	4	1 1 1 2
827	Happy Dog	GV1 - Gated Vel/Pat 1	Generated-Gated	[Regular]	[010]	--	--	--	--	[On]	[On]	[4]	1 1 1 1
828	Harpsy Style	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	--	16	--	--	--	[On]	[On]	8	[1][1][1][1][1][1][1][1]
829	Holy Pipes 1	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	--	--	--	--	--	[On]	[On]	8	1 1 1 1 1 1 1 1
830	Holy Pipes 2	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	--	--	--	--	--	[On]	[On]	8	1 1 1 1 1 1 1 1
831	Horns & Ens	GV1 - Gated Vel/Pat 1	Generated-Gated	[Regular]	10	74	16	79	21	[On]	[On]	2	1 2
832	Hybrid Bell	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	72	73	74	10	--	[On]	[On]	4	1 1 1 2
833	Karma Sutra	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	8	--	21	74	--	[On]	[On]	4	1 1 1 2
834	Key Comp	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	10	64	73	72	--	[On]	[On]	8	1 2 1 2 1 2 1 2
835	LA EP2	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	72	16	72	--	--	[On]	[On]	[8]	1 2 1 2 1 2 1 2
836	MalletGame 10	CL1 - Comp/Lead 1	Generated-Riff	[Scalic2]	10	16	72	--	--	[On]	[On]	2	1 2
837	Military Rhythm	GV1 - Gated Vel/Pat 1	Generated-Gated	[Regular]	10	--	--	--	--	[On]	[On]	8	1 1 1 1 1 1 1 1
838	Moving Bellz	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	72	73	74	79	PB	[On]	[On]	8	1 2 1 2 1 2 1 2
839	Octave Strings 2	DM1 - Drum Melodic 1	Generated-Drum	WholeTone	10	74	16	71	18	[On]	[On]	16	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 2
840	Offbeat E.Piano	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	10	16	--	--	--	[On]	[On]	4	1 1 2 2
841	OldToneWheel 1	DM1 - Drum Melodic 1	Generated-Drum	WholeTone	8	79	--	16	--	[On]	[On]	16	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 2
842	OldToneWheel 2	DM1 - Drum Melodic 1	Generated-Drum	WholeTone	8	79	--	16	--	[On]	[On]	16	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 2
843	Orch (12/8) 2	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	72	16	21	--	--	[On]	[On]	8	[1][1][1][1][1][1][1][1]
844	Orch Backing	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	--	--	--	--	--	[On]	[On]	[4]	1 1 1 2
845	Pad Helper 16	CL1 - Comp/Lead 1	Generated-Riff	[Scalic]	10	16	--	--	--	[On]	[On]	8	[2][2][2][2][2][2][2][2]
846	Pad Helper 17	CL1 - Comp/Lead 1	Generated-Riff	[Scalic]	10	16	--	--	PB	[On]	[On]	8	1 1 1 1 1 1 1 1
847	Pizz Pluck	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	10	--	--	--	--	[On]	[On]	8	1 1 1 1 1 1 1 1
848	Plus Sub Kick Beat	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	10	17	74	83	11	[On]	[On]	8	1 2 1 2 1 2 1 2
849	R&B E.Piano 2	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	--	--	74	71	--	[On]	[On]	8	1 1 1 1 1 1 1 1
850	Rand Accomp.	CL1 - Comp/Lead 1	Generated-Riff	[Scalic]	17	--	--	--	--	[On]	[On]	6	1 2 1 2 2 1
851	Rave Stab	CL1 - Comp/Lead 1	Generated-Riff	[Scalic2]	10	--	71	74	79	[On]	[On]	8	[2][1][2][1][2][1][2][1]
852	Remix Organ	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	2	16	--	--	--	[On]	[On]	[8]	1 1 1 1 1 1 1 1
853	Rockin' Organ	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	10	--	--	--	--	[On]	[On]	8	1 2 1 2 1 2 1 2
854	SFZ Brass 1	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	10	16	--	--	--	[On]	[On]	8	1 1 1 1 1 1 1 1
855	Simple Brass	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	1	--	--	--	--	[On]	[On]	8	1 1 1 1 1 1 1 1
856	SitarSitar 5	CL1 - Comp/Lead 1	Generated-Riff	[Chromatic]	10	16	--	--	--	[On]	[On]	[8]	1 2 1 2 1 2 1 2
857	SitarSitar 6	CL1 - Comp/Lead 1	Generated-Riff	[Chromatic]	--	16	--	--	PB	[On]	[On]	1	1
858	Soundscapes	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	10	71	[002]	[001]	16	[On]	[On]	8	1 2 1 2 1 2 1 2
859	SplatsLap Pad	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	16	21	20	10	79	[On]	[On]	4	1 1 1 2
860	Station Of Waves	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	2	16	74	72	73	[On]	[On]	8	1 2 1 2 1 2 1 2
861	Sticky Rez Clav	DM1 - Drum Melodic 1	Generated-Drum	WholeTone	10	--	16	18	--	[On]	[On]	16	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 2
862	Stormtroopers!	CL1 - Comp/Lead 1	Generated-Riff	[Augmented]	10	--	--	--	--	[On]	[On]	[3]	1 2 2
863	Stravy Attack	GV1 - Gated Vel/Pat 1	Generated-Gated	[Regular]	[010]	--	--	--	--	[On]	[On]	[4]	1 1 1 1
864	Strings Qrnt.1	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	--	--	--	--	--	[On]	[On]	8	1 1 1 1 1 1 1 1
865	Strings Qrnt.2	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	10	--	--	--	--	[On]	[On]	8	1 1 1 1 1 1 1 1
866	Strings Riff	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	10	--	--	--	--	[On]	[On]	8	1 1 1 1 1 1 1 1
867	StringsRit 6	GV1 - Gated Vel/Pat 1	Generated-Gated	[Regular]	[010]	--	--	--	--	[On]	[On]	[4]	1 1 1 1
868	Swirling Dreams	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	10	--	74	--	--	[On]	[On]	4	1 1 1 2
869	Symphonic Bows 1	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	10	--	--	--	--	[On]	[On]	8	1 2 1 2 1 2 1 2
870	Symphonic Bows 2	GV1 - Gated Vel/Pat 1	Generated-Gated	[Regular]	10	--	--	--	--	[On]	[On]	8	1 2 1 2 1 2 1 2

Voice Name List

[] = can be controlled or changed by GE Parameters.

#	GE Name	RTC Model	GE Type	Note Type	CC-A	CC-B	Env 1	Env 2	Env 3	Bend	Rpt	Items	Phase Pattern
871	Symphonic Waves	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	16	--	74	72	73	[On]	[On]	8	1 2 1 2 1 2 1 2
872	Synth-Bass Thang	GV1 - Gated Vel/Pat 1	Generated-Gated	[Regular]	[011]	--	--	--	--	[On]	[On]	[4]	1 1 1 1
873	Tagadah Orch. 1	GV1 - Gated Vel/Pat 1	Generated-Gated	[Regular]	[010]	--	--	--	--	[On]	[On]	[4]	1 1 1 1
874	Tagadah Orch. 2	GV1 - Gated Vel/Pat 1	Generated-Gated	[Regular]	[010]	--	--	--	--	[On]	[On]	[4]	1 1 1 1
875	TangoChords 7	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	--	--	--	--	--	[On]	[On]	4	[1][1][1][1]
876	TechBossa	GV1 - Gated Vel/Pat 1	Generated-Gated	[Regular]	[010]	--	--	--	--	[On]	[On]	[4]	1 1 1 1
877	Thunderlog Loop	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	10	--	VE	16	21	[On]	[On]	4	1 1 1 2
878	TranceComp 2	GV1 - Gated Vel/Pat 1	Generated-Gated	[Regular]	74	74	72	--	--	[On]	[On]	[4]	1 2 1 2
879	TranceForm Organ Gate	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	10	19	74	--	--	[On]	[On]	4	1 1 1 1
880	Trombone Hard	GV1 - Gated Vel/Pat 1	Generated-Gated	[Regular]	10	21	16	79	20	[On]	[On]	2	1 2
881	Tropical Pizzicato	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	79	16	79	17	--	[On]	[On]	[8]	1 2 1 2 1 2 1 2
882	VS Bell Boy	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	18	16	--	--	--	[On]	[On]	8	1 2 1 2 1 2 1 2
883	VS Piano	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	10	17	VE	--	--	[On]	[On]	4	1 2 1 2
884	Velo Whirly 1	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	10	2	71	20	16	[On]	[On]	4	[1][2][1][2]
885	Velo Whirly 2	DM1 - Drum Melodic 1	Generated-Drum	WholeTone	10	2	71	20	16	[On]	[On]	16	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 2
886	Velocity Switch EP	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	10	16	--	--	--	[On]	[On]	8	1 1 1 1 1 1 1 1
887	White Pad EP	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	16	72	--	--	--	[On]	[On]	8	1 2 1 2 1 2 1 2
888	Wurl Funk	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	10	16	--	--	--	[On]	[On]	4	1 1 1 1
889	arp only notes played	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	10	16	64	--	--	[On]	[On]	8	1 1 1 1 1 1 1 1

Category: Strumming

#	GE Name	RTC Model	GE Type	Note Type	CC-A	CC-B	Env 1	Env 2	Env 3	Bend	Rpt	Items	Phase Pattern
890	12 Bar Guitar	CL1 - Comp/Lead 1	Generated-Riff	[Scalic2]	72	--	--	--	2	[On]	[On]	8	[1][1][1][1][1][1][1][1]
891	16 Chord Strum	GV1 - Gated Vel/Pat 1	Generated-Gated	[Regular]	[010]	--	--	--	--	[On]	[On]	[4]	1 1 1 1
892	Acoustic Strummer	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	10	16	--	--	--	[On]	[On]	4	[1][2][1][2]
893	Bossa Guitar 1	CL1 - Comp/Lead 1	Generated-Riff	[WholeTone]	10	--	--	--	--	[On]	[On]	4	1 1 2 1
894	Comp Reggae Nu	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	11	--	--	--	--	[On]	[On]	8	1 1 1 1 1 1 1 1
895	Country Strum 1	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	10	16	--	--	--	[On]	[On]	8	1 1 1 1 1 1 1 1
896	Country Strum 2	GV1 - Gated Vel/Pat 1	Generated-Gated	[Regular]	[010]	--	--	--	--	[On]	[On]	[4]	1 1 1 1
897	Country Strum 3	GV1 - Gated Vel/Pat 1	Generated-Gated	[Regular]	[010]	--	--	--	--	[On]	[On]	[4]	1 2 1 2
898	Country Strum 4	GV1 - Gated Vel/Pat 1	Generated-Gated	[Regular]	79	--	VE	74	71	[On]	[On]	8	1 1 1 1 1 1 1 1
899	DoubleBend Guitar Strummer	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	75	79	11	--	--	[On]	[On]	8	[1][1][1][1][1][1][1][1]
900	ElecGtr Strum	GV1 - Gated Vel/Pat 1	Generated-Gated	[Regular]	[010]	--	--	--	--	[On]	[On]	[4]	1 1 1 1
901	Ethnic Strummer	GV1 - Gated Vel/Pat 1	Generated-Gated	[Regular]	[010]	2	--	--	--	[On]	[On]	4	1 1 1 1
902	Finger PickStrum	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	11	--	VE	20	21	[On]	[On]	8	1 2 1 2 1 2 1 2
903	Frets Riff Strum 1	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	10	--	11	71	--	[On]	[On]	8	1 1 1 1 1 1 1 1
904	Frets Riff Strum 2	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	10	--	11	--	--	[On]	[On]	8	1 1 1 1 1 1 1 1
905	Funk Gtr	CL1 - Comp/Lead 1	Generated-Riff	[Scalic]	10	16	--	--	--	[On]	[On]	8	1 1 1 1 1 1 1 1
906	Funky Strums	GV1 - Gated Vel/Pat 1	Generated-Gated	[Regular]	[010]	--	--	--	--	[On]	[On]	[4]	1 1 1 1
907	GTR Strum	CL1 - Comp/Lead 1	Generated-Riff	[Scalic2]	72	--	74	--	--	[On]	[On]	8	[1][1][1][1][1][1][1][1]
908	Gtr 5ths	CL1 - Comp/Lead 1	Generated-Riff	[Chromatic]	10	--	--	--	--	[On]	[On]	[4]	1 1 1 1
909	Gtr. Strum (random)	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	11	--	--	--	--	[On]	[On]	8	[1][1][1][1][1][1][1][1]
910	Guitar Strum 01	GV1 - Gated Vel/Pat 1	Generated-Gated	[Regular]	[010]	--	--	--	--	[On]	[On]	[4]	1 1 1 1
911	Guitar Strum 02	GV1 - Gated Vel/Pat 1	Generated-Gated	[Regular]	[010]	--	--	--	--	[On]	[On]	[4]	1 1 1 1
912	Guitar Strum 03	GV1 - Gated Vel/Pat 1	Generated-Gated	[Regular]	[010]	--	--	--	--	[On]	[On]	[4]	1 1 1 1
913	Guitar Strum 04	GV1 - Gated Vel/Pat 1	Generated-Gated	[Regular]	[010]	--	--	--	--	[On]	[On]	[4]	1 1 1 1
914	Guitar Strum 05	GV1 - Gated Vel/Pat 1	Generated-Gated	[Regular]	[010]	--	--	--	--	[On]	[On]	[4]	1 1 1 1
915	Guitar Strum 06	GV1 - Gated Vel/Pat 1	Generated-Gated	[Regular]	[010]	--	--	--	--	[On]	[On]	[4]	1 1 1 1
916	Guitar Strum 07	GV1 - Gated Vel/Pat 1	Generated-Gated	[Regular]	[010]	--	--	--	--	[On]	[On]	[4]	1 1 1 1
917	Guitar Strum 08	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	11	--	--	--	--	[On]	[On]	8	[1][1][1][1][1][1][1][1]
918	Guitar Strum 09	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	11	--	--	--	--	[On]	[On]	8	[1][1][1][1][1][1][1][1]
919	Guitar Strum 10	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	11	--	--	--	--	[On]	[On]	8	[1][1][1][1][1][1][1][1]
920	Guitar Strum 11	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	11	--	--	--	--	[On]	[On]	8	[1][1][1][1][1][1][1][1]
921	Guitar Strum 12	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	11	--	--	--	--	[On]	[On]	8	1 1 1 1 1 1 1 1
922	Guitar Strum 13	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	11	--	--	--	--	[On]	[On]	8	1 1 1 1 1 1 1 1
923	Guitar Strum 14	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	11	--	--	--	--	[On]	[On]	4	[2][2][2][2]
924	Guitar Strum 15	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	10	--	11	--	--	[On]	[On]	8	[1][2][1][2][1][2][1][2]
925	Olde Celtic Gtr Strum	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	--	--	--	--	--	[On]	[On]	8	1 2 1 2 1 2 1 2
926	Random Rhythm Guitars	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	2	1	--	--	--	[On]	[On]	[16]	[2]2[2]2[2]2222222222
927	Reggae Guitar	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	74	72	--	--	--	[On]	[On]	16	1 1 1 1 1 1 1 2 1 1 1 1 1 1 1 2
928	Reggae Strum	GV1 - Gated Vel/Pat 1	Generated-Gated	[Regular]	[010]	--	--	--	--	[On]	[On]	[4]	1 1 1 1
929	Reggae Strum+repeats	GV1 - Gated Vel/Pat 1	Generated-Gated	[Regular]	[010]	--	--	--	--	[On]	[On]	[4]	1 1 1 1
930	SingleCoil+Piezo	CL1 - Comp/Lead 1	Generated-Riff	[Fourths]	10	21	71	79	74	[On]	[On]	4	[1][2][1][2]
931	Soul Strum	GV1 - Gated Vel/Pat 1	Generated-Gated	[Regular]	[010]	--	--	--	--	[On]	[On]	[4]	1 1 1 1
932	Spanish Strum	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	10	16	VE	TR	72	[On]	[On]	8	1 1 1 1 1 1 1 1
933	Strum 1	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	--	--	--	--	--	[On]	[On]	4	[2][2][2][2]
934	Strum 2	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	10	16	--	--	--	[On]	[On]	8	[1][1][1][1][1][1][1][1]
935	Strum 3	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	--	--	--	--	--	[On]	[On]	4	[1][1][1][1]
936	Strum 4	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	10	16	--	--	--	[On]	[On]	4	[1][2][1][2]
937	Strum Reggae 1	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	11	--	--	--	--	[On]	[On]	8	[1][1][1][1][1][1][1][1]
938	Strum Reggae 2	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	11	--	--	--	--	[On]	[On]	8	[1][1][1][1][1][1][1][1]
939	Strum Reggae Nu	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	11	--	--	--	--	[On]	[On]	8	1 1 1 1 1 1 1 1
940	Strummer 1	GV1 - Gated Vel/Pat 1	Generated-Gated	[Regular]	[010]	--	--	--	--	[On]	[On]	[4]	1 1 1 1

[] = can be controlled or changed by GE Parameters.

#	GE Name	RTC Model	GE Type	Note Type	CC-A	CC-B	Env 1	Env 2	Env 3	Bend	Rpt	Items	Phase Pattern
941	Strummer 2	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	10	16	--	--	--	[On]	[On]	4	[1][2][1][2]
942	WhackWah 1	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	10	--	2	75	--	[On]	[On]	8	1 1 1 1 2 2 2 2
943	16 Strum Oct	GV1 - Gated Vel/Pat 1	Generated-Gated	[Regular]	[010]	--	--	--	--	[On]	[On]	[4]	1 2 1 2
944	7/8 Strum	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	10	--	--	--	--	[On]	[On]	4	1 1 1 2
945	8/16 Strum	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	79	2	--	--	--	[On]	[On]	4	1 1 1 2
946	8th Note Jazz Gtr Strum	CL1 - Comp/Lead 1	Generated-Riff	[Scalic]	--	16	--	--	--	[On]	[On]	8	1 1 1 1 1 1 1 1
947	Bossa Guitar 2	GV1 - Gated Vel/Pat 1	Generated-Gated	[Regular]	[010]	--	--	--	--	[On]	[On]	[4]	1 1 1 1
948	Chorus E.Guit	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	10	20	71	79	74	[On]	[On]	8	1 2 1 2 1 2 1 2
949	Do the Funky Slide	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	10	16	80	--	--	[On]	[On]	8	1 2 1 2 1 2 1 2
950	Dotted 16 Strum	GV1 - Gated Vel/Pat 1	Generated-Gated	[Regular]	[010]	--	--	--	--	[On]	[On]	[4]	1 2 1 2
951	E.G. Harmonics	CL1 - Comp/Lead 1	Generated-Riff	[Scalic]	10	--	--	--	--	[On]	[On]	4	1 1 1 2
952	Gtr Chugga/Riff	GV1 - Gated Vel/Pat 1	Generated-Gated	[Regular]	8	16	--	--	--	[On]	[On]	[8]	1 1 1 1 1 1 2 2
953	Guitar Strum 16	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	11	--	--	--	--	[On]	[On]	8	[2][2][2][2][2][2][2][2]
954	Guitar Strum 17	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	11	--	--	--	--	[On]	[On]	8	1 1 1 1 1 1 1 1
955	Jazz Gtr Comp 1	CL1 - Comp/Lead 1	Generated-Riff	[Scalic]	1	--	--	--	--	[On]	[On]	4	1 1 1 2
956	Jazz Gtr Comp 2	CL1 - Comp/Lead 1	Generated-Riff	[Scalic]	1	--	--	--	--	[On]	[On]	4	1 1 1 2
957	Nuclear Strum	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	10	--	--	--	--	[On]	[On]	[8]	1 1 1 2 1 1 1 2
958	Pick & Strum	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	10	--	VE	--	--	[On]	[On]	8	1 1 1 1 1 1 1 1
959	Piezo Guitar	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	--	--	71	79	74	[On]	[On]	2	1 2
960	Random Pluck	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	--	--	--	--	--	[On]	[On]	4	1 1 1 2
961	Slop & Strum	GV1 - Gated Vel/Pat 1	Generated-Gated	[Regular]	[010]	--	--	--	--	[On]	[On]	[4]	1 1 1 1
962	Strat Thang	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	10	--	--	--	--	[On]	[On]	8	1 1 1 1 1 1 1 1
963	Strum 5	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	--	--	--	--	--	[On]	[On]	4	[2][1][2][1]
964	Strum 6	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	--	--	--	--	--	[On]	[On]	4	[1][1][1][1]
965	Strum 7	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	--	--	--	--	--	[On]	[On]	4	[1][2][1][2]
966	Tight Strum	DM1 - Drum Melodic 1	Generated-Drum	WholeTone	10	16	VE	--	--	[On]	[On]	16	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
967	Unplugged RnB Strum	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	10	16	--	--	--	[On]	[On]	8	1 1 1 1 1 1 1 1
968	VoxWah Chicks	GV1 - Gated Vel/Pat 1	Generated-Gated	[Regular]	16	21	72	71	--	[On]	[On]	8	1 2 1 2 1 2 1 2
969	WhackWah 2	CL1 - Comp/Lead 1	Generated-Riff	[Scalic]	10	--	2	75	--	[On]	[On]	4	1 1 2 2

Category: Pick

#	GE Name	RTC Model	GE Type	Note Type	CC-A	CC-B	Env 1	Env 2	Env 3	Bend	Rpt	Items	Phase Pattern
970	2Step GtrPick	GV1 - Gated Vel/Pat 1	Generated-Gated	[Regular]	[010]	--	--	--	--	[On]	[On]	[16]	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
971	Alternating Octaves	CL1 - Comp/Lead 1	Generated-Riff	[Chromatic]	10	16	--	--	--	[On]	[On]	8	[1][1][1][1][1][1][1][1]
972	Ballad Pick 1	GV1 - Gated Vel/Pat 1	Generated-Gated	[Regular]	[010]	--	--	--	--	[On]	[On]	[4]	1 1 1 1
973	Ballad Pick 2	GV1 - Gated Vel/Pat 1	Generated-Gated	[Regular]	[010]	--	--	--	--	[On]	[On]	[4]	1 1 1 1
974	Basic 12 String Pick	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	10	16	VE	TR	--	[On]	[On]	8	1 1 1 1 1 1 1 1
975	CleanMute Guit	CL1 - Comp/Lead 1	Generated-Riff	[Scalic2]	2	20	VE	72	2	[On]	[On]	8	1 2 1 2 1 2 1 2
976	Country Picker 1	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	10	16	--	--	--	[On]	[On]	8	1 1 1 1 1 1 1 1
977	Country Picker 2	GV1 - Gated Vel/Pat 1	Generated-Gated	[Regular]	[010]	--	--	--	--	[On]	[On]	[4]	1 1 1 1
978	E.Gtr Cutting	CL1 - Comp/Lead 1	Generated-Riff	[Scalic2]	72	72	74	--	--	[On]	[On]	8	[1][1][1][1][1][1][1][1]
979	Finger Pick 1	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	10	--	VE	--	--	[On]	[On]	8	1 2 1 2 1 2 1 2
980	FingerPicker	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	10	--	VE	--	--	[On]	[On]	4	1 2 1 2
981	Fingerpicking Gtr 3/4	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	72	16	2	--	--	[On]	[On]	8	[1][1][1][1][1][1][1][1]
982	Funkin' Guitar	CL1 - Comp/Lead 1	Generated-Riff	[Scalic2]	72	20	VE	16	--	[On]	[On]	8	1 1 1 1 1 1 1 1
983	Guitar Noise	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	83	16	--	--	--	[On]	[On]	16	1 1 1 1 1 1 1 1 1 1 1 1 1 2
984	Mandolin Basix	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	10	16	--	--	--	[On]	[On]	8	1 1 1 1 1 1 1 1
985	Pedal Steel	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	1	16	72	PB	PB	[On]	[On]	8	1 1 1 1 1 1 1 1
986	Pink Guitar 2	CL1 - Comp/Lead 1	Generated-Riff	[Chromatic]	64	--	--	--	--	[On]	[On]	8	[1][1][1][1][1][1][1][1]
987	Rock Chug Gtr 1	DM1 - Drum Melodic 1	Generated-Drum	WholeTone	10	16	--	--	--	[On]	[On]	16	1 1 1 2 1 1 2 1 1 2 1 1 2
988	Rock Riff Gtr.	DM1 - Drum Melodic 1	Generated-Drum	WholeTone	10	16	--	--	--	[On]	[On]	[16]	1 1 1 2 1 1 2 1 1 2 1 1 2
989	Spanish Pick	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	10	16	VE	TR	72	[On]	[On]	8	1 1 1 1 1 1 1 1
990	Standard F.Pick 3/4 1	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	11	11	VE	--	--	[On]	[On]	8	[1][1][1][1][1][1][1][1]
991	Standard F.Pick 3/4 2	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	11	11	VE	--	--	[On]	[On]	8	[1][1][1][1][1][1][1][1]
992	Synth Droplets	CL1 - Comp/Lead 1	Generated-Riff	[Scalic2]	72	20	VE	2	16	[On]	[On]	8	1 1 1 1 1 1 1 1
993	Unplugged RnB Gtr Noise	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	83	16	--	--	--	[On]	[On]	16	1 1 1 1 1 1 1 1 1 1 1 1 1 2
994	Wah Funk Lick	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	10	16	--	--	--	[On]	[On]	16	1 1 1 1 1 1 1 1 1 1 1 1 1 2
995	Acoustic Dreaming 7/4	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	1	--	--	--	--	[On]	[On]	4	1 2 1 2
996	Banjo YEE HAAA!	CL1 - Comp/Lead 1	Generated-Riff	[Scalic2]	10	16	--	--	--	[On]	[On]	8	1 2 1 2 1 2 1 2
997	Bond/Floyd 7/4	CL1 - Comp/Lead 1	Generated-Riff	[Scalic2]	83	--	2	--	--	[On]	[On]	[16]	1 2 1 2 1 2 1 2 1 2 1 2 1 2
998	Chuggin Machine	DM1 - Drum Melodic 1	Generated-Drum	WholeTone	10	--	--	--	RT	[On]	[On]	2	1 2
999	CleanMute Guitar	CL1 - Comp/Lead 1	Generated-Riff	[Scalic2]	72	20	VE	16	21	[On]	[On]	8	1 2 1 2 1 2 1 2
1000	Country Picker 3	GV1 - Gated Vel/Pat 1	Generated-Gated	[Regular]	[010]	--	--	--	--	[On]	[On]	[4]	1 1 1 1
1001	Dial Up GTR variation	CL1 - Comp/Lead 1	Generated-Riff	[Chromatic]	10	--	74	74	1	[On]	[On]	[12]	1 2 2 1 2 2 1 2 2 1 2 2
1002	Dist Guitar	CL1 - Comp/Lead 1	Generated-Riff	[Chromatic]	74	--	--	--	--	[On]	[On]	8	1 2 1 2 1 2 1 2
1003	Eddie Lives	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	16	--	--	--	--	[On]	[On]	[4]	1 1 1 2
1004	Express Gtr 1	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	10	--	VE	TR	--	[On]	[On]	4	1 2 1 2
1005	Express Gtr 2	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	10	--	VE	--	--	[On]	[On]	8	1 2 1 2 1 2 1 2
1006	Express Gtr 3	CL1 - Comp/Lead 1	Generated-Riff	[Scalic]	10	--	VE	TR	--	[On]	[On]	8	1 2 1 2 1 2 1 2
1007	Express Gtr 4	CL1 - Comp/Lead 1	Generated-Riff	[Scalic]	10	--	VE	--	--	[On]	[On]	8	1 2 1 2 1 2 1 2
1008	Finger Pick 2	CL1 - Comp/Lead 1	Generated-Riff	[Scalic]	10	--	VE	--	--	[On]	[On]	8	1 2 1 2 1 2 1 2
1009	Floydesque	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	72	--	72	--	--	[On]	[On]	8	1 1 1 1 1 1 1 1
1010	Fretless Guitar Thing	CL1 - Comp/Lead 1	Generated-Riff	[Scalic2]	10	16	--	--	--	[On]	[On]	8	1 1 1 1 1 1 1 1

Voice Name List

[] = can be controlled or changed by GE Parameters.

#	GE Name	RTC Model	GE Type	Note Type	CC-A	CC-B	Env 1	Env 2	Env 3	Bend	Rpt	Items	Phase Pattern
1011	Frets Riff Pick 1	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	10	--	11	--	--	[On]	[On]	8	1 1 1 1 1 1 1 1
1012	Frets Riff Pick 2	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	10	16	11	--	--	[On]	[On]	4	[2][1][2][1]
1013	Fun with Dist Gtrs HOLD!	CL1 - Comp/Lead 1	Generated-Riff	[Scalic2]	10	16	83	--	--	[On]	[On]	16	1 2 1 2 1 2 1 2 1 2 1 2 1 2
1014	Funk Guitar Riff	DM1 - Drum Melodic 1	Generated-Drum	WholeTone	--	--	74	71	72	[On]	[On]	16	1 1 1 1 1 1 1 1 1 1 1 1 1 2
1015	Funk Guitar Riff WS	DM1 - Drum Melodic 1	Generated-Drum	WholeTone	--	--	74	71	72	[On]	[On]	16	1 1 1 2 1 1 1 2 1 1 1 2 1 1 1 2
1016	G. Strum (random)	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	11	--	--	--	--	[On]	[On]	8	1 1 1 1 1 1 1 1
1017	GTR Dist. Cutting	CL1 - Comp/Lead 1	Generated-Riff	[Scalic2]	72	72	--	--	--	[On]	[On]	8	[1][1][1][1][1][1][1][1]
1018	Guitar Chopper	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	80	8	--	--	PB	[On]	[On]	4	1 2 1 2
1019	Mandolin/Strings for Miki	CL1 - Comp/Lead 1	Generated-Riff	[Scalic2]	10	--	--	--	--	[On]	[On]	4	1 2 1 2
1020	Matte Kudasai	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	73	--	1	--	--	[On]	[On]	8	1 1 1 1 1 1 1 1
1021	Moody Gtr Score	CL1 - Comp/Lead 1	Generated-Riff	[Scalic2]	1	16	--	--	--	[On]	[On]	8	1 2 1 2 1 2 1 2
1022	Picking	GV1 - Gated Vel/Pat 1	Generated-Gated	[Regular]	[010]	--	--	--	--	[On]	[On]	[4]	1 1 1 1
1023	Princessa Acoustic Gtr	GV1 - Gated Vel/Pat 1	Generated-Gated	[Regular]	[010]	--	--	--	--	[On]	[On]	[4]	1 1 1 1
1024	Prog Rock Lines	CL1 - Comp/Lead 1	Generated-Riff	[Scalic]	83	83	--	--	--	[On]	[On]	4	1 1 1 2
1025	Proud Strum	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	79	2	--	--	--	[On]	[On]	8	1 1 1 2 1 1 1 2
1026	Rand Gtr no 7th	CL1 - Comp/Lead 1	Generated-Riff	[Scalic]	10	--	--	--	--	[On]	[On]	8	1 1 1 2 1 1 1 2
1027	Random Pickingish	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	73	16	1	--	--	[On]	[On]	8	1 1 1 1 1 1 1 1
1028	Rock Chug Gtr 2	DM1 - Drum Melodic 1	Generated-Drum	WholeTone	10	16	--	--	--	[On]	[On]	[4]	[1][1][1][1]
1029	Simple Strum	GV1 - Gated Vel/Pat 1	Generated-Gated	[Regular]	[010]	--	--	--	--	[On]	[On]	[4]	1 1 1 1
1030	Slide Thing (Mosey On Down...)	CL1 - Comp/Lead 1	Generated-Riff	[Scalic2]	17	16	16	1	--	[On]	[On]	8	1 1 1 1 1 1 1 1
1031	StrumPick	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	--	--	--	--	--	[On]	[On]	4	[1][2][1][2]
1032	UpWham Guitar	CL1 - Comp/Lead 1	Generated-Riff	[Scalic]	71	PB	--	--	--	[On]	[On]	8	[1][1][1][1][1][1][1][1]
1033	VoxWah Chicks 1	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	21	18	71	79	16	[On]	[On]	8	1 2 1 2 1 2 1 2
1034	WetDist. Guitar	CL1 - Comp/Lead 1	Generated-Riff	[Scalic2]	79	70	16	--	--	[On]	[On]	[4]	1 1 1 2

Category: Bass Pattern

#	GE Name	RTC Model	GE Type	Note Type	CC-A	CC-B	Env 1	Env 2	Env 3	Bend	Rpt	Items	Phase Pattern
1035	A.Bass 1-5 Db1	BL1 - Bass/Lead 1	Generated-Riff	[Fifths]	74	--	--	--	--	[On]	[On]	[8]	1 1 1 1 1 1 1 2
1036	A.Bass 1-5(3/4)	BL1 - Bass/Lead 1	Generated-Riff	[Scalic2]	--	--	--	--	--	[On]	[On]	[4]	1 1 1 2
1037	A.Bass 1-5(4/4)	BL1 - Bass/Lead 1	Generated-Riff	[Scalic2]	--	--	--	--	--	[On]	[On]	[4]	1 1 1 2
1038	Bass 4 Strings	BL1 - Bass/Lead 1	Generated-Riff	[Regular]	--	--	VE	--	--	[On]	[On]	8	1 1 1 1 1 1 1 1
1039	Bass Drone	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	--	--	74	71	--	[On]	[On]	8	1 1 1 1 1 1 1 1
1040	Bendy Bass 1	BL1 - Bass/Lead 1	Generated-Riff	[Regular]	10	--	74	--	--	[On]	[On]	4	1 1 1 2
1041	Blues Bass 3/4	BL1 - Bass/Lead 1	Generated-Riff	[Scalic]	10	16	--	--	--	[On]	[On]	4	1 1 1 2
1042	Country Bass	BL1 - Bass/Lead 1	Generated-Riff	[Scalic]	10	16	--	--	--	[On]	[On]	8	1 1 1 1 1 1 1 1
1043	Cycling 16ths 1	BL1 - Bass/Lead 1	Generated-Riff	[Scalic]	10	--	--	--	--	[On]	[On]	8	1 2 1 2 1 2 1 2
1044	Droner	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	10	16	--	--	--	[On]	[On]	8	1 1 1 1 1 1 1 1
1045	HipHop Bass 2	DM1 - Drum Melodic 1	Generated-Drum	WholeTone	10	16	16	--	--	[On]	[On]	16	1 2 1 2 1 2 1 2 1 2 1 2 1 2
1046	Reso Bass 1	BL1 - Bass/Lead 1	Generated-Riff	[Regular]	16	--	--	--	--	[On]	[On]	4	1 1 1 2
1047	Reso Bass 2	BL1 - Bass/Lead 1	Generated-Riff	[Regular]	16	--	--	--	--	[On]	[On]	4	1 1 1 2
1048	RootAc FifthAc	GV1 - Gated Vel/Pat 1	Generated-Gated	[Regular]	[010]	--	--	--	--	[On]	[On]	[4]	1 1 1 1
1049	Simple Bass 1	BL1 - Bass/Lead 1	Generated-Riff	[Scalic2]	--	--	--	--	--	[On]	[On]	8	[1][1][1][1][1][1][1][1]
1050	Simple Bass 2	GV1 - Gated Vel/Pat 1	Generated-Gated	[Regular]	[010]	--	VE	--	--	[On]	[On]	[4]	1 1 1 1
1051	Simple Euro Bass	DM1 - Drum Melodic 1	Generated-Drum	WholeTone	10	16	--	--	--	[On]	[On]	16	1 1 1 1 1 1 1 1 1 1 1 1 1 2
1052	Stagger Bass 1	DM1 - Drum Melodic 1	Generated-Drum	WholeTone	83	83	--	--	--	[On]	[On]	16	1 1 1 1 1 1 1 1 1 1 1 1 1 2
1053	Straight Bass 1	BL1 - Bass/Lead 1	Generated-Riff	[Scalic2]	10	--	--	--	--	[On]	[On]	[8]	[1][1][1][2][1][1][1][2]
1054	Walking Bass 1	BL1 - Bass/Lead 1	Generated-Riff	[Scalic]	10	--	--	--	--	[On]	[On]	4	1 2 1 1
1055	Walking Bass 2	BL1 - Bass/Lead 1	Generated-Riff	[Scalic]	10	--	--	--	--	[On]	[On]	4	1 2 1 1
1056	Walking Bass 3	BL1 - Bass/Lead 1	Generated-Riff	[Scalic]	10	--	--	--	--	[On]	[On]	4	1 [1] 1 2
1057	Walking Bass 4	BL1 - Bass/Lead 1	Generated-Riff	[Chromatic]	10	--	--	--	--	[On]	[On]	4	1 1 1 2
1058	16th Walk Bs 1	BL1 - Bass/Lead 1	Generated-Riff	[Scalic]	10	--	--	--	--	[On]	[On]	4	1 1 1 2
1059	Back Beat Bass	BL1 - Bass/Lead 1	Generated-Riff	[Scalic]	72	74	--	--	--	[On]	[On]	[1]	1
1060	Bass Open Line	DM1 - Drum Melodic 1	Generated-Drum	WholeTone	10	--	--	--	--	[On]	[On]	16	1 1 1 1 1 1 1 1 1 1 1 1 1 2
1061	Bass Rand Rpt	BL1 - Bass/Lead 1	Generated-Riff	[Scalic]	10	--	1	--	--	[On]	[On]	4	1 1 1 2
1062	Bass Reggae	BL1 - Bass/Lead 1	Generated-Riff	[Scalic2]	--	--	--	--	--	[On]	[On]	8	[1][2][1][2][1][2][1][2]
1063	Bends and straight notes	BL1 - Bass/Lead 1	Generated-Riff	[Regular]	--	--	--	--	--	[On]	[On]	8	1 1 1 1 1 1 1 1
1064	Bendy Bass 2	BL1 - Bass/Lead 1	Generated-Riff	[Regular]	10	16	--	--	--	[On]	[On]	8	1 1 1 1 1 1 1 1
1065	Bendy Bass 3	BL1 - Bass/Lead 1	Generated-Riff	[Scalic2]	10	--	VE	TR	--	[On]	[On]	8	1 2 1 2 1 2 1 2
1066	Big Boogie Bass	DM1 - Drum Melodic 1	Generated-Drum	WholeTone	75	79	PB	--	--	[On]	[On]	16	1 1 1 1 1 1 1 1 1 1 1 1 1 2
1067	Bigbeat Bass	BL1 - Bass/Lead 1	Generated-Riff	[Scalic]	74	74	--	--	--	[On]	[On]	8	1 2 1 2 1 2 1 2
1068	Blind as a Bat	DM1 - Drum Melodic 1	Generated-Drum	WholeTone	16	75	VE	20	79	[On]	[On]	16	1 1 1 1 1 1 1 1 1 1 1 1 1 2
1069	Chiller	GV1 - Gated Vel/Pat 1	Generated-Gated	[Regular]	[010]	--	--	--	--	[On]	[On]	4	1 1 1 1
1070	Chillin Wid Bass	DM1 - Drum Melodic 1	Generated-Drum	WholeTone	21	--	16	--	--	[On]	[On]	16	1 1 1 1 1 1 1 1 1 1 1 1 1 2
1071	Digi Bass	DM1 - Drum Melodic 1	Generated-Drum	WholeTone	10	20	16	71	79	[On]	[On]	16	1 1 1 1 1 1 1 1 1 1 1 1 1 2
1072	Du Dada Bass 1	BL1 - Bass/Lead 1	Generated-Riff	[Scalic2]	71	PB	71	--	--	[On]	[On]	8	[1][1][1][1][1][1][1][1]
1073	Du Dada Bass 2	BL1 - Bass/Lead 1	Generated-Riff	[Scalic2]	--	--	--	--	--	[On]	[On]	8	1 1 1 1 1 1 1 1
1074	E.Bass Finger 2	BL1 - Bass/Lead 1	Generated-Riff	[Regular]	--	--	--	--	--	[On]	[On]	4	1 1 1 2
1075	E.Bass Line	BL1 - Bass/Lead 1	Generated-Riff	[Scalic2]	--	--	72	79	20	[On]	[On]	8	[1][1][1][1][1][1][1][1]
1076	E.BassLine 01	BL1 - Bass/Lead 1	Generated-Riff	[Scalic2]	10	16	--	--	--	[On]	[On]	8	[1][1][1][2][1][1][1][2]
1077	E.BassLine 02	BL1 - Bass/Lead 1	Generated-Riff	[Scalic2]	--	--	--	--	--	[On]	[On]	4	[1][1][1][2]
1078	E.BassLine 03	BL1 - Bass/Lead 1	Generated-Riff	[Scalic2]	10	--	72	79	20	[On]	[On]	8	[1][1][1][1][1][1][1][1]
1079	E.BassLine 04	BL1 - Bass/Lead 1	Generated-Riff	[Scalic2]	--	--	75	79	1	[On]	[On]	8	[1][1][1][1][1][1][1][1]
1080	E.BassLine 05	BL1 - Bass/Lead 1	Generated-Riff	[Scalic2]	79	--	75	79	--	[On]	[On]	8	[2][2][2][2][2][2][2][2]

[] = can be controlled or changed by GE Parameters.

#	GE Name	RTC Model	GE Type	Note Type	CC-A	CC-B	Env 1	Env 2	Env 3	Bend	Rpt	Items	Phase Pattern
1081	E.BassLine 06	BL1 - Bass/Lead 1	Generated-Riff	[Scalic2]	79	--	75	79	--	[On]	[On]	8	[2][2][2][2][2][2][2][2]
1082	E.BassLine 07	BL1 - Bass/Lead 1	Generated-Riff	[Scalic2]	79	--	75	79	--	[On]	[On]	8	[2][2][2][2][2][2][2][2]
1083	E.BassLine 08	BL1 - Bass/Lead 1	Generated-Riff	[Scalic2]	79	1	PB	16	1	[On]	[On]	8	[1][1][1][1][1][1][1][1]
1084	Electro Bass 1	BL1 - Bass/Lead 1	Generated-Riff	[Regular]	--	--	--	--	--	[On]	[On]	[4]	1 1 1 2
1085	F.BassLine 1	BL1 - Bass/Lead 1	Generated-Riff	[Scalic]	--	--	--	--	--	[On]	[On]	8	[1][1][1][1][1][1][1][1]
1086	F.BassLine 2	BL1 - Bass/Lead 1	Generated-Riff	[Scalic2]	1	--	--	--	--	[On]	[On]	4	[1][1][1][1][2]
1087	F.BassLine 3	BL1 - Bass/Lead 1	Generated-Riff	[Scalic2]	1	PB	--	--	--	[On]	[On]	8	1 1 1 1 1 1 1 1
1088	F.BassLine 4	BL1 - Bass/Lead 1	Generated-Riff	[Scalic2]	1	1	--	--	--	[On]	[On]	8	1 2 1 2 1 2 1 2
1089	F.BassLine 5	BL1 - Bass/Lead 1	Generated-Riff	[Scalic2]	1	1	--	--	--	[On]	[On]	4	1 1 1 2
1090	F.BassLine 6	BL1 - Bass/Lead 1	Generated-Riff	[Scalic2]	1	1	--	--	--	[On]	[On]	8	1 1 1 1 1 1 1 1
1091	Funkified E. Bass	BL1 - Bass/Lead 1	Generated-Riff	[Scalic]	10	--	16	--	--	[On]	[On]	8	[1][2][1][2][1][2][1][2]
1092	Fusion Bass 7/8	BL1 - Bass/Lead 1	Generated-Riff	[Scalic]	10	16	--	--	--	[On]	[On]	4	[1][1][1][1]
1093	Groove Acid	GV1 - Gated Vel/Pat 1	Generated-Gated	[Regular]	[008]	--	--	--	--	[On]	[On]	[2]	1 1
1094	Groove Globe 2	GV1 - Gated Vel/Pat 1	Generated-Gated	[Regular]	[008]	--	--	--	--	[On]	[On]	[2]	1 1
1095	Harmonics Bass	BL1 - Bass/Lead 1	Generated-Riff	[Regular]	10	16	--	--	--	[On]	[On]	8	1 2 1 2 1 2 1 2
1096	HipHop Bass 3	GV1 - Gated Vel/Pat 1	Generated-Gated	[Regular]	10	--	--	--	--	[On]	[On]	8	1 2 1 2 1 2 1 2
1097	HipHop Bass 4	DM1 - Drum Melodic 1	Generated-Drum	WholeTone	10	16	--	--	--	[On]	[On]	16	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 2
1098	In Triplicate Bass/Pno	BL1 - Bass/Lead 1	Generated-Riff	[Scalic]	10	--	--	--	--	[On]	[On]	4	1 1 1 2
1099	Jazz Bass	BL1 - Bass/Lead 1	Generated-Riff	[Regular]	10	--	VE	--	--	[On]	[On]	4	1 1 1 1
1100	Jungle Bass 1	GV1 - Gated Vel/Pat 1	Generated-Gated	[Regular]	[010]	--	--	--	--	[On]	[On]	[16]	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
1101	Jungle Bass 2	BL1 - Bass/Lead 1	Generated-Riff	[Scalic]	10	16	71	72	PB	[On]	[On]	1	1
1102	KEWL Bass	BL1 - Bass/Lead 1	Generated-Riff	[Scalic]	10	--	--	--	--	[On]	[On]	4	1 1 1 2
1103	Latin Bass 1	BL1 - Bass/Lead 1	Generated-Riff	[Scalic]	1	1	--	--	--	[On]	[On]	8	1 1 1 1 1 1 1 1
1104	Latin Bass 2	BL1 - Bass/Lead 1	Generated-Riff	[Scalic]	11	--	--	--	--	[On]	[On]	4	1 1 1 2
1105	NuHopChrd 1	GV1 - Gated Vel/Pat 1	Generated-Gated	[Regular]	[010]	--	--	--	--	[On]	[On]	[4]	1 2 1 2
1106	Offbeat Syncopated	BL1 - Bass/Lead 1	Generated-Riff	[Regular]	10	--	--	--	--	[On]	[On]	8	1 1 1 1 1 1 1 1
1107	Orch. Bass	GV1 - Gated Vel/Pat 1	Generated-Gated	[Regular]	[010]	--	--	--	--	[On]	[On]	[4]	1 1 1 1
1108	Organ Bassline	CL1 - Comp/Lead 1	Generated-Riff	[Scalic2]	10	16	VE	--	--	[On]	[On]	8	1 2 1 2 1 2 1 2
1109	Pick Bass Funky	BL1 - Bass/Lead 1	Generated-Riff	[Scalic]	10	--	--	--	--	[On]	[On]	[4]	1 1 1 2
1110	Pop Bass 4/4	BL1 - Bass/Lead 1	Generated-Riff	[Regular]	10	16	--	--	--	[On]	[On]	4	1 1 1 2
1111	Robotic Bass	BL1 - Bass/Lead 1	Generated-Riff	[Regular]	10	16	--	--	--	[On]	[On]	8	1 1 1 1 1 1 1 1
1112	Rock Bass 16ths 1	DM1 - Drum Melodic 1	Generated-Drum	WholeTone	10	16	--	--	--	[On]	[On]	16	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 2
1113	Rock Bass 16ths 2	DM1 - Drum Melodic 1	Generated-Drum	WholeTone	10	16	--	--	--	[On]	[On]	16	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 2
1114	Simple Pop Bass	BL1 - Bass/Lead 1	Generated-Riff	[Scalic]	2	1	71	--	--	[On]	[On]	[2]	[1][1]
1115	Slap Bass 1	BL1 - Bass/Lead 1	Generated-Riff	[Scalic]	10	--	--	--	--	[On]	[On]	[4]	1 1 1 2
1116	Smooth Bass	BL1 - Bass/Lead 1	Generated-Riff	[Scalic]	10	16	--	--	--	[On]	[On]	8	1 1 1 1 1 1 1 1
1117	Stagger Bass 2	GV1 - Gated Vel/Pat 1	Generated-Gated	[Regular]	[010]	--	--	--	--	[On]	[On]	[4]	1 1 1 1
1118	Stein Bass 1	BL1 - Bass/Lead 1	Generated-Riff	[Scalic]	10	74	--	--	--	[On]	[On]	8	[1][2][1][2][1][2][1][2]
1119	Stein Bass 2	BL1 - Bass/Lead 1	Generated-Riff	[Fifths]	10	74	--	--	--	[On]	[On]	8	1 2 1 2 1 2 1 2
1120	SynBass Line 01	BL1 - Bass/Lead 1	Generated-Riff	[Scalic2]	2	16	71	--	--	[On]	[On]	4	1 1 1 2
1121	SynBass Line 02	BL1 - Bass/Lead 1	Generated-Riff	[Scalic]	2	16	--	--	--	[On]	[On]	8	1 1 1 1 1 1 1 2
1122	SynBass Line 03	BL1 - Bass/Lead 1	Generated-Riff	[Scalic]	10	16	--	--	--	[On]	[On]	8	[1][1][1][1][1][1][1][1]
1123	SynBass Line 04	BL1 - Bass/Lead 1	Generated-Riff	[Chromatic]	2	1	71	--	--	[On]	[On]	4	[1][1][1][1][2]
1124	SynBass Line 05	BL1 - Bass/Lead 1	Generated-Riff	[Scalic2]	--	--	71	74	79	[On]	[On]	4	1 1 1 1
1125	SynBass Line 06	BL1 - Bass/Lead 1	Generated-Riff	[Scalic]	10	16	71	72	PB	[On]	[On]	1	1
1126	SynBass Line 07	BL1 - Bass/Lead 1	Generated-Riff	[WholeTone]	10	16	71	--	--	[On]	[On]	4	[1][1][1][1][2]
1127	Techno Riff 01	GV1 - Gated Vel/Pat 1	Generated-Gated	[Regular]	[010]	--	--	--	--	[On]	[On]	[8]	1 1 1 1 1 1 1 1
1128	Techno Riff 02	DM1 - Drum Melodic 1	Generated-Drum	WholeTone	74	73	--	--	--	[On]	[On]	16	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
1129	Tekno OrganBass	CL1 - Comp/Lead 1	Generated-Riff	[Scalic2]	16	71	16	71	--	[On]	[On]	8	1 2 1 2 1 2 1 2
1130	Trance Bass 1	BL1 - Bass/Lead 1	Generated-Riff	[Regular]	10	16	--	--	--	[On]	[On]	8	1 1 1 1 1 1 1 1
1131	Walking Bass 5	GV1 - Gated Vel/Pat 1	Generated-Gated	[Regular]	[010]	--	--	--	--	[On]	[On]	[4]	1 2 1 2
1132	16th Rush	GV1 - Gated Vel/Pat 1	Generated-Gated	[Regular]	[010]	--	--	--	--	[On]	[On]	[2]	1 2
1133	16th Walk Bs 2	BL1 - Bass/Lead 1	Generated-Riff	[Scalic]	10	--	--	--	--	[On]	[On]	4	1 [1] 1 2
1134	16th note Pop	BL1 - Bass/Lead 1	Generated-Riff	[Scalic]	2	1	71	--	--	[On]	[On]	2	[1][1]
1135	30303 MegaBass	BL1 - Bass/Lead 1	Generated-Riff	[Regular]	74	16	18	--	--	[On]	[On]	4	1 1 1 2
1136	7/8 Bass Line	BL1 - Bass/Lead 1	Generated-Riff	[Regular]	--	--	--	--	--	[On]	[On]	4	1 1 1 2
1137	70's Disco	GV1 - Gated Vel/Pat 1	Generated-Gated	[Regular]	[010]	--	--	--	--	[On]	[On]	[4]	1 1 1 1
1138	Acid	GV1 - Gated Vel/Pat 1	Generated-Gated	[Regular]	[010]	--	--	--	--	[On]	[On]	[8]	1 1 1 1 1 1 1 1
1139	Acid 5 Step	GV1 - Gated Vel/Pat 1	Generated-Gated	[Regular]	[010]	--	--	--	--	[On]	[On]	[4]	1 1 1 1
1140	Aggro Bass	BL1 - Bass/Lead 1	Generated-Riff	[Regular]	10	--	74	80	71	[On]	[On]	8	1 2 1 2 1 2 1 2
1141	Basic Slap Bass	DM1 - Drum Melodic 1	Generated-Drum	WholeTone	--	--	--	--	--	[On]	[On]	16	[1][2][1][2][1][2][1][2][1][2][1][2][1][2][1][2]
1142	Bass Lines 1	DM1 - Drum Melodic 1	Generated-Drum	WholeTone	10	--	16	74	21	[On]	[On]	16	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 2
1143	Bass Lines 2	BL1 - Bass/Lead 1	Generated-Riff	[Chromatic]	74	--	--	--	--	[On]	[On]	8	1 1 1 2 1 1 1 2
1144	Bass Lines 3	BL1 - Bass/Lead 1	Generated-Riff	[Scalic2]	74	--	--	--	--	[On]	[On]	8	1 1 1 2 1 1 1 2
1145	Bass Pump	GV1 - Gated Vel/Pat 1	Generated-Gated	[Regular]	[016]	--	--	--	--	[On]	[On]	[2]	1 1
1146	Byow Drone	BL1 - Bass/Lead 1	Generated-Riff	[Regular]	10	71	16	83	--	[On]	[On]	8	1 1 1 1 1 1 1 1
1147	Chaser 1	GV1 - Gated Vel/Pat 1	Generated-Gated	[Regular]	[010]	--	--	--	--	[On]	[On]	[4]	1 1 1 1
1148	Chaser 2	GV1 - Gated Vel/Pat 1	Generated-Gated	[Regular]	79	--	--	--	--	[On]	[On]	[4]	1 1 1 1
1149	Cycling 16ths 2	BL1 - Bass/Lead 1	Generated-Riff	[Regular]	10	--	--	--	--	[On]	[On]	8	1 2 1 2 1 2 1 2
1150	Dance & Comp 1	GV1 - Gated Vel/Pat 1	Generated-Gated	[Regular]	[010]	--	--	--	--	[On]	[On]	[4]	1 1 1 1
1151	Dance & Comp 2	GV1 - Gated Vel/Pat 1	Generated-Gated	[Regular]	[010]	--	--	--	--	[On]	[On]	[8]	1 1 1 1 1 1 1 1
1152	Dance 1	GV1 - Gated Vel/Pat 1	Generated-Gated	[Regular]	[010]	--	--	--	--	[On]	[On]	[4]	1 1 1 1
1153	Dance 2	GV1 - Gated Vel/Pat 1	Generated-Gated	[Regular]	[010]	--	--	--	--	[On]	[On]	[4]	1 1 1 1
1154	Dance 3	GV1 - Gated Vel/Pat 1	Generated-Gated	[Regular]	[010]	--	--	--	--	[On]	[On]	[8]	1 1 1 1 1 1 1 1

Voice Name List

[] = can be controlled or changed by GE Parameters.

#	GE Name	RTC Model	GE Type	Note Type	CC-A	CC-B	Env 1	Env 2	Env 3	Bend	Rpt	Items	Phase Pattern
1155	DanceBassMenu	BL1 - Bass/Lead 1	Generated-Riff	[Regular]	10	16	21	11	16	[On]	[On]	8	1 1 1 1 2 2 2 2
1156	Dark Bass	BL1 - Bass/Lead 1	Generated-Riff	[Scalic]	71	--	--	--	--	[On]	[On]	8	1 1 1 1 1 1 1 1
1157	Decayed Bass	BL1 - Bass/Lead 1	Generated-Riff	[Regular]	16	80	18	--	--	[On]	[On]	4	1 1 1 1
1158	Digi Syn Bass 1	BL1 - Bass/Lead 1	Generated-Riff	[Regular]	--	74	VE	--	--	[On]	[On]	8	1 2 1 2 1 2 1 2
1159	Digi Syn Bass 2	BL1 - Bass/Lead 1	Generated-Riff	[Regular]	--	74	VE	--	--	[On]	[On]	8	1 1 1 1 1 1 1 1
1160	Dirty Man Bass	BL1 - Bass/Lead 1	Generated-Riff	[Regular]	16	--	--	--	--	[On]	[On]	4	1 1 1 2
1161	Disco Slapper	GV1 - Gated Vel/Pat 1	Generated-Gated	[Regular]	[010]	--	--	--	--	[On]	[On]	[2]	1 2
1162	Drum'n'Bass Bs 1	GV1 - Gated Vel/Pat 1	Generated-Gated	[Regular]	[010]	--	--	--	--	[On]	[On]	[4]	1 1 1 1
1163	Drum'n'Bass Bs 2	GV1 - Gated Vel/Pat 1	Generated-Gated	[Regular]	[010]	--	--	--	--	[On]	[On]	[4]	1 1 1 1
1164	Duration Bass	BL1 - Bass/Lead 1	Generated-Riff	[Scalic]	10	--	--	--	--	[On]	[On]	4	1 1 1 1
1165	E. Groove Bass	BL1 - Bass/Lead 1	Generated-Riff	[Scalic2]	74	--	--	--	--	[On]	[On]	4	1 1 1 2
1166	E.Bass Finger 1	BL1 - Bass/Lead 1	Generated-Riff	[Regular]	--	--	--	--	--	[On]	[On]	4	1 1 1 2
1167	E.Bass Pick	BL1 - Bass/Lead 1	Generated-Riff	[Scalic2]	10	20	VE	--	--	[On]	[On]	8	1 1 1 1 1 1 1 1
1168	E.BassLine 09	BL1 - Bass/Lead 1	Generated-Riff	[Chromatic]	--	--	--	--	--	[On]	[On]	8	1 1 1 1 1 1 1 1
1169	E.BassLine 10	BL1 - Bass/Lead 1	Generated-Riff	[Scalic2]	10	PB	--	--	--	[On]	[On]	8	[1][1][1][1][1][1][1][1]
1170	E.BassLine 11	BL1 - Bass/Lead 1	Generated-Riff	[Scalic2]	79	--	75	79	--	[On]	[On]	8	[1][1][1][1][1][1][1][1]
1171	Electro Bass 2	BL1 - Bass/Lead 1	Generated-Riff	[Scalic2]	--	--	--	--	--	[On]	[On]	[4]	1 1 1 2
1172	Euro 1	GV1 - Gated Vel/Pat 1	Generated-Gated	[Regular]	[010]	--	--	--	--	[On]	[On]	[4]	1 1 1 1
1173	Euro 2	GV1 - Gated Vel/Pat 1	Generated-Gated	[Regular]	71	--	--	80	79	[On]	[On]	[4]	1 1 1 1
1174	Fast Syncopate	GV1 - Gated Vel/Pat 1	Generated-Gated	[Regular]	[010]	--	--	--	--	[On]	[On]	[4]	1 2 1 2
1175	FastVeloNote	GV1 - Gated Vel/Pat 1	Generated-Gated	[Regular]	[010]	--	--	--	--	[On]	[On]	[4]	1 1 1 1
1176	Flash	GV1 - Gated Vel/Pat 1	Generated-Gated	[Regular]	[010]	--	--	--	--	[On]	[On]	[4]	1 1 1 1
1177	Floyd/Moroder	BL1 - Bass/Lead 1	Generated-Riff	[Fifths]	2	71	11	--	--	[On]	[On]	8	1 1 1 1 1 1 1 1
1178	Funk	GV1 - Gated Vel/Pat 1	Generated-Gated	[Regular]	[010]	--	--	--	--	[On]	[On]	[4]	1 1 1 1
1179	Funk Bass	BL1 - Bass/Lead 1	Generated-Riff	[Scalic2]	10	--	PB	--	--	[On]	[On]	4	1 1 1 2
1180	Funky Slap Bass	BL1 - Bass/Lead 1	Generated-Riff	[Scalic]	10	--	--	--	--	[On]	[On]	4	1 1 1 2
1181	Funky Tekno	GV1 - Gated Vel/Pat 1	Generated-Gated	[Regular]	[010]	--	--	--	--	[On]	[On]	[4]	1 1 1 1
1182	Future Funk Bass	BL1 - Bass/Lead 1	Generated-Riff	[Scalic]	--	--	--	--	--	[On]	[On]	7	1 1 1 1 1 1 2
1183	Gated Dance	GV1 - Gated Vel/Pat 1	Generated-Gated	[Regular]	[010]	--	--	--	--	[On]	[On]	[4]	1 1 1 1
1184	Get In Groove	BL1 - Bass/Lead 1	Generated-Riff	[Fourths]	10	--	16	--	--	[On]	[On]	[8]	1 1 1 [1] 1 1 1 2
1185	Groove Analog 01	GV1 - Gated Vel/Pat 1	Generated-Gated	[Regular]	[010]	--	--	--	--	[On]	[On]	[4]	1 1 1 1
1186	Groove Analog 02	GV1 - Gated Vel/Pat 1	Generated-Gated	[Regular]	[010]	--	--	--	--	[On]	[On]	[4]	1 1 1 1
1187	Groove Analog 03	GV1 - Gated Vel/Pat 1	Generated-Gated	[Regular]	[016]	--	--	--	--	[On]	[On]	[2]	1 1
1188	HipHop Bass 1	GV1 - Gated Vel/Pat 1	Generated-Gated	[Regular]	[010]	--	--	--	--	[On]	[On]	[8]	1 1 1 1 1 1 1 1
1189	Hop/Funk	GV1 - Gated Vel/Pat 1	Generated-Gated	[Regular]	[010]	--	--	--	--	[On]	[On]	[4]	1 1 1 1
1190	House Bass 1	GV1 - Gated Vel/Pat 1	Generated-Gated	[Regular]	[010]	--	--	--	--	[On]	[On]	[4]	1 1 1 1
1191	House Bass 2	DM1 - Drum Melodic 1	Generated-Drum	WholeTone	10	--	74	71	--	[On]	[On]	16	1 1 1 1 1 1 1 1 1 1 1 1 1 2
1192	Jungle Liar	DM1 - Drum Melodic 1	Generated-Drum	WholeTone	16	2	PB	71	--	[On]	[On]	16	1 1 1 1 1 1 1 1 1 1 1 1 1 2
1193	Komplicate	GV1 - Gated Vel/Pat 1	Generated-Gated	[Regular]	[010]	--	--	--	--	[On]	[On]	[4]	1 1 1 1
1194	Kreeper	GV1 - Gated Vel/Pat 1	Generated-Gated	[Regular]	[010]	--	--	--	--	[On]	[On]	[4]	1 1 1 1
1195	Latin Bass 3	GV1 - Gated Vel/Pat 1	Generated-Gated	[Regular]	[010]	--	--	--	--	[On]	[On]	[4]	1 1 1 1
1196	Latin Bass 4	BL1 - Bass/Lead 1	Generated-Riff	[Scalic]	10	--	--	--	--	[On]	[On]	4	1 1 1 2
1197	Latin Bass Pattern 3/4	BL1 - Bass/Lead 1	Generated-Riff	[Scalic]	11	16	--	--	--	[On]	[On]	8	1 1 1 1 1 1 1 1
1198	Metal Bass	BL1 - Bass/Lead 1	Generated-Riff	[Scalic2]	--	--	72	79	20	[On]	[On]	8	[1][1][1][1][1][1][1][1]
1199	Nasty Bass	DM1 - Drum Melodic 1	Generated-Drum	WholeTone	20	10	VE	74	--	[On]	[On]	16	1 1 1 1 1 1 1 1 1 1 1 1 1 2
1200	NuHopChrd 2	GV1 - Gated Vel/Pat 1	Generated-Gated	[Regular]	[010]	--	--	--	--	[On]	[On]	[4]	1 1 1 1
1201	Open Funk 1	GV1 - Gated Vel/Pat 1	Generated-Gated	[Regular]	[010]	--	--	--	--	[On]	[On]	[4]	1 1 1 1
1202	Open Funk 2	GV1 - Gated Vel/Pat 1	Generated-Gated	[Regular]	[010]	--	--	--	--	[On]	[On]	[4]	1 1 1 1
1203	Phunky Wah 1	GV1 - Gated Vel/Pat 1	Generated-Gated	[Regular]	[010]	--	--	--	--	[On]	[On]	[16]	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
1204	Phunky Wah 2	GV1 - Gated Vel/Pat 1	Generated-Gated	[Regular]	[010]	--	--	--	--	[On]	[On]	[16]	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
1205	Random Throb	BL1 - Bass/Lead 1	Generated-Riff	[Regular]	8	--	74	83	82	[On]	[On]	4	1 1 1 2
1206	Repeat	GV1 - Gated Vel/Pat 1	Generated-Gated	[Regular]	19	--	--	--	--	[On]	[On]	[4]	1 1 1 1
1207	Retro Pattern	GV1 - Gated Vel/Pat 1	Generated-Gated	[Regular]	[010]	--	--	--	--	[On]	[On]	[4]	1 1 1 1
1208	Rock Shuffle Bass	BL1 - Bass/Lead 1	Generated-Riff	[Scalic]	11	16	--	--	--	[On]	[On]	4	1 1 1 2
1209	Seq Bass	DM1 - Drum Melodic 1	Generated-Drum	WholeTone	16	16	--	--	--	[On]	[On]	16	1 1 1 1 1 1 1 1 1 1 1 1 1 2
1210	Shaman	GV1 - Gated Vel/Pat 1	Generated-Gated	[Regular]	[010]	--	--	--	--	[On]	[On]	[4]	1 1 1 1
1211	Silver Bass	BL1 - Bass/Lead 1	Generated-Riff	[Regular]	10	16	--	VE	--	[On]	[On]	7	1 1 2 2 2 2 2 2
1212	Slap Bass 2	BL1 - Bass/Lead 1	Generated-Riff	[Scalic]	10	--	--	--	--	[On]	[On]	[4]	1 1 1 2
1213	Slap Bass 3	BL1 - Bass/Lead 1	Generated-Riff	[Scalic]	10	--	--	--	--	[On]	[On]	[4]	1 1 1 2
1214	Slap Bass 4	BL1 - Bass/Lead 1	Generated-Riff	[Regular]	10	74	VE	79	71	[On]	[On]	4	1 1 1 2
1215	Slap Bass 5	BL1 - Bass/Lead 1	Generated-Riff	[Scalic]	10	74	VE	79	71	[On]	[On]	4	1 1 1 2
1216	Slap Bass Variation	BL1 - Bass/Lead 1	Generated-Riff	[Scalic]	10	--	--	--	--	[On]	[On]	4	1 1 1 2
1217	Snaky Synth-Bass	GV1 - Gated Vel/Pat 1	Generated-Gated	[Regular]	[010]	--	--	--	--	[On]	[On]	[4]	1 1 1 1
1218	Soul	GV1 - Gated Vel/Pat 1	Generated-Gated	[Regular]	[010]	--	--	--	--	[On]	[On]	[4]	1 1 1 1
1219	Sparse Bass	BL1 - Bass/Lead 1	Generated-Riff	[WholeTone]	10	--	--	--	--	[On]	[On]	[4]	1 2 1 2
1220	Stein Bass Syn	BL1 - Bass/Lead 1	Generated-Riff	[Regular]	10	74	--	--	--	[On]	[On]	4	[1][1][1][2]
1221	Straight Bass 2	BL1 - Bass/Lead 1	Generated-Riff	[Scalic2]	10	PB	71	74	73	[On]	[On]	8	1 1 1 1 1 1 1 1
1222	Stravy Bass	GV1 - Gated Vel/Pat 1	Generated-Gated	[Regular]	[010]	--	--	--	--	[On]	[On]	[4]	1 1 1 1
1223	SynBass Line 08	BL1 - Bass/Lead 1	Generated-Riff	[Regular]	2	16	71	--	--	[On]	[On]	8	1 1 1 1 1 1 1 1
1224	SynBass Line 09	BL1 - Bass/Lead 1	Generated-Riff	[Scalic]	2	16	--	--	--	[On]	[On]	4	1 1 1 2
1225	SynBass Line 10	BL1 - Bass/Lead 1	Generated-Riff	[Scalic2]	2	1	71	--	--	[On]	[On]	8	[1][1][1][2][1][1][1][2]
1226	SynBass Line 11	BL1 - Bass/Lead 1	Generated-Riff	[Scalic2]	--	--	71	74	79	[On]	[On]	4	[1][1][1][1]
1227	SynBass Line 12	BL1 - Bass/Lead 1	Generated-Riff	[Scalic2]	10	--	71	79	--	[On]	[On]	4	1 1 1 2
1228	SynBass Line 13	BL1 - Bass/Lead 1	Generated-Riff	[Scalic]	10	--	71	79	--	[On]	[On]	4	1 1 1 2

[] = can be controlled or changed by GE Parameters.

#	GE Name	RTC Model	GE Type	Note Type	CC-A	CC-B	Env 1	Env 2	Env 3	Bend	Rpt	Items	Phase Pattern
1229	SynBass Line 14	BL1 - Bass/Lead 1	Generated-Riff	[Scalic2]	71	16	VE	74	72	[On]	[On]	8	1 1 1 1 1 1 1
1230	SynBass Res 1	BL1 - Bass/Lead 1	Generated-Riff	[Scalic2]	71	16	VE	74	72	[On]	[On]	4	1 2 1 2
1231	SynBass Res 2	BL1 - Bass/Lead 1	Generated-Riff	[Regular]	71	16	VE	74	72	[On]	[On]	4	1 2 1 2
1232	TEKNO stutler	GV1 - Gated Vel/Pat 1	Generated-Gated	[Regular]	[010]	--	--	--	--	[On]	[On]	[4]	1 1 1 1
1233	TeaBea	GV1 - Gated Vel/Pat 1	Generated-Gated	[Regular]	[010]	--	--	--	--	[On]	[On]	[4]	1 1 1 1
1234	Techno Riff 03	GV1 - Gated Vel/Pat 1	Generated-Gated	[Regular]	[010]	--	--	--	--	[On]	[On]	[16]	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
1235	Techno Riff 04	GV1 - Gated Vel/Pat 1	Generated-Gated	[Regular]	[010]	--	--	--	--	[On]	[On]	[4]	1 1 1 1
1236	Techno Riff 05	GV1 - Gated Vel/Pat 1	Generated-Gated	[Regular]	[010]	--	--	--	--	[On]	[On]	[4]	1 1 1 1
1237	Techno Riff 06	GV1 - Gated Vel/Pat 1	Generated-Gated	[Regular]	[010]	--	--	--	--	[On]	[On]	[8]	1 1 1 1 1 1 1 1
1238	Techno Riff 07	GV1 - Gated Vel/Pat 1	Generated-Gated	[Regular]	[010]	--	--	--	--	[On]	[On]	[4]	1 1 1 1
1239	Techno Riff 08	GV1 - Gated Vel/Pat 1	Generated-Gated	[Regular]	[010]	--	--	--	--	[On]	[On]	[4]	1 1 1 1
1240	Techno Riff 09	GV1 - Gated Vel/Pat 1	Generated-Gated	[Regular]	[010]	--	--	--	--	[On]	[On]	[8]	1 1 1 1 1 1 1 1
1241	Techno Riff 10	GV1 - Gated Vel/Pat 1	Generated-Gated	[Regular]	[010]	--	--	--	--	[On]	[On]	[8]	1 1 1 1 1 1 1 1
1242	Techno Riff 11	GV1 - Gated Vel/Pat 1	Generated-Gated	[Regular]	[010]	--	--	--	--	[On]	[On]	[8]	1 1 1 1 1 1 1 1
1243	Techno Riff 12	GV1 - Gated Vel/Pat 1	Generated-Gated	[Regular]	[010]	--	--	--	--	[On]	[On]	[4]	1 1 1 1
1244	Techno Riff 13	DM1 - Drum Melodic 1	Generated-Drum	WholeTone	80	16	83	74	72	[On]	[On]	16	1 1 1 1 1 1 1 1 1 1 1 1 1 1 2
1245	Techno Riff 14	BL1 - Bass/Lead 1	Generated-Riff	[Fourths]	74	--	--	--	--	[On]	[On]	[2]	1 2
1246	Techno Riff 15	DM1 - Drum Melodic 1	Generated-Drum	WholeTone	74	--	--	--	--	[On]	[On]	16	1 1 1 1 1 1 1 1 1 1 1 1 1 1 2
1247	Techno Riff Repeat	BL1 - Bass/Lead 1	Generated-Riff	[Regular]	10	--	71	--	PB	[On]	[On]	1	1
1248	TechnoBossa	GV1 - Gated Vel/Pat 1	Generated-Gated	[Regular]	[010]	--	--	--	--	[On]	[On]	[4]	1 1 1 1
1249	TeknoBass	DM1 - Drum Melodic 1	Generated-Drum	WholeTone	10	16	71	--	PB	[On]	[On]	16	1 1 1 1 1 1 1 1 1 1 1 1 1 1 2
1250	Throb Pattern	BL1 - Bass/Lead 1	Generated-Riff	[Scalic]	10	--	79	71	11	[On]	[On]	8	1 1 1 1 1 2 2
1251	Trance Bass 2	GV1 - Gated Vel/Pat 1	Generated-Gated	[Regular]	[010]	--	--	--	--	[On]	[On]	[4]	1 1 1 1
1252	TranceBossa	GV1 - Gated Vel/Pat 1	Generated-Gated	[Regular]	[010]	--	--	--	--	[On]	[On]	[4]	1 1 1 1
1253	Trancey Bass	GV1 - Gated Vel/Pat 1	Generated-Gated	[Regular]	[010]	--	--	--	--	[On]	[On]	[4]	1 1 1 1
1254	Tribal	GV1 - Gated Vel/Pat 1	Generated-Gated	[Regular]	[010]	--	--	--	--	[On]	[On]	[4]	1 1 1 1
1255	Woodwind Bass	GV1 - Gated Vel/Pat 1	Generated-Gated	[Regular]	[010]	--	--	--	--	[On]	[On]	[4]	1 1 1 1 b

Category: Gated

#	GE Name	RTC Model	GE Type	Note Type	CC-A	CC-B	Env 1	Env 2	Env 3	Bend	Rpt	Items	Phase Pattern
1256	Analog Pad Gate 1	GC1 - Gated CCs 1	Generated-Gated	[Regular]	[016]	17	20	21	--	[On]		8	1 1 1 2 1 1 1 2
1257	Analog Pad Gate 2	GC1 - Gated CCs 1	Generated-Gated	[Regular]	[010]	--	20	21	--	[On]		4	1 1 1 2
1258	Dr. Chopper 1	GC1 - Gated CCs 1	Generated-Gated	[Regular]	[010]	--	VE	--	--	[On]		4	[1][1][1][2]
1259	Dr. Chopper 2	GC1 - Gated CCs 1	Generated-Gated	[Regular]	[010]	16	--	74	--	[On]		8	1 1 1 2 1 1 1 2
1260	Endlessly Rising	GC1 - Gated CCs 1	Generated-Gated	[Regular]	[016]	PB	2	10	1	[On]		8	1 1 1 1 1 1 1 1
1261	Full Vox Pad 1	GC1 - Gated CCs 1	Generated-Gated	[Regular]	[010]	74	16	79	71	[On]		8	1 2 1 2 1 2 1 2
1262	Full Vox Pad 2	GC1 - Gated CCs 1	Generated-Gated	[Regular]	[010]	74	16	79	71	[On]		8	1 2 1 2 1 2 1 2
1263	Gated Thing 1	GC1 - Gated CCs 1	Generated-Gated	[Regular]	[002]	1	1	83	71	[On]		8	1 2 1 2 1 2 1 2
1264	Gator	GC1 - Gated CCs 1	Generated-Gated	[Regular]	[010]	--	74	--	--	[On]		4	1 2 1 2
1265	Intransity	GC1 - Gated CCs 1	Generated-Gated	[Regular]	[010]	--	--	--	79	[On]		[2]	1 2
1266	Meditate 2	GC1 - Gated CCs 1	Generated-Gated	[Regular]	[010]	--	16	21	--	[On]		4	1 1 1 2
1267	New Reggae	GC1 - Gated CCs 1	Generated-Gated	[Regular]	[020]	PB	--	--	--	[On]		4	1 1 1 1
1268	Pad Gate	GC1 - Gated CCs 1	Generated-Gated	[Regular]	[010]	--	20	21	--	[On]		4	1 1 1 1
1269	Vector Techno Mix	GC1 - Gated CCs 1	Generated-Gated	[Regular]	[016]	1	21	19	11	[On]		8	1 2 1 2 1 2 1 2
1270	Abbesque	GC1 - Gated CCs 1	Generated-Gated	[Regular]	[010]	80	--	71	74	[On]		[4]	1 2 1 2
1271	Chop Pad w/Bend	GC1 - Gated CCs 1	Generated-Gated	[Regular]	[010]	--	82	--	--	[On]		8	[2] 2 2 2 2 2 2 2
1272	Chop Pad/Arp	GC1 - Gated CCs 1	Generated-Gated	[Regular]	[010]	80	83	12	83	[On]	[On]	4	1 1 1 2
1273	Cinema Pad	GC1 - Gated CCs 1	Generated-Gated	[Regular]	[010]	--	10	73	--	[On]	[On]	8	1 1 1 1 1 1 1 1
1274	Classic Click	GC1 - Gated CCs 1	Generated-Gated	[Regular]	[010]	19	74	79	71	[On]	[On]	8	1 2 1 2 1 2 1 2
1275	Cosmology	GC1 - Gated CCs 1	Generated-Gated	[Regular]	[010]	9	--	--	--	[On]		[4]	1 1 1 2
1276	Dr. Chopper 3	GC1 - Gated CCs 1	Generated-Gated	[Regular]	[010]	16	VE	18	21	[On]		8	1 1 1 2 1 1 1 2
1277	Entropy	GC1 - Gated CCs 1	Generated-Gated	[Regular]	[010]	PB	19	--	PB	[On]		[4]	1 1 1 2
1278	Gated Bend	GC1 - Gated CCs 1	Generated-Gated	[Regular]	[010]	2	--	--	--	[On]		4	1 1 1 2
1279	Gated Thing 2	GC1 - Gated CCs 1	Generated-Gated	[Regular]	[002]	1	1	[008]	71	[On]		8	1 2 1 2 1 2 1 2
1280	Good Old B	GC1 - Gated CCs 1	Generated-Gated	[Regular]	[010]	19	74	79	71	[On]	[On]	8	1 2 1 2 1 2 1 2
1281	Meditate 3	GC1 - Gated CCs 1	Generated-Gated	[Regular]	[010]	--	16	21	--	[On]		4	1 1 1 2
1282	OutOfTheClouds	GC1 - Gated CCs 1	Generated-Gated	[Regular]	[010]	--	16	20	--	[On]		8	1 1 1 1 1 1 1 2
1283	SuperSawBrass	GC1 - Gated CCs 1	Generated-Gated	[Regular]	[010]	20	20	16	2	[On]	[On]	8	1 2 1 2 1 2 1 2
1284	Vanishing Planet	GC1 - Gated CCs 1	Generated-Gated	[Regular]	[010]	--	16	--	--	[On]		8	1 1 1 1 1 1 1 2

Category: Drum

#	GE Name	RTC Model	GE Type	Note Type	CC-A	CC-B	Env 1	Env 2	Env 3	Bend	Rpt	Items	Phase Pattern
1285	16 Beat 1 [All Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	[010]	--	--	--	--	[On]	[On]	16	1 1 1 1 1 1 1 1 1 1 1 1 1 1 2
1286	16 Beat 2 [All Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	[010]	--	--	--	--	[On]	[On]	16	1 1 1 1 1 1 1 1 1 1 1 1 1 1 2
1287	16 Beater 1 [All Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	2	77	--	--	--	[On]	[On]	16	1 1 1 1 1 1 1 1 1 1 1 1 1 1 2
1288	16th Beat [All Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	2	77	16	71	77	[On]	[On]	16	1 1 1 1 1 1 1 1 1 1 1 1 1 1 2
1289	3/4 Waltz 1 [All Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	10	16	--	--	--	[On]	[On]	16	1 1 1 1 1 1 1 1 1 1 1 1 1 1 2
1290	3/4 Waltz 2 [All Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	10	16	--	--	--	[On]	[On]	16	1 1 1 1 1 1 1 1 1 1 1 1 1 1 2
1291	3/4 Waltz 3 [All Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	10	16	--	--	--	[On]	[On]	16	1 1 1 1 1 1 1 1 1 1 1 1 1 1 2
1292	4 Square Country [All Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	10	16	--	--	--	[On]	[On]	16	1 1 1 1 2 1 1 1 1 1 1 1 1 1 2
1293	4 on the floor [All Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	[010]	--	--	--	--	[On]	[On]	16	1 1 1 1 1 1 1 1 1 1 1 1 1 1 2
1294	5/4 Simple [All Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	10	16	--	--	--	[On]	[On]	16	1 1 1 1 1 1 1 1 1 1 1 1 1 1 2
1295	6/4 Calming Groove [All Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	10	16	--	--	--	[On]	[On]	16	1 1 1 1 1 1 1 1 1 1 1 1 1 1 2

Voice Name List

[] = can be controlled or changed by GE Parameters.

#	GE Name	RTC Model	GE Type	Note Type	CC-A	CC-B	Env 1	Env 2	Env 3	Bend	Rpt	Items	Phase Pattern
1296	6/8 Country Ballad [All Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	10	16	--	--	--	[On]	[On]	16	1111111111111112
1297	6/8 Slow Rock 1 [All Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	10	16	--	--	--	[On]	[On]	16	1111111111111112
1298	6/8 Slow Rock 2 [All Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	10	16	--	--	--	[On]	[On]	16	1111111111111112
1299	8 Beat 1 - All Kits	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	[010]	--	--	--	--	[On]	[On]	16	1111111111111112
1300	8 Beat 2 [All Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	--	--	--	--	--	[On]	[On]	16	1111111111111112
1301	BD/HH/SD 16ths [All Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	[010]	--	--	--	--	[On]	[On]	16	1111111111111112
1302	BD/HH/SD 16ths [All Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	[010]	--	--	--	--	[On]	[On]	16	1111111111111112
1303	Basic Rock [All Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	10	16	--	--	--	[On]	[On]	16	1111111111111112
1304	Bell Ride Rock [All Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	10	16	--	--	--	[On]	[On]	16	1111111111111112
1305	Big Rocker [All Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	10	--	--	--	--	[On]	[On]	16	1111111111111112
1306	Bon homme [All Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	--	--	--	--	--	[On]	[On]	16	1111111111111112
1307	Boy Bandz [All Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	[010]	--	--	--	--	[On]	[On]	16	1111111111111112
1308	Country Kick [All Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	10	16	--	--	--	[On]	[On]	16	1111111111111112
1309	Country Pop [All Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	10	16	--	--	--	[On]	[On]	16	1111111111111112
1310	Cross Eyed [All Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	10	16	--	--	--	[On]	[On]	16	1111111111111112
1311	Easy Rider [All Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	[010]	--	--	--	--	[On]	[On]	16	1111111111111112
1312	GoGo Drum [All Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	10	16	--	--	--	[On]	[On]	16	1111111111111112
1313	Happy Country [All Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	10	16	--	--	--	[On]	[On]	16	1111111111111112
1314	Hard Knock 1 [Dance Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	[008]	--	--	--	--	[On]	[On]	16	1111111111111112
1315	Heavy Halftime [All Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	10	--	--	--	--	[On]	[On]	16	1111111111111112
1316	Heavy Rock [All Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	[010]	--	--	--	--	[On]	[On]	16	1111111111111112
1317	In The Pocket [All Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	[010]	--	--	--	--	[On]	[On]	16	1111111111111112
1318	Killer [All Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	[010]	--	--	--	--	[On]	[On]	16	1111111111111112
1319	Metal [All Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	--	--	--	--	--	[On]	[On]	16	1111111111111112
1320	Monster Rock 1 [All Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	10	16	--	--	--	[On]	[On]	16	1111111111111112
1321	Monster Rock 2 [All Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	10	16	--	--	--	[On]	[On]	16	1111111111111112
1322	Monster Rock 3 [All Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	10	16	--	--	--	[On]	[On]	16	1111111111111112
1323	New Raw Groove [Dance Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	[071]	--	--	--	--	[On]	[On]	16	1111111111111112
1324	Offbeat Snare Grv [Dance Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	[010]	--	--	--	--	[On]	[On]	16	1111111111111112
1325	Pop Groove 1 [All Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	10	16	--	--	--	[On]	[On]	16	1111111111111112
1326	Processed 1 [All Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	2	77	16	71	77	[On]	[On]	16	1111111111111112
1327	Processed 2 [All Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	2	77	16	71	77	[On]	[On]	16	1111111111111112
1328	ROCKER [All Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	2	77	16	71	77	[On]	[On]	16	1111111111111112
1329	Reggae Pop [All Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	10	16	--	--	--	[On]	[On]	16	1111111111111112
1330	Reggae Rock [All Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	10	16	--	--	--	[On]	[On]	16	1111111111111112
1331	Reggae Sparce [All Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	10	16	--	--	--	[On]	[On]	16	1111111111111112
1332	Reggae Swag [All Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	10	16	--	--	--	[On]	[On]	16	1111111111111112
1333	Ride Pop 1 [All Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	10	16	--	--	--	[On]	[On]	16	1111111111111112
1334	Ride Pop 2 [All Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	10	16	--	--	--	[On]	[On]	16	1111111111111112
1335	Ride Rock [All Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	10	16	--	--	--	[On]	[On]	16	1111111111111112
1336	Riderock [Acoustic Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	10	16	--	--	--	[On]	[On]	16	1111111111111112
1337	Rock Groove [All Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	74	71	--	--	--	[On]	[On]	16	1111111111111112
1338	Rock Ride [All Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	10	16	--	--	--	[On]	[On]	16	1111111111111112
1339	Rock Shoes [Rock Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	10	16	--	--	--	[On]	[On]	16	1111111111111112
1340	Rock [All Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	10	--	--	--	--	[On]	[On]	16	1111111111111112
1341	Rocking Rides [All Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	10	16	--	--	--	[On]	[On]	16	1111111111111112
1342	Rollin [All Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	--	1	71	79	2	[On]	[On]	16	1111111111111112
1343	Santa Cruz [All Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	10	16	--	--	--	[On]	[On]	16	1111111111111112
1344	Sidestick Groove [All Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	10	16	--	--	--	[On]	[On]	16	1111111111111112
1345	SlowDrum 2 [All Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	PB	75	--	--	--	[On]	[On]	16	1111111111111112
1346	SlowRock [All Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	[010]	--	--	--	--	[On]	[On]	16	1111111111111112
1347	Steady Rock [All Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	10	16	--	--	--	[On]	[On]	16	1111111111111112
1348	Stinky 1 [All Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	[008]	--	--	--	--	[On]	[On]	16	1111111111111112
1349	Stinky 2 [All Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	[008]	--	--	--	--	[On]	[On]	16	1111111111111112
1350	Straight Beat 1 [All Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	[010]	--	--	--	--	[On]	[On]	16	1111111111111112
1351	Stream Drum [All Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	71	PB	--	--	--	[On]	[On]	16	1111111111111112
1352	Surf Rock [All Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	10	16	--	--	--	[On]	[On]	16	1111111111111112
1353	Texas [All Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	10	16	--	--	--	[On]	[On]	16	1111111111111112
1354	Trouble Rage [All Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	[010]	--	--	--	--	[On]	[On]	16	1111111111111112
1355	Trouble Town [All Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	[010]	--	--	--	--	[On]	[On]	16	1111111111111112
1356	Wacky 16 Beat [All Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	PB	10	16	--	74	[On]	[On]	16	1111111111111112
1357	Your Destiny [All Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	[010]	--	--	--	--	[On]	[On]	16	1111111111111112
1358	Z-Rider [Acoustic Kits]	DM1 - Drum Melodic 1	Generated-Drum	WholeTone	10	1	--	--	--	[On]	[On]	16	1111111111111112
1359	16 Beat Shuffle 1 [All Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	--	--	--	--	--	[On]	[On]	16	1111111111111112
1360	16 Beat Shuffle 2 [All Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	[010]	--	--	--	--	[On]	[On]	16	1111111111111112
1361	3/4 SwWaltz 1 [All Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	10	16	--	--	--	[On]	[On]	16	1111111111111112
1362	3/4 SwWaltz 2 [All Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	10	16	--	--	--	[On]	[On]	16	1111111111111112
1363	3/4 SwWaltz 3 [All Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	10	16	--	--	--	[On]	[On]	16	1111111111111112
1364	4 Beat 1 [Jazz Kit]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	10	--	--	--	--	[On]	[On]	16	1111111111111112
1365	4 Beat 2 [Jazz Kit]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	[--]	--	--	--	--	[On]	[On]	16	1111111111111112
1366	4<->16beat [Jazz Kit]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	10	--	--	--	--	[On]	[On]	16	1111111111111112
1367	Brush Groove 1 [Jazz Kit]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	--	16	--	--	--	[On]	[On]	16	1111111111111112
1368	Brush Groove 2 [Jazz Kit]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	--	16	--	--	--	[On]	[On]	16	1111111111111112
1369	Brush Swirl [Jazz Brush Kit]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	10	--	--	--	--	[On]	[On]	16	1111111111111112

[] = can be controlled or changed by GE Parameters.

#	GE Name	RTC Model	GE Type	Note Type	CC-A	CC-B	Env 1	Env 2	Env 3	Bend	Rpt	Items	Phase Pattern
1370	Cruel Rock [All Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	10	16	--	--	--	[On]	[On]	16	111111111111112
1371	Deep Love [All Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	[074]	--	--	--	--	[On]	[On]	16	111111111111112
1372	Jazz Cymbal&RimShit [All Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	[010]	--	--	--	--	[On]	[On]	16	111111111111112
1373	Jazz Cymbal&Tom [All Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	[010]	--	--	--	--	[On]	[On]	16	111111111111112
1374	Jazz Drum [Jazz Kit]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	10	--	--	--	--	[On]	[On]	16	111111111111112
1375	Jazz Swing [All Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	[010]	--	--	--	--	[On]	[On]	16	111111111111112
1376	Jazz [All Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	[010]	--	--	--	--	[On]	[On]	16	111111111111112
1377	Jazzrides [All Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	10	16	--	--	--	[On]	[On]	16	111111111111112
1378	Jazzy Sidestick [All Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	--	--	--	--	--	[On]	[On]	16	111111111111112
1379	ModJazzImprov [All Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	10	--	--	--	--	[On]	[On]	16	111111111111112
1380	Reggae Lazy 1 [All Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	10	16	--	--	--	[On]	[On]	16	111111111111112
1381	Reggae Lazy 2 [All Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	10	16	--	--	--	[On]	[On]	16	111111111111112
1382	Rock Shuffle Groove [All Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	10	16	--	--	--	[On]	[On]	16	111111111111112
1383	Shuffle 1 [All Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	[010]	--	--	--	--	[On]	[On]	16	111111111111112
1384	Shuffle 2 [All Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	[010]	--	--	--	--	[On]	[On]	16	111111111111112
1385	Slow Blues Beat 3/4 [All Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	10	16	--	--	--	[On]	[On]	16	111111111111112
1386	Swing Country Rock [All Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	10	16	--	--	--	[On]	[On]	16	111111111111112
1387	Swing Groove [All Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	74	71	--	--	--	[On]	[On]	16	111111111111112
1388	Swing [All Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	10	--	--	--	--	[On]	[On]	16	111111111111112
1389	6/8 Mashed Up [Dance Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	10	16	--	--	--	[On]	[On]	16	111111111111112
1390	Da Hip Gruve [All Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	[010]	--	--	--	--	[On]	[On]	16	111111111111112
1391	Dancehall Hop [Dance Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	10	16	--	--	--	[On]	[On]	16	111111111111112
1392	Darkside [Tricki Kit]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	10	75	--	--	--	[On]	[On]	16	111111111111112
1393	Downtempo 1 [All Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	10	16	74	71	--	[On]	[On]	16	111111111111112
1394	Drop a beat [DanceKits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	10	16	--	--	--	[On]	[On]	16	111111111111112
1395	Fingerclicka	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	10	16	--	--	--	[On]	[On]	16	111111111111112
1396	Flip Hop [Dance Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	10	--	--	--	--	[On]	[On]	16	111111111111112
1397	H&L Rap [All Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	--	--	--	--	PB	[On]	[On]	16	111111111111112
1398	Hedtic Garage 1 [Hedtic Kit]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	83	10	--	--	--	[On]	[On]	16	111111111111112
1399	Hip-matic [Dance Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	[010]	--	--	--	--	[On]	[On]	16	111111111111112
1400	HipHop 01 [Dance Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	10	16	74	71	--	[On]	[On]	16	111111111111112
1401	HipHop 02 [Dance Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	10	16	74	71	--	[On]	[On]	16	111111111111112
1402	HipHop 03 [All Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	10	16	74	71	--	[On]	[On]	16	111111111111112
1403	HipHop 04 [Dance Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	10	16	74	71	--	[On]	[On]	16	111111111111112
1404	HipHop 05 [All Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	10	16	74	71	--	[On]	[On]	16	111111111111112
1405	HipHop 06 [All Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	10	16	74	71	--	[On]	[On]	16	111111111111112
1406	HipHop 07 [All Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	10	16	74	71	--	[On]	[On]	16	111111111111112
1407	HipHop 08 [All Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	10	16	74	71	--	[On]	[On]	16	111111111111112
1408	HipHop 09 [All Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	10	16	74	71	--	[On]	[On]	16	111111111111112
1409	HipHop 10 [All Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	10	16	74	71	--	[On]	[On]	16	111111111111112
1410	HipHop 11 [All Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	74	71	--	--	PB	[On]	[On]	16	111111111111112
1411	HipHop 12 [All Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	--	--	16	71	74	[On]	[On]	16	111111111111112
1412	HipHop 13 [All Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	1	--	PB	--	--	[On]	[On]	16	111111111111112
1413	HipHop 14 [All Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	1	--	PB	--	--	[On]	[On]	16	111111111111112
1414	HipHop 15 [All Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	1	--	PB	--	--	[On]	[On]	16	111111111111112
1415	HipHop 16 [All Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	1	--	PB	--	--	[On]	[On]	16	111111111111112
1416	HipHop 17 [All Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	1	--	PB	--	--	[On]	[On]	16	111111111111112
1417	HipHop 18 [Dance Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	--	--	PB	--	--	[On]	[On]	16	111111111111112
1418	HipHop 19 [Dance Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	1	--	PB	--	--	[On]	[On]	16	111111111111112
1419	HipHop 20 [All Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	[010]	--	--	--	--	[On]	[On]	16	111111111111112
1420	HipHop 21 [All Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	1	--	PB	--	--	[On]	[On]	16	111111111111112
1421	HipHop 22 [Dance Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	1	--	PB	--	--	[On]	[On]	16	111111111111112
1422	HipHop 23 [All Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	1	--	PB	--	--	[On]	[On]	16	111111111111112
1423	HipHop 24 [All Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	1	--	PB	--	--	[On]	[On]	16	111111111111112
1424	HipHop 25 [All Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	1	--	PB	--	--	[On]	[On]	16	111111111111112
1425	HipHop 26 [All Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	1	--	PB	--	--	[On]	[On]	16	111111111111112
1426	HipHop 27 [Dance Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	1	--	PB	--	--	[On]	[On]	16	111111111111112
1427	HipHop 28 [All Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	1	--	PB	--	--	[On]	[On]	16	111111111111112
1428	HipHop 29 [All Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	1	--	PB	--	--	[On]	[On]	16	111111111111112
1429	HipHop 30 [Dance Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	1	--	PB	--	--	[On]	[On]	16	111111111111112
1430	HipHop 31 [Dance Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	1	--	PB	--	--	[On]	[On]	16	111111111111112
1431	HipHop 32 [All Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	1	--	PB	--	--	[On]	[On]	16	111111111111112
1432	HipHop 33 [All Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	[010]	--	--	--	--	[On]	[On]	16	111111111111112
1433	HipHop 34 [Dance Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	1	--	PB	--	--	[On]	[On]	16	111111111111112
1434	HipHop 35 [All Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	1	--	PB	--	--	[On]	[On]	16	111111111111112
1435	HipHop 36 [Dance Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	1	--	PB	--	--	[On]	[On]	16	111111111111112
1436	HipHop 37 [Dance Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	1	--	PB	--	--	[On]	[On]	16	111111111111112
1437	HipHop 38 [Dance Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	1	--	PB	--	--	[On]	[On]	16	111111111111112
1438	HipHop 39 [All Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	1	--	PB	--	--	[On]	[On]	16	111111111111112
1439	HipHop 40 [Dance Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	1	--	PB	--	--	[On]	[On]	16	111111111111112
1440	HipHop 41 [Dance Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	[010]	--	--	--	--	[On]	[On]	16	111111111111112
1441	HipHop 42 [All Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	[010]	--	--	--	--	[On]	[On]	16	111111111111112
1442	HipHop Family [All Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	10	16	--	--	--	[On]	[On]	16	111111111111112
1443	HipHop Groove 1 [Dance Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	[016]	16	--	--	--	[On]	[On]	16	111111111111112

Voice Name List

[] = can be controlled or changed by GE Parameters.

#	GE Name	RTC Model	GE Type	Note Type	CC-A	CC-B	Env 1	Env 2	Env 3	Bend	Rpt	Items	Phase Pattern
1444	HipHop Groove 2 [Dance Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	10	16	--	--	--	[On]	[On]	16	1 1 1 1 1 2 1 1 1 1 1 1 2 1 1
1445	HipHop Groove 3 [Dance Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	75	16	--	--	--	[On]	[On]	16	1 1 1 1 1 1 1 1 1 1 1 1 1 1 2
1446	HipHop Kombo [All Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	10	16	--	--	--	[On]	[On]	16	1 1 1 1 1 1 1 1 1 1 1 1 1 1 2
1447	HipHop Momma [All Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	10	16	--	--	--	[On]	[On]	16	1 1 1 1 1 1 1 1 1 1 1 1 1 1 2
1448	HipHop Persuit [All Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	10	16	--	--	--	[On]	[On]	16	1 1 1 1 1 1 1 1 1 1 1 1 1 1 2
1449	HipHop Pound [All Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	10	16	--	--	--	[On]	[On]	16	1 1 1 1 1 1 1 1 1 1 1 1 1 1 2
1450	HipHop Slimy [All Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	10	16	--	--	--	[On]	[On]	16	1 1 1 1 1 1 1 1 1 1 1 1 1 1 2
1451	HipHop Spying [All Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	10	16	--	--	--	[On]	[On]	16	1 1 1 1 1 1 1 1 1 1 1 1 1 1 2
1452	HipShuffle [All Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	--	--	--	--	--	[On]	[On]	16	1 1 1 1 1 1 1 1 1 1 1 1 1 1 2
1453	Hiphop funkpop [Dance Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	10	16	--	--	--	[On]	[On]	16	1 1 1 1 1 1 1 1 1 1 1 1 1 1 2
1454	HiphopEightBarPop [Dance Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	10	16	--	--	--	[On]	[On]	16	1 1 1 1 1 1 1 1 1 1 1 1 1 1 2
1455	HipperHop [All Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	[010]	--	--	--	--	[On]	[On]	16	1 1 1 1 1 1 1 1 1 1 1 1 1 1 2
1456	Hop:Arendbee [All Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	[010]	--	--	--	--	[On]	[On]	16	1 1 1 1 1 1 1 1 1 1 1 1 1 1 2
1457	Hyper-HoP [All Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	[010]	--	--	--	--	[On]	[On]	16	1 1 1 1 1 1 1 1 1 1 1 1 1 1 2
1458	Jazzy Hop [All Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	[010]	--	--	--	--	[On]	[On]	16	1 1 1 1 1 1 1 1 1 1 1 1 1 1 2
1459	Knock On [Tricki Kit]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	10	75	--	--	--	[On]	[On]	16	1 1 1 1 1 1 1 1 1 1 1 1 1 1 2
1460	Mr Tricki [Tricki Kit]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	10	75	--	--	--	[On]	[On]	16	1 1 1 1 1 1 1 1 1 1 1 1 1 1 2
1461	Mr TrickiLove [Tricki Kit]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	10	75	--	--	--	[On]	[On]	16	1 1 1 1 1 1 1 1 1 1 1 1 1 1 2
1462	Nature RnB [Dance Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	[010]	--	--	--	--	[On]	[On]	16	1 1 1 1 1 1 1 1 1 1 1 1 1 1 2
1463	New RnB [Some Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	[010]	--	--	--	--	[On]	[On]	16	1 1 1 1 1 1 1 1 1 1 1 1 1 1 2
1464	Nod ya head [Tricki Kit]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	10	16	--	--	--	[On]	[On]	16	1 1 1 1 1 1 1 1 1 1 1 1 1 1 2
1465	Noise Hop 1 [Dance Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	10	--	16	--	--	[On]	[On]	16	1 1 1 1 1 1 1 1 1 1 1 1 1 1 2
1466	NuHop Grv 1 [All Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	[010]	--	--	--	--	[On]	[On]	16	1 1 1 1 1 1 1 1 1 1 1 1 1 1 2
1467	NuHop Grv 2 [All Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	[010]	--	--	--	--	[On]	[On]	16	1 1 1 1 1 1 1 1 1 1 1 1 1 1 2
1468	NuHop Grv 3 [Dance Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	[010]	--	--	--	--	[On]	[On]	16	1 1 1 1 1 1 1 1 1 1 1 1 1 1 2
1469	PopHop [Dance Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	[010]	--	--	--	--	[On]	[On]	16	1 1 1 1 1 1 1 1 1 1 1 1 1 1 2
1470	R'n'B 01 [Dance Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	10	16	74	71	--	[On]	[On]	16	1 1 1 1 1 1 1 1 1 1 1 1 1 1 2
1471	R'n'B 02 [All Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	10	16	74	71	--	[On]	[On]	16	1 1 1 1 1 1 1 1 1 1 1 1 1 1 2
1472	R'n'B 03 [All Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	10	16	74	71	--	[On]	[On]	16	1 1 1 1 1 1 1 1 1 1 1 1 1 1 2
1473	R'n'B 04 [All Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	10	16	74	71	--	[On]	[On]	16	1 1 1 1 1 1 1 1 1 1 1 1 1 1 2
1474	R'n'B 05 [All Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	10	16	74	71	--	[On]	[On]	16	1 1 1 1 1 1 1 1 1 1 1 1 1 1 2
1475	R'n'B 06 [All Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	10	16	74	71	--	[On]	[On]	16	1 1 1 1 1 1 1 1 1 1 1 1 1 1 2
1476	R'n'B 07 [All Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	10	16	74	71	--	[On]	[On]	16	1 1 1 1 1 1 1 1 1 1 1 1 1 1 2
1477	SkippyHop [Dance Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	--	--	--	--	PB	[On]	[On]	16	1 1 1 1 1 1 1 1 1 1 1 1 1 1 2
1478	SlowDrum 1 [All Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	PB	75	16	71	74	[On]	[On]	16	1 1 1 1 1 1 1 1 1 1 1 1 1 1 2
1479	Smooth HipHop [All Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	--	--	PB	16	71	[On]	[On]	16	1 1 1 1 1 1 1 1 1 1 1 1 1 1 2
1480	Smooth Hop [All Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	[010]	--	--	--	--	[On]	[On]	16	1 1 1 1 1 1 1 1 1 1 1 1 1 1 2
1481	Synco hiphop [Dance Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	10	16	--	--	--	[On]	[On]	16	1 1 1 1 1 1 1 1 1 1 1 1 1 1 2
1482	Tiktok [Dance Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	74	71	74	72	PB	[On]	[On]	16	1 1 1 1 1 1 1 1 1 1 1 1 1 1 2
1483	Tricki Beat [All Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	10	16	--	--	--	[On]	[On]	16	1 1 1 1 1 1 1 1 1 1 1 1 1 1 2
1484	Tricki Licky [Some Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	10	16	--	--	--	[On]	[On]	16	1 1 1 1 1 1 1 1 1 1 1 1 1 1 2
1485	Tricki Soulfunk [Some Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	10	75	--	--	--	[On]	[On]	16	1 1 1 1 1 1 1 1 1 1 1 1 1 1 2
1486	Trip Hop [All Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	[016]	--	--	--	--	[On]	[On]	16	1 1 1 1 1 1 1 1 1 1 1 1 1 1 2
1487	Trippy Tricki [Tricki Kit]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	10	16	--	--	--	[On]	[On]	16	1 1 1 1 1 1 1 1 1 1 1 1 1 1 2
1488	Urban 1 [Mashed Kit]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	10	16	--	--	--	[On]	[On]	16	1 1 1 1 1 1 1 1 1 1 1 1 1 1 2
1489	Urbane [Dance Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	--	1	--	74	72	[On]	[On]	16	1 1 1 1 1 1 1 1 1 1 1 1 1 1 2
1490	16 Beat 3 [Dance Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	74	71	--	--	PB	[On]	[On]	16	1 1 1 1 1 1 1 1 1 1 1 1 1 1 2
1491	16 Beater 2 [Dance Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	2	77	16	71	77	[On]	[On]	16	1 1 1 1 1 1 1 1 1 1 1 1 1 1 2
1492	2 Step 01 [Dance Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	1	--	PB	--	--	[On]	[On]	16	1 1 1 1 1 1 1 1 1 1 1 1 1 1 2
1493	2 Step 02 [Dance Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	1	--	PB	--	--	[On]	[On]	16	1 1 1 1 1 1 1 1 1 1 1 1 1 1 2
1494	2 Step 03 [VJS] [House Kit]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	118	119	PB	--	--	[On]	[On]	16	1 1 1 1 1 1 1 1 1 1 1 1 1 1 2
1495	2 Step 04 [Some Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	1	--	PB	--	--	[On]	[On]	16	1 1 1 1 1 1 1 1 1 1 1 1 1 1 2
1496	2 Step 05 [All Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	1	--	PB	--	--	[On]	[On]	16	1 1 1 1 1 1 1 1 1 1 1 1 1 1 2
1497	2 Step 06 [Dance Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	1	74	PB	--	--	[On]	[On]	16	1 1 1 1 1 1 1 1 1 1 1 1 1 1 2
1498	2 Step 07 [All Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	1	--	PB	--	--	[On]	[On]	16	1 1 1 1 1 1 1 1 1 1 1 1 1 1 2
1499	2 Step 08 [Dance Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	10	16	--	--	--	[On]	[On]	16	1 1 1 1 1 1 1 1 1 1 1 1 1 1 2
1500	2 Step 09 [Dance Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	10	16	74	71	--	[On]	[On]	16	1 1 1 1 1 1 1 1 1 1 1 1 1 1 2
1501	2 Step 10 [All Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	10	16	74	71	--	[On]	[On]	16	1 1 1 1 1 1 1 1 1 1 1 1 1 1 2
1502	2 Step 11 [All Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	10	16	74	71	--	[On]	[On]	16	1 1 1 1 1 1 1 1 1 1 1 1 1 1 2
1503	2 Step 12 [All Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	[010]	--	--	--	--	[On]	[On]	16	1 1 1 1 1 1 1 1 1 1 1 1 1 1 2
1504	2 Step Garage 1 [All Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	[010]	--	--	--	--	[On]	[On]	16	1 1 1 1 1 1 1 1 1 1 1 1 1 1 2
1505	2 Step Garage 2 [All Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	[010]	--	--	--	--	[On]	[On]	16	1 1 1 1 1 1 1 1 1 1 1 1 1 1 2
1506	70's Funk House [Dance Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	10	16	--	--	--	[On]	[On]	16	1 1 1 1 1 1 1 1 1 1 1 1 1 1 2
1507	80'sMachineGroove [Dance Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	10	16	--	--	--	[On]	[On]	16	1 1 1 1 1 1 1 1 1 1 1 1 1 1 2
1508	Acid [All Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	[010]	--	--	--	--	[On]	[On]	16	1 1 1 1 1 1 1 1 1 1 1 1 1 1 2
1509	AcidJazzFunk [All Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	[010]	--	--	--	--	[On]	[On]	16	1 1 1 1 1 1 1 1 1 1 1 1 1 1 2
1510	Addicted to DnB [Dance Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	10	16	--	--	--	[On]	[On]	16	1 1 1 1 1 1 1 1 1 1 1 1 1 1 2
1511	Ana Beat 1 [Some Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	--	--	20	61	10	[On]	[On]	16	1 1 1 1 1 1 1 1 1 1 1 1 1 1 2
1512	Ana Beat 2 [All Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	10	--	--	--	--	[On]	[On]	16	1 1 1 1 1 1 1 1 1 1 1 1 1 1 2
1513	Ana Beat 3 [All Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	10	--	--	--	--	[On]	[On]	16	1 1 1 1 1 1 1 1 1 1 1 1 1 1 2
1514	Ana Beat 4 [All Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	10	--	--	--	--	[On]	[On]	16	1 1 1 1 1 1 1 1 1 1 1 1 1 1 2
1515	Ana Beat 5 [All Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	10	--	--	--	--	[On]	[On]	16	1 1 1 1 1 1 1 1 1 1 1 1 1 1 2
1516	Analog Machine [Dance Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	10	16	--	--	--	[On]	[On]	16	1 1 1 1 1 1 1 1 1 1 1 1 1 1 2
1517	BIG you up! [Dance Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	17	-2	--	--	--	[On]	[On]	16	1 1 1 1 1 1 1 1 1 1 1 1 1 1 2

[] = can be controlled or changed by GE Parameters.

#	GE Name	RTC Model	GE Type	Note Type	CC-A	CC-B	Env 1	Env 2	Env 3	Bend	Rpt	Items	Phase Pattern
1518	BOOGER BEAT [Dance Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	[010]	--	--	--	--	[On]	[On]	16	111111111111112
1519	Bangin DnB [Dance Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	10	16	--	--	--	[On]	[On]	16	111111111111112
1520	Basic Euro Beat [Dance Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	74	16	--	--	--	[On]	[On]	16	111111111111112
1521	Basic House [Dance Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	--	--	--	--	PB	[On]	[On]	16	111111111111112
1522	BeatBoy [All Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	[010]	--	--	--	--	[On]	[On]	16	111111111111112
1523	Bend Beat 1 [All Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	10	--	PB	16	--	[On]	[On]	16	111111111111112
1524	Bend Beat 2 [Dance Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	20	--	10	PB	--	[On]	[On]	16	111111111111112
1525	Bend Beat 3 [Dance Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	--	--	10	PB	21	[On]	[On]	16	111111111111112
1526	Bend/Chop Groove 1 [All Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	11	--	--	11	RT	[On]	[On]	16	111111111111112
1527	Bend/Chop Groove 2 [All Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	11	--	--	11	--	[On]	[On]	16	111111111111112
1528	BigBeat 01 [All Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	10	--	--	--	--	[On]	[On]	16	111111111111112
1529	BigBeat 02 [Dance Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	10	--	--	--	--	[On]	[On]	16	111111111111112
1530	BigBeat 03 [All Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	1	--	PB	--	--	[On]	[On]	16	111111111111112
1531	BigBeat 04 [All Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	1	--	PB	--	--	[On]	[On]	16	111111111111112
1532	BigBeat 05 [Some Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	1	--	PB	--	--	[On]	[On]	16	111111111111112
1533	BigBeat 06 [Dance Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	1	--	PB	--	--	[On]	[On]	16	111111111111112
1534	BigBeat 07 [All Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	1	--	PB	--	--	[On]	[On]	16	111111111111112
1535	BigBeat 08 [Dance Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	1	--	PB	--	--	[On]	[On]	16	111111111111112
1536	BigBeat 09 [All Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	1	--	PB	--	--	[On]	[On]	16	111111111111112
1537	BigBeat 10 [All Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	[010]	--	--	--	--	[On]	[On]	16	111111111111112
1538	BigBeat 11 [All Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	[010]	--	--	--	--	[On]	[On]	16	111111111111112
1539	BigBeat 12 [Dance Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	[010]	--	--	--	--	[On]	[On]	16	111111111111112
1540	BigBeat 13 [Dance Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	[010]	--	--	--	--	[On]	[On]	16	1111111211111112
1541	Build Up 4 Floor [Dance Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	[010]	--	--	--	--	[On]	[On]	16	111111111111112
1542	BusFilterrance [Dance Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	74	71	--	--	--	[On]	[On]	16	111111111111112
1543	Cars [Dance Kits]	DM1 - Drum Melodic 1	Generated-Drum	WholeTone	10	16	71	--	--	[On]	[On]	16	111111111111112
1544	Choppy 1 [All Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	11	--	10	--	--	[On]	[On]	16	111111111111112
1545	Choppy 2 [All Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	11	1	10	--	--	[On]	[On]	16	111111111111112
1546	Choppy 3 [All Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	11	1	10	--	--	[On]	[On]	16	111111111111112
1547	Choppy 4 [All Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	11	1	10	--	--	[On]	[On]	16	111111111111112
1548	Chopster [All Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	10	1	--	--	--	[On]	[On]	16	111111111111112
1549	Chord-Floor [All Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	10	--	16	71	--	[On]	[On]	16	111111111111112
1550	Chord-Floor [All Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	10	--	16	71	--	[On]	[On]	16	111111111111112
1551	Classic DnB [Dance Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	10	16	--	--	--	[On]	[On]	16	111111111111112
1552	Cyber Breaks [All Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	[010]	--	--	--	--	[On]	[On]	16	111111111111112
1553	D'n'B Gate 1 [Dance Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	74	71	--	72	--	[On]	[On]	16	111111111111112
1554	D'n'B Gate 2 [Dance Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	74	--	--	--	PB	[On]	[On]	16	111111111111112
1555	D'n'B Gate 3 [Dance Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	74	71	--	72	PB	[On]	[On]	16	111111111111112
1556	D'n'B Gate 4 [All Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	74	71	--	72	PB	[On]	[On]	16	111111111111112
1557	Dance Rock [Acoustic Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	10	16	--	--	--	[On]	[On]	16	111111111111112
1558	DanceHall 1 [All Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	10	16	74	71	--	[On]	[On]	16	111111111111112
1559	DanceHall 2 [All Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	10	16	74	71	--	[On]	[On]	16	111111111111112
1560	DanceHall 3 [All Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	10	16	74	71	--	[On]	[On]	16	111111111111112
1561	DanceHall 4 [All Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	10	16	74	71	--	[On]	[On]	16	111111111111112
1562	Deep Trance [Dance Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	10	16	--	--	--	[On]	[On]	16	111111111111112
1563	DeepHouse [All Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	10	16	74	71	--	[On]	[On]	16	111111111111112
1564	Delicatessen [Dance Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	[010]	--	--	--	--	[On]	[On]	16	111111111111112
1565	Dirty Cuts 1 [Dance Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	11	--	10	16	--	[On]	[On]	16	111111111111112
1566	Dirty Cuts 2 [All Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	--	--	11	--	--	[On]	[On]	16	111111111111112
1567	DiscoHeat [Dance Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	10	16	--	--	--	[On]	[On]	16	111111111111112
1568	Discohouse [Dance Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	10	16	--	--	--	[On]	[On]	16	111111111111112
1569	Downtempo 2 [All Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	10	--	--	--	--	[On]	[On]	16	111111111111112
1570	Downtempo 3 [Dance Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	10	--	--	--	--	[On]	[On]	16	111111111111112
1571	Downtempo 4 [Dance Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	10	--	--	--	--	[On]	[On]	16	111111111111112
1572	Downtempo 5 [Dance Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	10	--	--	--	--	[On]	[On]	16	111111111111112
1573	Downtempo 6 [All Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	10	16	74	71	--	[On]	[On]	16	111111111111112
1574	Downtempo 7 [All Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	10	16	74	71	--	[On]	[On]	16	111111111111112
1575	Downtempo 8 [All Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	10	16	74	71	--	[On]	[On]	16	111111111111112
1576	Downtempo 9 [All Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	10	16	74	71	--	[On]	[On]	16	111111111111112
1577	Drum Machine [Dance Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	10	16	--	--	--	[On]	[On]	16	111111111111112
1578	Drum n Dancehall [Dance Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	10	16	--	--	--	[On]	[On]	16	111111111111112
1579	Drum'n'Bass 01 [Dance Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	1	--	PB	--	--	[On]	[On]	16	111111111111112
1580	Drum'n'Bass 02 [Dance Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	1	--	PB	--	--	[On]	[On]	16	111111111111112
1581	Drum'n'Bass 03 [All Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	16	71	10	--	--	[On]	[On]	16	111111111111112
1582	Drum'n'Bass 03 [Dance Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	--	--	PB	--	--	[On]	[On]	16	111111111111112
1583	Drum'n'Bass 04 [All Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	10	--	--	--	--	[On]	[On]	16	111111111111112
1584	Drum'n'Bass 05 [All Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	10	--	--	--	--	[On]	[On]	16	111111111111112
1585	Drum'n'Bass 06 [All Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	10	--	--	--	--	[On]	[On]	16	111111111111112
1586	Drum'n'Bass 07 [HipHop Kit]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	10	--	--	--	--	[On]	[On]	16	111111111111112
1587	Drum'n'Bass 09 [Dance Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	--	--	PB	--	--	[On]	[On]	16	111111111111112
1588	Drum'n'Bass 10 [All Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	[010]	--	--	--	--	[On]	[On]	16	111111111111112
1589	Drum'n'Bass 11 [All Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	[010]	--	--	--	--	[On]	[On]	16	111111111111112
1590	Drum'n'Bass 12 [All Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	[010]	--	--	--	--	[On]	[On]	16	111111111111112
1591	Drum'n'Bass 13 [All Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	[010]	--	--	--	--	[On]	[On]	16	111111111111112

Voice Name List

[] = can be controlled or changed by GE Parameters.

#	GE Name	RTC Model	GE Type	Note Type	CC-A	CC-B	Env 1	Env 2	Env 3	Bend	Rpt	Items	Phase Pattern
1592	Drum'n'Bass 14 [All Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	[010]	--	--	--	--	[On]	[On]	16	111111111111112
1593	Drum'n'Bass 15 [All Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	[010]	--	--	--	--	[On]	[On]	16	111111111111112
1594	Drum'n'Bass 16 [Dance Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	[010]	--	--	--	--	[On]	[On]	16	111111111111112
1595	Drum'n'Bass 17 [Dance Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	[010]	--	--	--	--	[On]	[On]	16	111111111111112
1596	Drum'n'Bass 18 [Dance Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	75	[016]	--	--	--	[On]	[On]	16	111111111111112
1597	Drum'n'Bass 19 [Dance Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	--	--	PB	--	--	[On]	[On]	16	111111111111112
1598	Drum'n'Bass 20 [Dance Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	--	--	PB	--	--	[On]	[On]	16	111111111111112
1599	Drum'n'Bass 21 [All Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	--	--	PB	--	--	[On]	[On]	16	111111111111112
1600	Drum'n'Bass 22 [Dance Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	--	--	PB	--	--	[On]	[On]	16	111111111111112
1601	Drum'n'Bass 23 [Dance Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	--	--	PB	--	--	[On]	[On]	16	111111111111112
1602	Drum'n'Bass 24 [Dance Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	--	--	PB	--	--	[On]	[On]	16	111111111111112
1603	Drum'n'Bass 25 [Dance Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	--	--	PB	--	--	[On]	[On]	16	111111111111112
1604	Drum'n'Bass 26 [Dance Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	--	--	--	--	PB	[On]	[On]	16	111111111111112
1605	Drum'n'Bass 27 [Dance Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	--	--	--	--	PB	[On]	[On]	16	111111111111112
1606	Drum'n'Bass 28 [Dance Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	--	--	--	--	PB	[On]	[On]	16	111111111111112
1607	Drum'n'Bass 29 [Dance Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	--	--	--	--	PB	[On]	[On]	16	111111111111112
1608	Drum'n'Bass 30 [All Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	10	16	74	71	--	[On]	[On]	16	111111111111112
1609	Drum'n'Bass 31 [Dance Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	10	16	74	71	--	[On]	[On]	16	111111111111112
1610	Drum'n'Bass 32 [All Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	10	16	74	71	--	[On]	[On]	16	111111111111112
1611	Drummanbass [All Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	10	PB	--	--	--	[On]	[On]	16	111111111111112
1612	Elect PUNK [Dance Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	[010]	--	--	--	--	[On]	[On]	16	111111111111112
1613	Electro 1 [All Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	[010]	--	--	--	--	[On]	[On]	16	111111111111112
1614	Electro 2 [All Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	[010]	--	--	--	--	[On]	[On]	16	111111111111112
1615	Electro 3 [All Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	[010]	--	--	--	--	[On]	[On]	16	111111111111112
1616	Electro Beat [Dance Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	[008]	--	--	--	--	[On]	[On]	16	111111111111112
1617	Electro Speed [Dance Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	[010]	--	--	--	--	[On]	[On]	16	111111111111112
1618	ElectroFreestyle [Dance Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	[008]	--	--	--	--	[On]	[On]	16	111111111111112
1619	Electrogroove [Dance Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	16	--	19	71	--	[On]	[On]	16	111111111111112
1620	FunkUp Garage [Dance Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	[001]	--	--	--	--	[On]	[On]	16	111111111111112
1621	Funky Trance [Dance Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	10	16	--	--	--	[On]	[On]	16	111111111111112
1622	FunkyFlares [Dance Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	10	16	--	--	--	[On]	[On]	16	111111111111112
1623	FunkyHouse [Dance Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	10	16	--	--	--	[On]	[On]	16	111111111111112
1624	Future Funk [Dance Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	8	--	--	--	--	[On]	[On]	16	111111111111112
1625	GarageHouse 1 [All Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	10	16	74	71	--	[On]	[On]	16	111111111111112
1626	GarageHouse 2 [All Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	10	16	74	71	--	[On]	[On]	16	111111111111112
1627	Gated D'n'B [Some Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	--	--	--	--	PB	[On]	[On]	16	111111111111112
1628	Gettin Down [All Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	[016]	--	--	--	--	[On]	[On]	16	111111111111112
1629	Goa Drums [Dance Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	[010]	--	--	--	--	[On]	[On]	16	111111111111112
1630	Groove w/RptTimeEnv [All Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	1	--	PB	--	RT	[On]	[On]	16	111111111111112
1631	Groovy Garage [Dance Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	[001]	--	--	--	--	[On]	[On]	16	111111111111112
1632	Hard House [Dance Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	[010]	--	--	--	--	[On]	[On]	16	111111111111112
1633	Hard Knock 2 [All Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	[008]	--	--	--	--	[On]	[On]	16	111111111111112
1634	Hard Tek [All Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	80	--	--	--	--	[On]	[On]	16	111111111111112
1635	Hard Trance 1 [Dance Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	[010]	--	--	--	--	[On]	[On]	16	111111111111112
1636	Hard Trance 2 [Dance Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	[010]	--	--	--	--	[On]	[On]	16	111111111111112
1637	Hard Trance 3 [Dance Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	10	16	--	--	--	[On]	[On]	16	111111111111112
1638	Hard&Fast [Dance Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	[010]	--	--	--	--	[On]	[On]	16	111111111111112
1639	Hectic Garage 2 [Mashed Kit]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	10	16	--	--	--	[On]	[On]	16	111111111111112
1640	Hi NRG [Dance Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	10	--	--	--	--	[On]	[On]	16	111111111111112
1641	House 01 [Dance Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	1	--	PB	--	--	[On]	[On]	16	111111111111112
1642	House 02 [Some Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	1	--	PB	--	--	[On]	[On]	16	111111111111112
1643	House 03 [All Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	1	--	PB	--	--	[On]	[On]	16	111111111111112
1644	House 04 [Dance Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	1	--	PB	--	--	[On]	[On]	16	111111111111112
1645	House 05 [Some Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	1	--	PB	--	--	[On]	[On]	16	111111111111112
1646	House 06 [Some Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	1	--	PB	--	--	[On]	[On]	16	111111111111112
1647	House 07 [Some Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	1	--	PB	--	--	[On]	[On]	16	111111111111112
1648	House 08 [Some Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	1	--	PB	--	--	[On]	[On]	16	111111111111112
1649	House 09 [Some Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	1	--	PB	--	--	[On]	[On]	16	111111111111112
1650	House 10 [Some Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	1	--	PB	PB	--	[On]	[On]	16	111111111111112
1651	House 11 [Some Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	1	--	PB	--	--	[On]	[On]	16	111111111111112
1652	House 12 [All Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	1	--	PB	--	--	[On]	[On]	16	111111111111112
1653	House 13 [Some Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	1	--	PB	--	--	[On]	[On]	16	111111111111112
1654	House 14 [Dance Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	--	--	PB	--	--	[On]	[On]	16	111111111111112
1655	House 15 [Dance Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	1	--	PB	--	--	[On]	[On]	16	111111111111112
1656	House 16 [Dance Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	1	--	PB	--	--	[On]	[On]	16	111111111111112
1657	House 17 [All Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	[010]	--	--	--	--	[On]	[On]	16	111111111111112
1658	House 4x4 [All Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	[010]	--	--	--	--	[On]	[On]	16	111111111111112
1659	House Breaks [All Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	10	--	--	--	--	[On]	[On]	16	111111111111112
1660	House Cym [Dance Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	[010]	--	--	--	--	[On]	[On]	16	111111111111112
1661	House Me [All Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	[008]	--	--	--	--	[On]	[On]	16	111111111111112
1662	House Me [Dance Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	[010]	--	--	--	--	[On]	[On]	16	111111111111112
1663	House4onFloor [Dance Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	[010]	--	--	--	--	[On]	[On]	16	111111111111112
1664	Hyper acid [Dance Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	10	16	71	--	93	[On]	[On]	16	111111111111112
1665	IDM 1 [All Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	10	16	74	71	--	[On]	[On]	16	111111111111112

[] = can be controlled or changed by GE Parameters.

#	GE Name	RTC Model	GE Type	Note Type	CC-A	CC-B	Env 1	Env 2	Env 3	Bend	Rpt	Items	Phase Pattern
1666	IDM 2 [All Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	10	16	74	71	--	[On]	[On]	16	111111111111112
1667	IDM 3 [All Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	10	16	74	71	--	[On]	[On]	16	111111111111112
1668	IDM 4 [All Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	10	16	74	71	--	[On]	[On]	16	111111111111112
1669	IDM 5 [All Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	10	16	74	71	--	[On]	[On]	16	111111111111112
1670	In Da Howse 1 [Dance Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	10	16	--	--	--	[On]	[On]	16	111111111111112
1671	In Da Howse 2 [Dance Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	10	16	--	--	--	[On]	[On]	16	111111111111112
1672	In Da Howse 3 [Dance Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	10	16	--	--	--	[On]	[On]	16	111111111111112
1673	JUNGLEBOOGIE [All Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	[010]	--	--	--	--	[On]	[On]	16	111111111111112
1674	Jump Up DnB [All Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	[010]	--	--	--	--	[On]	[On]	16	111111111111112
1675	Junglaya [All Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	[010]	--	--	--	--	[On]	[On]	16	111111111111112
1676	Jungle 1 [Dance Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	[010]	--	--	--	--	[On]	[On]	16	111111111111112
1677	Jungle 2 [Dance Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	[010]	--	--	--	--	[On]	[On]	16	111111111111112
1678	Kontemplate [All Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	[010]	--	--	--	--	[On]	[On]	16	111111111111112
1679	Laid Groove [Dance Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	[008]	--	--	--	--	[On]	[On]	16	111111111111112
1680	Live Mix Loop 1 [Dance Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	10	16	--	--	--	[On]	[On]	16	111111111111112
1681	Live Mix Loop 2 [Dance Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	10	16	--	--	--	[On]	[On]	16	111111111111112
1682	Live Mix Loop 3 [Dance Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	10	16	--	--	--	[On]	[On]	16	111111111111112
1683	Live Mix Loop 4 [Dance Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	2	16	--	--	--	[On]	[On]	16	111111111111112
1684	Lounge Beat Box [Some Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	[010]	--	--	--	--	[On]	[On]	16	111111111111112
1685	Machine Groove [All Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	10	16	--	--	--	[On]	[On]	16	111111111111112
1686	Mash Trancy [Dance Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	83	16	--	--	--	[On]	[On]	16	111111111111112
1687	Mashed Garage [Dance Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	83	16	--	--	--	[On]	[On]	16	111111111111112
1688	Mashed Uk Garage [Dance Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	10	16	--	--	--	[On]	[On]	16	111111111111112
1689	Minimal 1 [All Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	10	--	--	--	--	[On]	[On]	16	111111111111112
1690	Minimal 2 [All Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	10	--	--	--	--	[On]	[On]	16	111111111111112
1691	Minimal 3 [Some Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	--	--	--	--	--	[On]	[On]	16	111111111111112
1692	New Disco 1 [All Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	[010]	--	--	--	--	[On]	[On]	16	111111111111112
1693	New Disco 2 [All Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	[010]	--	--	--	--	[On]	[On]	16	111111111111112
1694	New DnB [All Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	10	--	--	--	--	[On]	[On]	16	111111111111112
1695	New Tek Hus [Dance Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	2	77	--	--	--	[On]	[On]	16	111111111111112
1696	Noise DnB 1 [Dance Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	8	--	--	--	--	[On]	[On]	16	111111111111112
1697	Noise DnB 2 [Dance Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	10	--	--	--	--	[On]	[On]	16	111111111111112
1698	Noise Hop 3 [Dance Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	10	--	--	--	--	[On]	[On]	16	111111111111112
1699	Noise Hop 4 [Dance Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	10	--	--	16	--	[On]	[On]	16	111111111111112
1700	Nu Skool 1 [All Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	2	77	--	--	--	[On]	[On]	16	111111111111112
1701	Nu Skool 2 [Dance Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	10	--	--	--	--	[On]	[On]	16	111111111111112
1702	NuPop [All Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	--	--	--	--	PB	[On]	[On]	16	111111111111112
1703	NuSkoolBreaks [All Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	10	16	74	71	--	[On]	[On]	16	111111111111112
1704	NuStep Garage [All Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	[010]	--	--	--	--	[On]	[On]	16	111111111111112
1705	Nuclear [Acoustic Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	10	--	--	--	--	[On]	[On]	16	111111111111112
1706	Ol Skool Yo [Dance Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	[016]	--	--	--	--	[On]	[On]	16	111111111111112
1707	Old Skool Elec 1 [Dance Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	10	--	--	--	--	[On]	[On]	16	111111111111112
1708	Old Skool Elec 2 [All Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	10	--	--	--	--	[On]	[On]	16	111111111111112
1709	Old Skool Elec 3 [All Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	10	--	--	--	--	[On]	[On]	16	111111111111112
1710	PopDance [All Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	[010]	--	--	--	--	[On]	[On]	16	111111111111112
1711	PopPop [All Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	--	--	--	--	PB	[On]	[On]	16	111111111111112
1712	PopRap [Dance Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	--	--	--	--	PB	[On]	[On]	16	111111111111112
1713	Princessa [Dance Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	[010]	--	--	--	--	[On]	[On]	16	111111111111112
1714	ProgHouse 1 [All Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	10	16	74	71	--	[On]	[On]	16	111111111111112
1715	ProgHouse 2 [All Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	10	16	74	71	--	[On]	[On]	16	111111111111112
1716	ProgHouse 3 [All Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	10	--	--	--	--	[On]	[On]	16	111111111111112
1717	Psycho Kit [Dance Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	--	--	--	--	PB	[On]	[On]	16	111111111111112
1718	Psycho Phunk [Dance Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	--	--	--	--	PB	[On]	[On]	16	111111111111112
1719	Psycho Tekno [Dance Kits]	DP1 - Drum/Perc 1	Generated-Drum	[WholeTone]	10	--	--	--	--	[On]	[On]	16	111111111111112
1720	R'n'B 08 [All Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	10	16	74	71	--	[On]	[On]	16	111111111111112
1721	R'n'B 09 [All Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	10	16	74	71	--	[On]	[On]	16	111111111111112
1722	R'n'B 10 [All Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	10	16	74	71	--	[On]	[On]	16	111111111111112
1723	R'n'B 11 [All Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	10	16	74	71	--	[On]	[On]	16	111111111111112
1724	Raggaz [All Kits]	DM1 - Drum Melodic 1	Generated-Drum	WholeTone	--	1	--	71	--	[On]	[On]	16	111111111111112
1725	Random Beat [All Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	10	--	--	--	--	[On]	[On]	16	111111111111112
1726	Raw Kit [All Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	[071]	--	--	--	--	[On]	[On]	16	111111111111112
1727	Reggae [All Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	--	--	--	--	--	[On]	[On]	16	111111111111112
1728	Remix City 1 [Dance Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	[010]	--	--	--	--	[On]	[On]	16	111111111111112
1729	Remix City 2 [Dance Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	[010]	--	--	--	--	[On]	[On]	16	111111111111112
1730	Remix City 3 [Dance Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	[010]	--	--	--	--	[On]	[On]	16	111111111111112
1731	Rev.Break 1 [Dance Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	--	--	11	--	--	[On]	[On]	16	111111111111112
1732	Rev.Break 2 [All Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	--	--	11	--	--	[On]	[On]	16	111111111111112
1733	Rhythm Box Bossa [All Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	[016]	--	--	--	--	[On]	[On]	16	111111111111112
1734	Rufus 1 [Dance Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	2	77	16	71	77	[On]	[On]	16	111111111111112
1735	SFX Birdman [All Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	[010]	--	--	--	--	[On]	[On]	16	111111111111112
1736	SFX Shaman [All Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	[010]	--	--	--	--	[On]	[On]	16	111111111111112
1737	SFX Talksie [All Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	[--]	--	--	--	--	[On]	[On]	16	111111111111112
1738	SFX Thief [Some Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	[010]	--	--	--	--	[On]	[On]	16	111111111111112
1739	Sinistar [Dance Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	[010]	--	--	--	--	[On]	[On]	16	111111111111112

Voice Name List

[] = can be controlled or changed by GE Parameters.

#	GE Name	RTC Model	GE Type	Note Type	CC-A	CC-B	Env 1	Env 2	Env 3	Bend	Rpt	Items	Phase Pattern
1740	Spare Me [Dance Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	[010]	--	--	--	--	[On]	[On]	16	111111111111112
1741	Sparse R&B [All Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	10	--	--	--	PB	[On]	[On]	16	111111111111112
1742	SqGarage [All Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	[010]	--	--	--	--	[On]	[On]	16	111111111111112
1743	Std.Garage [Dance Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	[010]	--	--	--	--	[On]	[On]	16	111111111111112
1744	Stinky 3 [All Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	[071]	--	--	--	--	[On]	[On]	16	111111111111112
1745	Stinky 4 [Dance Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	[010]	--	--	--	--	[On]	[On]	16	111111111111112
1746	Stinky 5 [Dance Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	[010]	--	--	--	--	[On]	[On]	16	111111111111112
1747	Straight Beat 2 [Dance Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	[010]	--	--	--	--	[On]	[On]	16	111111111111112
1748	Striker [All Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	[010]	--	--	--	--	[On]	[On]	16	111111111111112
1749	Synchro [All Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	[016]	--	--	--	--	[On]	[On]	16	111111111111112
1750	Syncro [All Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	[010]	--	--	--	--	[On]	[On]	16	111111111111112
1751	Techno 01 [Dance Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	[010]	--	--	--	--	[On]	[On]	16	111111111111112
1752	Techno 02 [All Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	10	16	74	71	--	[On]	[On]	16	111111111111112
1753	Techno 03 [Some Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	[--]	--	--	--	--	[On]	[On]	16	111111111111112
1754	Techno 04 [All Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	[010]	--	--	--	--	[On]	[On]	16	111111111111112
1755	Techno 05 [Dance Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	[--]	--	--	--	--	[On]	[On]	16	111111111111112
1756	Techno 06 [Dance Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	1	--	PB	--	--	[On]	[On]	16	111111111111112
1757	Techno 07 [Some Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	1	--	PB	--	--	[On]	[On]	16	111111111111112
1758	Techno 08 [Some Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	1	--	PB	--	--	[On]	[On]	16	111111111111112
1759	Techno 09 [Dance Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	1	--	PB	--	--	[On]	[On]	16	111111111111112
1760	Techno 10 [Some Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	1	--	PB	--	--	[On]	[On]	16	111111111111112
1761	Techno 11 [Some Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	1	--	PB	--	--	[On]	[On]	16	111111111111112
1762	Techno 12 [Some Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	1	--	PB	--	--	[On]	[On]	16	111111111111112
1763	Techno 13 [Some Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	1	--	PB	--	--	[On]	[On]	16	111111111111112
1764	Techno 14 [Dance Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	1	--	PB	--	--	[On]	[On]	16	111111111111112
1765	Techno 15 [Dance Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	1	--	PB	--	--	[On]	[On]	16	111111111111112
1766	Techno 16 [Dance Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	1	--	PB	--	--	[On]	[On]	16	111111111111112
1767	Techno 17 [Dance Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	1	--	PB	--	--	[On]	[On]	16	111111111111112
1768	Techno Rand [Dance Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	10	--	--	--	--	[On]	[On]	16	111111111111112
1769	That'sLL Yo! [All Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	[010]	--	--	--	--	[On]	[On]	16	111111111111112
1770	Throaty Groove [Dance Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	10	74	--	--	--	[On]	[On]	16	111111111111112
1771	Trance 1 [Dance Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	2	--	--	--	--	[On]	[On]	16	111111111111112
1772	Trance 2 [Dance Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	10	--	--	--	--	[On]	[On]	16	111111111111112
1773	Trance 3 [All Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	10	16	74	71	--	[On]	[On]	16	111111111111112
1774	Trance 4 [All Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	10	16	74	71	--	[On]	[On]	16	111111111111112
1775	Trance 5 [Dance Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	10	--	--	--	--	[On]	[On]	16	111111111111112
1776	Trance Club [Dance Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	10	16	--	--	--	[On]	[On]	16	111111111111112
1777	Trance4Floor [Dance Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	[010]	--	--	--	--	[On]	[On]	16	111111111111112
1778	TranceHouse [Dance Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	--	--	--	--	PB	[On]	[On]	16	111111111111112
1779	Trbl Skool [All Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	[010]	--	--	--	--	[On]	[On]	16	111111111111112
1780	Trbl Think [Dance Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	[010]	--	--	--	--	[On]	[On]	16	111111111111112
1781	Trip House [All Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	[010]	--	--	--	--	[On]	[On]	16	111111111111112
1782	Trouble [All Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	[010]	--	--	--	--	[On]	[On]	16	111111111111112
1783	Two Step Garage [All Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	[010]	--	--	--	--	[On]	[On]	16	111111111111112
1784	U-T E K N O [Dance Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	[010]	--	--	--	--	[On]	[On]	16	111111111111112
1785	UK House 1 [All Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	10	16	74	71	--	[On]	[On]	16	111111111111112
1786	Urban 2 [Mashed Kit]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	10	16	--	--	--	[On]	[On]	16	111111111111112
1787	VintageTrance	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	[008]	--	--	--	--	[On]	[On]	16	111111111111112
1788	Wacky [Dance Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	[010]	--	--	--	--	[On]	[On]	16	111111111111112
1789	Whiplash Trance [Dance Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	10	16	--	--	--	[On]	[On]	16	111111111111112
1790	Wooden Beat 3 [Dance Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	[010]	--	--	--	--	[On]	[On]	16	111111111111112
1791	Yude [All Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	[010]	--	--	--	--	[On]	[On]	16	111111111111112
1792	6/8 Country [All Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	10	16	--	--	--	[On]	[On]	16	111111111111112
1793	7/8 Groove [All Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	10	--	--	--	--	[On]	[On]	16	111111111111112
1794	90's Funk [All Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	[008]	--	--	--	--	[On]	[On]	16	111111111111112
1795	Abstract Groove [All Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	--	--	71	75	--	[On]	[On]	16	111111111111112
1796	Bossa Nova [All Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	[010]	--	--	--	--	[On]	[On]	16	111111111111112
1797	Copa With This [All Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	[010]	--	--	--	--	[On]	[On]	16	111111111111112
1798	Degree Of Funk [All Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	[010]	--	--	--	--	[On]	[On]	16	111111111111112
1799	Echo Clap [All Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	10	16	--	--	--	[On]	[On]	16	111111111111112
1800	Echo Groove [All Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	10	--	--	--	--	[On]	[On]	16	1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2
1801	Fourtified Funk [All Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	10	16	--	--	--	[On]	[On]	16	111111111111112
1802	Funk 1 (32) [All Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	10	16	74	71	--	[On]	[On]	16	111111111111112
1803	Funk 2 [All Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	10	16	74	71	--	[On]	[On]	16	111111111111112
1804	Funk Jazz 1 [All Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	10	16	74	71	--	[On]	[On]	16	111111111111112
1805	Funk Jazz 2 Brush [All Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	10	16	74	71	--	[On]	[On]	16	111111111111112
1806	Funk Jazz 3 [Dance Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	74	16	74	71	--	[On]	[On]	16	111111111111112
1807	Funk Jazz 4 [All Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	10	16	74	71	--	[On]	[On]	16	111111111111112
1808	Funk Jazz 5 [All Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	10	16	74	71	--	[On]	[On]	16	111111111111112
1809	Funk Rhythm 1 [All Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	--	--	--	--	--	[On]	[On]	16	111111111111112
1810	Funk Rhythm 2 [All Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	--	--	--	--	--	[On]	[On]	16	111111111111112
1811	Funk Rhythm 3 [All Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	--	--	--	--	--	[On]	[On]	16	111111111111112
1812	Funk Rock 1 [All Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	10	16	--	--	--	[On]	[On]	16	111111111111112
1813	Funk Rock 2 [All Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	10	16	--	--	--	[On]	[On]	16	111111111111112

[] = can be controlled or changed by GE Parameters.

#	GE Name	RTC Model	GE Type	Note Type	CC-A	CC-B	Env 1	Env 2	Env 3	Bend	Rpt	Items	Phase Pattern
1814	Funk-Hop [All Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	--	--	--	--	--	[On]	[On]	16	111111111111112
1815	Funky MF [All Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	[008]	--	--	--	--	[On]	[On]	16	111111111111112
1816	Funky Studio RnB [All Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	--	--	--	--	--	[On]	[On]	16	111111111111112
1817	Funky Town [All Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	10	16	--	--	--	[On]	[On]	16	111111111111112
1818	Fusion Groove 7/8 [All Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	10	16	--	--	--	[On]	[On]	16	111111111111112
1819	Fusion Groove [All Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	10	16	--	--	--	[On]	[On]	16	111111111111112
1820	Fusionfunk [All Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	10	16	--	--	--	[On]	[On]	16	111111111111112
1821	Hop/Funk [All Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	[010]	--	--	--	--	[On]	[On]	16	111111111111112
1822	In Triplicate Drums [All Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	11	--	--	11	--	[On]	[On]	16	111211121112112
1823	King Groove [All Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	[010]	--	--	--	--	[On]	[On]	16	111111111111112
1824	Latin Contemp. [Acoustic Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	10	--	--	--	--	[On]	[On]	16	111111111111112
1825	Latin Groove 3/4 [All Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	10	16	--	--	--	[On]	[On]	16	111111111111112
1826	Latin [All Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	[010]	--	--	--	--	[On]	[On]	16	111111111111112
1827	Old School Funk [All Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	10	16	--	--	--	[On]	[On]	16	111111111111112
1828	Pop Funk [All Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	10	16	--	--	--	[On]	[On]	16	111111111111112
1829	Pop Groove 2 [All Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	10	16	--	--	--	[On]	[On]	16	111111111111112
1830	Rand Funk 1 [All Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	10	--	--	--	--	[On]	[On]	16	111111111111112
1831	Rand Funk 2 [All Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	10	--	--	--	--	[On]	[On]	16	111111111111112
1832	Rufus 2 [All Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	2	77	16	71	77	[On]	[On]	16	111111111111112
1833	Shuffle Funk [Acoustic Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	10	16	--	--	--	[On]	[On]	16	111111111111112
1834	Sly Pop [All Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	10	16	--	--	--	[On]	[On]	16	111111111111112
1835	Smooth Groove [All Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	10	16	--	--	--	[On]	[On]	16	111111111111112
1836	Snooper [All Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	10	74	16	79	71	[On]	[On]	16	111111111111112
1837	Soul Funk [All Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	10	16	--	--	--	[On]	[On]	16	111111111111112
1838	Soul Popper [All Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	10	16	--	--	--	[On]	[On]	16	111111111111112
1839	Studio RnB [Acoustic Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	1	1	--	--	--	[On]	[On]	16	111111111111112
1840	Shutter Hop [All Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	10	16	--	--	--	[On]	[On]	16	111111111111112
1841	Wooden Beat 2 [All Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	[010]	--	--	--	--	[On]	[On]	16	111111111111112
1842	Bongo Lp 1 [Vinyl Loop Kit]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	10	16	--	--	--	[On]	[On]	16	111111111111112
1843	Bongo Lp 2 [Vinyl Loop Kit]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	10	16	--	--	--	[On]	[On]	16	111111111111112
1844	Bossa Mamba [Vinyl Loop Kit]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	10	16	--	--	--	[On]	[On]	16	111111111111112
1845	Drum Loop 1 [Vinyl Loop Kit]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	10	16	--	--	--	[On]	[On]	16	111111111111112
1846	Drum Loop 2 [Vinyl Loop Kit]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	10	16	--	--	--	[On]	[On]	16	111111111111112
1847	Drum Loop 3 [Vinyl Loop Kit]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	10	16	--	--	--	[On]	[On]	16	111111111111112
1848	Drum Loop 4 [Vinyl Loop Kit]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	10	16	--	--	--	[On]	[On]	16	111111111111112
1849	FunkyEgyptian [Vinyl Loop Kit]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	10	16	--	--	--	[On]	[On]	16	111111111111112
1850	No Worries [Vinyl Loop Kit]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	83	16	--	--	--	[On]	[On]	16	111111111111112
1851	Old Vinyl [Vinyl Loop Kit]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	83	16	--	--	--	[On]	[On]	16	111111111111112
1852	OldSkool Vinyl [Vinyl Loop Kit]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	83	16	--	--	--	[On]	[On]	16	111111111111112
1853	Session Funk [Vinyl Loop Kit]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	83	16	--	--	--	[On]	[On]	16	111111111111112
1854	Shaker Pat. 1 [Vinyl Loop Kit]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	10	16	--	--	--	[On]	[On]	16	111111111111112
1855	Shaker Pat. 2 [Vinyl Loop Kit]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	10	16	--	--	--	[On]	[On]	16	111111111111112
1856	Shaker Pat. 3 [Vinyl Loop Kit]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	10	16	--	--	--	[On]	[On]	16	111111111111112
1857	Slice Groove 1 [Vinyl Loop Kit]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	75	75	--	--	--	[On]	[On]	16	111111111111112
1858	Slice Groove 2 [Vinyl Loop Kit]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	10	16	--	--	--	[On]	[On]	16	111111111111112
1859	Slice Groove 3 [Vinyl Loop Kit]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	10	16	--	--	--	[On]	[On]	16	111111111111112
1860	Swing Tablas [Vinyl Loop Kit]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	10	16	--	--	--	[On]	[On]	16	111111111111112
1861	Tabla Time [Vinyl Loop Kit]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	10	16	--	--	--	[On]	[On]	16	111111111111112
1862	Vinyl Disco [Vinyl Loop Kit]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	83	16	--	--	--	[On]	[On]	16	111111111111112
1863	Vinyl happy [Vinyl Loop Kit]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	83	16	--	--	--	[On]	[On]	16	111111111111112
1864	Add on Congas [All Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	10	75	--	--	--	[On]	[On]	16	111111111111112
1865	Add on SlowCongas [All Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	10	75	--	--	--	[On]	[On]	16	111111111111112
1866	Add on Top Perc [All Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	10	75	--	--	--	[On]	[On]	16	111111111111112
1867	AfricaThunder1 [Orig Perc Kit]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	[010]	--	--	--	--	[On]	[On]	16	111111111111112
1868	AfricaThunder2 [Orig Perc Kit]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	[010]	--	--	--	--	[On]	[On]	16	111111111111112
1869	African Dance [All Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	[010]	--	--	--	--	[On]	[On]	16	111111111111112
1870	African Stomp [All Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	[010]	--	--	--	--	[On]	[On]	16	111111111111112
1871	Asian Perc [Orch&Ethnic Kit]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	2	16	71	74	10	[On]	[On]	16	111111111111112
1872	Big Ens. 1 [Brazil Perc Kit]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	10	16	--	--	--	[On]	[On]	16	111111111111112
1873	Big Ens. 2 [Brazil Perc Kit]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	10	16	--	--	--	[On]	[On]	16	111111111111112
1874	Big Ens. 3 [Brazil Perc Kit]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	10	16	--	--	--	[On]	[On]	16	111111111111112
1875	Bongo&Shaker [Cuban Perc Kit]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	10	16	--	--	--	[On]	[On]	16	111111111111112
1876	Camel Strut [Orch&Ethnic Kit]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	10	16	--	--	--	[On]	[On]	16	111111111111112
1877	Conga 1 [Cuban Perc Kit]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	10	16	--	--	--	[On]	[On]	16	111111111111112
1878	Conga 2 [Cuban Perc Kit]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	10	16	--	--	--	[On]	[On]	16	111111111111112
1879	Conga 3 [Cuban Perc Kit]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	10	16	--	--	--	[On]	[On]	16	111111111111112
1880	Conga Variation [Perc Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	10	16	--	--	--	[On]	[On]	16	111111111111112
1881	Conga&Djembe [Orig Perc Kit]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	[010]	--	--	--	--	[On]	[On]	16	111111111111112
1882	Conga&Shaker [Orig Perc Kit]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	[010]	--	--	--	--	[On]	[On]	16	111111111111112
1883	Djemballia 1 [Orig Perc Kit]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	[010]	--	--	--	--	[On]	[On]	16	111111111111112
1884	Djemballia 2 [Dance Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	[010]	--	--	--	--	[On]	[On]	16	111111111111112
1885	El Dugan [Orig Perc Kit]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	[010]	--	--	--	--	[On]	[On]	16	111111111111112
1886	Ethnic Perc 1 [Perc Kit]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	10	16	--	--	--	[On]	[On]	16	111111121111112
1887	Ethnic Perc 2 [Perc Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	[010]	--	--	--	--	[On]	[On]	16	111111111111112

Voice Name List

[] = can be controlled or changed by GE Parameters.

#	GE Name	RTC Model	GE Type	Note Type	CC-A	CC-B	Env 1	Env 2	Env 3	Bend	Rpt	Items	Phase Pattern
1888	EthnicDance [Orig Perc Kit]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	[010]	--	--	--	--	[On]	[On]	16	111111111111112
1889	Finger Snap [Orig Perc Kit]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	10	16	--	--	--	[On]	[On]	16	111111111111112
1890	Funky Perc [Orig Perc Kit]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	[010]	--	--	--	--	[On]	[On]	16	111111111111112
1891	Funky Snake [Orch&Ethnic Kit]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	10	16	--	--	--	[On]	[On]	16	111111111111112
1892	Hat & Percussion [Some Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	--	--	--	--	--	[On]	[On]	16	111111111111112
1893	HipHop 43 [Brazil Perc Kit]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	10	16	--	--	--	[On]	[On]	16	111111111111112
1894	HipHop 44 [Brazil Perc Kit]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	10	16	--	--	--	[On]	[On]	16	111111111111112
1895	HipHop 45 [Brazil Perc Kit]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	10	16	--	--	--	[On]	[On]	16	111111111111112
1896	HipHop 46 [Orch&Ethnic Kit]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	10	16	--	--	--	[On]	[On]	16	111111111111112
1897	HipHop Junkie [Orch&Ethnic Kit]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	10	16	--	--	--	[On]	[On]	16	111111111111112
1898	Hipster [Orig Perc Kit]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	10	16	--	--	--	[On]	[On]	16	111111111111112
1899	House 18 [Cuban Perc Kit]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	10	16	--	--	--	[On]	[On]	16	111111111111112
1900	House 19 [Cuban Perc Kit]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	10	16	--	--	--	[On]	[On]	16	111111111111112
1901	House 20 [Cuban Perc Kit]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	10	16	--	--	--	[On]	[On]	16	111111111111112
1902	Ireland [Orig Perc Kit]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	[010]	--	--	--	--	[On]	[On]	16	111111111111112
1903	Jaws Harp [Misc Kit]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	10	16	--	--	--	[On]	[On]	16	111111111111112
1904	Jazz Cymbal&Conga [All Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	[010]	--	--	--	--	[On]	[On]	16	111111111111112
1905	Jazz Perc [All Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	10	--	--	--	--	[On]	[On]	16	111111111111112
1906	Jazzy Daddy [Perc]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	10	--	--	--	--	[On]	[On]	16	111111111111112
1907	Jungle Fever [Cuban Perc Kit]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	10	16	--	--	--	[On]	[On]	16	111111111111112
1908	Latin Perc 1 [Perc Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	--	--	--	--	PB	[On]	[On]	16	111111111111112
1909	Latin Perc 2 [Perc Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	--	--	--	--	PB	[On]	[On]	16	111111111111112
1910	Latin Perc 3 [Perc Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	--	--	--	--	PB	[On]	[On]	16	111111111111112
1911	Latin Rap [Orig Perc Kit]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	10	16	--	--	--	[On]	[On]	16	111111111111112
1912	Light Perc [Orig Perc Kit]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	10	16	--	--	--	[On]	[On]	16	111111111111112
1913	LightPop&Clap [Orig Perc Kit]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	10	16	--	--	--	[On]	[On]	16	111111111111112
1914	Mambo Mamma [Cuban Perc Kit]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	10	16	--	--	--	[On]	[On]	16	111111111111112
1915	Misc Perc [Perc Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	10	16	--	--	--	[On]	[On]	16	111111111111112
1916	Multi Perc 1 [Perc Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	2	16	71	74	10	[On]	[On]	16	111111111111112
1917	Multi Perc 2 [Perc Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	2	16	71	74	10	[On]	[On]	16	111111111111112
1918	Orch Perc [Orch&Ethnic Kit]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	10	16	--	--	--	[On]	[On]	16	111111111111112
1919	Perc 1 [Orig Perc Kit]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	[010]	--	--	--	--	[On]	[On]	16	111111111111112
1920	Perc 2 [Orig Perc Kit]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	[001]	--	--	--	--	[On]	[On]	16	111111111111112
1921	Perc Groove [Orig Perc Kit]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	10	16	--	--	--	[On]	[On]	16	111111111111112
1922	Percussion [Orig Perc Kit]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	[010]	--	--	--	--	[On]	[On]	16	111111111111112
1923	Perky [Cuban Perc Kit]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	10	16	--	--	--	[On]	[On]	16	111111111111112
1924	Salsa Perc [Orig Perc Kit]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	--	--	--	--	--	[On]	[On]	16	111111111111112
1925	Shaker 1 [Brazil Perc Kit]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	10	16	--	--	--	[On]	[On]	16	111111111111112
1926	Shaker 2 [Brazil Perc Kit]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	10	16	--	--	--	[On]	[On]	16	111111111111112
1927	Shaker 3 [Cuban Perc Kit]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	10	16	--	--	--	[On]	[On]	16	111111111111112
1928	Shaker 4 [Cuban Perc Kit]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	10	16	--	--	--	[On]	[On]	16	111111111111112
1929	Shuffle Perc 1 [Orig Perc Kit]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	1	--	PB	--	--	[On]	[On]	16	111111111111112
1930	Shuffle Perc 2 [Orig Perc Kit]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	1	--	PB	--	--	[On]	[On]	16	111111111111112
1931	Simple Perc [Orig Perc Kit]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	10	--	--	--	--	[On]	[On]	16	111111111111112
1932	Simple Shaker 3/4 [Perc Kit]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	10	16	--	--	--	[On]	[On]	16	111111111111112
1933	Smooth Samba 1 [Orig Perc Kit]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	[010]	--	--	--	--	[On]	[On]	16	111111111111112
1934	Smooth Samba 2 [Orig Perc Kit]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	[010]	--	--	--	--	[On]	[On]	16	111111111111112
1935	Soul Ens. 1 [Brazil Perc Kit]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	10	16	--	--	--	[On]	[On]	16	111111111111112
1936	Soul Ens. 2 [Brazil Perc Kit]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	10	16	--	--	--	[On]	[On]	16	111111111111112
1937	Soul Ens. 3 [Brazil Perc Kit]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	10	16	--	--	--	[On]	[On]	16	111111111111112
1938	Soul Ens. 4 [Brazil Perc Kit]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	10	16	--	--	--	[On]	[On]	16	111111111111112
1939	Steady Groover [All Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	10	16	--	--	--	[On]	[On]	16	111111111111112
1940	Tablas 1 [Orch&Ethnic Kit]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	10	16	--	--	--	[On]	[On]	16	111111111111112
1941	Tablas 2 [Orch&Ethnic Kit]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	10	16	--	--	--	[On]	[On]	16	111111111111112
1942	Tablas 3 [Orch&Ethnic Kit]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	10	--	--	--	--	[On]	[On]	16	111111111111112
1943	Tablas 4 [Orch&Ethnic Kit]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	10	16	--	--	--	[On]	[On]	16	111111111111112
1944	Tablas 5 [Orch&Ethnic Kit]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	10	16	--	--	--	[On]	[On]	16	111111111111112
1945	Tablas 6 [Orch&Ethnic Kit]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	10	16	--	--	--	[On]	[On]	16	111111111111112
1946	Tablas 7 [Orch&Ethnic Kit]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	10	16	--	--	--	[On]	[On]	16	111111111111112
1947	Tablas 8 [Orch&Ethnic Kit]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	10	16	--	--	--	[On]	[On]	16	111111111111112
1948	Tablature [Orig Perc Kit]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	[010]	--	--	--	--	[On]	[On]	16	111111111111112
1949	Tambo-Shaker 1 [Orig Perc Kit]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	10	--	--	--	PB	[On]	[On]	16	111111111111112
1950	Tambo-Shaker 2 [Perc Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	--	--	--	--	PB	[On]	[On]	16	111111111111112
1951	TribalCouncil [Orch&Ethnic Kit]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	10	16	--	--	--	[On]	[On]	16	111111111111112
1952	Udo [Misc Kit]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	10	16	--	--	--	[On]	[On]	16	111111111111112
1953	Wave Seq Conga [Acoustic Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	10	--	74	71	16	[On]	[On]	16	111111111111112
1954	16th DrumSolo [All Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	10	--	--	--	--	[On]	[On]	16	111111111111112
1955	Add on Rap V driver	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	10	16	--	--	--	[On]	[On]	16	111111111111112
1956	Add on Vocoder driver	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	10	16	--	--	--	[On]	[On]	16	111111111111112
1957	African 12/8 [Acoustic Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	74	71	--	--	--	[On]	[On]	16	111111111111112
1958	Afro Toms [Acoustic Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	1	73	--	--	--	[On]	[On]	16	111111111111112
1959	Berimbau [Brazil Perc Kit]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	10	16	--	--	--	[On]	[On]	16	111111111111112
1960	Big Booms [Orch&Ethnic Kit]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	10	16	--	--	--	[On]	[On]	16	111111111111112
1961	Cymbal Crash [All Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	10	--	--	--	--	[On]	[On]	16	111111111111112

[] = can be controlled or changed by GE Parameters.

#	GE Name	RTC Model	GE Type	Note Type	CC-A	CC-B	Env 1	Env 2	Env 3	Bend	Rpt	Items	Phase Pattern
1962	Dramatic 1 [Orch&Ethnic Kit]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	10	16	--	--	--	[On]	[On]	16	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 2
1963	Dramatic 2 [Orch&Ethnic Kit]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	10	16	--	--	--	[On]	[On]	16	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 2
1964	Dramatic 3 [Orch&Ethnic Kit]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	10	16	--	--	--	[On]	[On]	16	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 2
1965	Dramatic 4 [Orch&Ethnic Kit]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	10	16	--	--	--	[On]	[On]	16	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 2
1966	Dramatic 5 [Orch&Ethnic Kit]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	10	16	--	--	--	[On]	[On]	16	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 2
1967	Drum Fills [All Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	10	--	--	--	PB	[On]	[On]	16	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 2
1968	Drum Roller [All Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	10	16	--	--	--	[On]	[On]	4	1 1 1 2
1969	Mega Drum Hit	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	[010]	--	--	--	--	[On]	[On]	8	1 1 1 1 1 1 1 1
1970	MilitaryMarch [Orch&Ethnic Kit]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	10	16	--	--	--	[On]	[On]	16	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 2
1971	Olde Celtic [Cuban Perc Kit]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	--	--	--	--	--	[On]	[On]	16	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 2
1972	Orch Army [Orch&Ethnic Kit]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	[010]	--	--	--	--	[On]	[On]	16	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 2
1973	Orch. Bs & Sn [Orch&Ethnic Kit]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	[010]	--	--	--	--	[On]	[On]	16	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 2
1974	Orch.Perc 1 [Orch&Ethnic Kit]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	[010]	--	--	--	--	[On]	[On]	16	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 2
1975	Orch.Perc 2 [Orch&Ethnic Kit]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	[010]	--	--	--	--	[On]	[On]	16	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 2
1976	Orch.Perc 3 [Orch&Ethnic Kit]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	--	--	--	PB	--	[On]	[On]	16	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 2
1977	Orch.Perc 4 [Orch&Ethnic Kit]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	[010]	--	--	--	--	[On]	[On]	16	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 2
1978	Orch.Perc 5 [Orch&Ethnic Kit]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	[010]	--	--	--	--	[On]	[On]	16	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 2
1979	Orch.Perc 6 [Orch&Ethnic Kit]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	[010]	--	--	--	--	[On]	[On]	16	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 2
1980	Orch.Perc 7 [Orch&Ethnic Kit]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	[010]	--	--	--	--	[On]	[On]	16	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 2
1981	Solo-32nds [Acoustic Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	10	--	--	--	--	[On]	[On]	16	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 2
1982	Solo-press roll [Acoustic Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	10	--	VE	TA	PB	[On]	[On]	16	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 2
1983	Solo-toms 16ths [Acoustic Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	10	--	--	--	--	[On]	[On]	16	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 2
1984	Solo-triplets [Acoustic Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	10	--	--	--	--	[On]	[On]	16	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 2
1985	Sousa March [Orch&Ethnic Kit]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	10	16	--	--	--	[On]	[On]	16	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 2
1986	Timpani Part	CL1 - Comp/Lead 1	Generated-Riff	[Scalic2]	--	--	--	--	--	[On]	[On]	8	[1][2][1][2][1][2][1][2]
1987	Vocoderdriver [Mashed Kit]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	10	16	--	--	--	[On]	[On]	16	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 2

Category: Wavesequence

#	GE Name	RTC Model	GE Type	Note Type	CC-A	CC-B	Env 1	Env 2	Env 3	Bend	Rpt	Items	Phase Pattern
1988	Aggressive WaveSeq	CL1 - Comp/Lead 1	Generated-Riff	[Scalic]	10	16	--	--	--	[On]	[On]	8	1 2 1 2 1 2 1 2
1989	Arp Melody WS	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	72	--	--	--	--	[On]	[On]	8	1 1 1 1 1 1 1 1
1990	Bass Upbeats WS	DM1 - Drum Melodic 1	Generated-Drum	WholeTone	--	--	71	16	118	[On]	[On]	16	1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2
1991	Duration Bass WS	BL1 - Bass/Lead 1	Generated-Riff	[Scalic]	10	--	--	--	--	[On]	[On]	4	1 1 1 1
1992	Ethereal Twinklings WS	CL1 - Comp/Lead 1	Generated-Riff	[Scalic]	10	--	1	--	--	[On]	[On]	8	1 2 1 2 1 2 1 2
1993	Improvise It WS	CL1 - Comp/Lead 1	Generated-Riff	[Scalic2]	10	--	1	--	--	[On]	[On]	8	2 2 1 2 2 2 1 2
1994	Melodic/Chords WS	DM1 - Drum Melodic 1	Generated-Drum	WholeTone	8	83	--	--	--	[On]	[On]	16	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
1995	Root 'n' Flute WS	DM1 - Drum Melodic 1	Generated-Drum	WholeTone	10	16	--	--	--	[On]	[On]	16	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 2
1996	Slow Pad Builder w/pulse WS	CL1 - Comp/Lead 1	Generated-Riff	[Scalic2]	11	--	--	74	--	[On]	[On]	4	[1][1][1][1][1]
1997	Sparse Notes WS	DM1 - Drum Melodic 1	Generated-Drum	WholeTone	72	16	--	--	--	[On]	[On]	16	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
1998	Trance WS	GV1 - Gated Vel/Pat 1	Generated-Gated	[Regular]	[010]	--	--	--	--	[On]	[On]	4	1 1 1 1
1999	Vintage Synth Arp WS	CL1 - Comp/Lead 1	Generated-Riff	[Scalic]	10	74	--	16	--	[On]	[On]	8	[1][2][1][2][1][2][1][2]
2000	WS Random	CL1 - Comp/Lead 1	Generated-Riff	[Scalic2]	10	--	--	--	--	[On]	[On]	8	1 1 1 1 1 1 1 1 1 1
2001	Wave Seq Gliss	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	10	--	VE	TR	--	[On]	[On]	1	2
2002	WaveSeq 1 [Bnd/Rpt]	WS1 - Wave Seq 1	Generated-Gated	[Regular]	--	16	--	--	--	[On]	[On]	2	1 2
2003	FX Trigger WS	DM1 - Drum Melodic 1	Generated-Drum	WholeTone	11	16	--	--	--	[On]	[On]	16	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
2004	In Triplicate WS	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	10	16	--	--	--	[On]	[On]	8	1 1 1 1 1 1 1 1 1 1
2005	Melodic Mover WS	CL1 - Comp/Lead 1	Generated-Riff	[Scalic]	79	75	74	71	PB	[On]	[On]	8	1 1 1 1 1 1 1 1 1 1
2006	Multi Instrument WS	DM1 - Drum Melodic 1	Generated-Drum	WholeTone	10	16	--	--	--	[On]	[On]	3	1 2 2
2007	QED in 7 + WS	CL1 - Comp/Lead 1	Generated-Riff	[Fifths]	16	--	--	2	71	[On]	[On]	8	1 2 1 2 1 2 1 2
2008	Synth Hit Wavesequence	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	71	74	--	--	--	[On]	[On]	2	1 2
2009	Tremolo Thing WS	CL1 - Comp/Lead 1	Generated-Riff	[Scalic2]	79	16	75	71	71	[On]	[On]	4	1 1 1 1
2010	Vocoder Perc WS	DM1 - Drum Melodic 1	Generated-Drum	WholeTone	16	10	11	72	--	[On]	[On]	16	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
2011	WaveSeq 2 [Ind.Phases]	WS2 - Wave Seq 2	Generated-Gated	[Scalic]	10	--	--	--	--			2	1 2
2012	WaveSeq Comp	WS1 - Wave Seq 1	Generated-Gated	[Regular]	10	--	--	--	--	[On]	[On]	2	1 2

Category: CC

#	GE Name	RTC Model	GE Type	Note Type	CC-A	CC-B	Env 1	Env 2	Env 3	Bend	Rpt	Items	Phase Pattern
2013	CC83 alternator	GV1 - Gated Vel/Pat 1	Generated-Gated	[Regular]	83	71	VE	10	16	[On]	[On]	1	1
2014	Cutoff + Reso cycle	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	74	71	--	--	--	[On]	[On]	8	1 1 1 1 1 1 1 1
2015	Dual Env Gen 1	EG1 - Dual Env Gen 1	Generated-Riff	Regular	10	--	[016]	[079]	--			1	1
2016	Dual LFOs-Saw/Saw	LF1 - Dual LFOs 1	Generated-Riff	Regular	10	--	[016]	[079]	--			1	1
2017	Dual LFOs-Saw/Sqr	LF1 - Dual LFOs 1	Generated-Riff	Regular	10	--	[016]	[079]	--			1	1
2018	Dual LFOs-Saw/Tri	LF1 - Dual LFOs 1	Generated-Riff	Regular	10	--	[016]	[079]	--			1	1
2019	Dual LFOs-Sqr/Saw	LF1 - Dual LFOs 1	Generated-Riff	Regular	10	--	[016]	[079]	--			1	1
2020	Dual LFOs-Sqr/Sqr	LF1 - Dual LFOs 1	Generated-Riff	Regular	10	--	[016]	[079]	--			1	1
2021	Dual LFOs-Sqr/Tri	LF1 - Dual LFOs 1	Generated-Riff	Regular	10	--	[016]	[079]	--			1	1
2022	Dual LFOs-Tri/Saw	LF1 - Dual LFOs 1	Generated-Riff	Regular	10	--	[016]	[079]	--			1	1
2023	Dual LFOs-Tri/Sqr	LF1 - Dual LFOs 1	Generated-Riff	Regular	10	--	[016]	[079]	--			1	1
2024	Dual LFOs-Tri/Tri	LF1 - Dual LFOs 1	Generated-Riff	Regular	10	--	[016]	[079]	--			1	1
2025	JS+y 2bar cycle	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	1	--	--	--	--	[On]	[On]	16	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 2
2026	Ribbon Clamp Env 1	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	11	10	--	--	--	[On]	[On]	16	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 2
2027	Ribbon Move Env 1	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	--	11	16	--	--	[On]	[On]	16	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 2
2028	VJS motion	Custom	Generated-Riff	Regular	118	119	--	--	--			2	1 2

Voice Name List

[] = can be controlled or changed by GE Parameters.

#	GE Name	RTC Model	GE Type	Note Type	CC-A	CC-B	Env 1	Env 2	Env 3	Bend	Rpt	Items	Phase Pattern
2029	CC11 gate fx 1	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	11	74	--	--	--	[On]	[On]	16	1111111111111112
2030	CC11 gate fx 2	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	11	11	--	--	--	[On]	[On]	16	1111111111111112
2031	JS-Y Ramp down	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	--	74	2	--	--	[On]	[On]	16	1111111111111112
2032	Pitchbend Upbeat Jitter	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	PB	--	16	--	--	[On]	[On]	16	1111111111111112
2033	Swirly gate fx	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	10	11	TA	91	--	[On]	[On]	16	1111111111111112

Category: Real-Time

#	GE Name	RTC Model	GE Type	Note Type	CC-A	CC-B	Env 1	Env 2	Env 3	Bend	Rpt	Items	Phase Pattern
2034	Clav Snap RT	MR1 - Melodic Repeat	Real-Time	Regular	10	--	74	71	16		[On]	1	1
2035	Compu-shift	MR1 - Melodic Repeat	Real-Time	Chromatic	16	--	74	2	10	On	[On]	1	1
2036	Cyborg Hit	MR1 - Melodic Repeat	Real-Time	WholeTone	--	--	74	1	10	[On]	[On]	1	1
2037	Direct Index 1	CL1 - Comp/Lead 1	Generated-Riff	[Scalic2]	10	--	--	--	--	[On]	[On]	8	1 2 1 2 1 2 1 2
2038	Direct Index 2	CL1 - Comp/Lead 1	Generated-Riff	[Scalic]	10	--	--	--	--	[On]	[On]	8	1 2 1 2 1 2 1 2
2039	Distant Lights	MR1 - Melodic Repeat	Real-Time	Chromatic	16	--	74	1	10	On	[On]	1	1
2040	Dyno Tyne EP RT	Custom	Real-Time	Regular	10	--	74	71	10	[On]	[On]	1	1
2041	Filter Sweep	MR1 - Melodic Repeat	Real-Time	Regular	--	--	72	16	74	[On]	[On]	1	1
2042	Melodic Repeat!	MR1 - Melodic Repeat	Real-Time	Regular	--	--	71	10	--		[On]	2	1 2
2043	RT Harmony/Bend	MB1 - Mel Rpt/Bend	Real-Time	Regular	--	--	--	--	--	[On]	[On]	2	1 2
2044	RT Melodic Repeat	MR1 - Melodic Repeat	Real-Time	Regular	10	--	--	--	--		[On]	2	1 2
2045	RT Real-Time Bend	RB1 - Real-Time Bend	Real-Time	Regular	--	--	[002]	--	--	[On]		1	1
2046	RT Repeats/Bend	MB1 - Mel Rpt/Bend	Real-Time	Regular	--	--	--	--	--	[On]	[On]	2	1 2
2047	Tempo Env Repeats	MR1 - Melodic Repeat	Real-Time	Scalic	--	--	TR	--	--		[On]	2	1 2

[] = can be controlled or changed by GE Parameters.

USER-A

Category: Arpeggio

#	GE Name	RTC Model	GE Type	Note Type	CC-A	CC-B	Env 1	Env 2	Env 3	Bend	Rpt	Items	Phase Pattern
0	Arp Model 23 Triplets	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	10	--	--	--	--	[On]	[On]	8	[1][2][1][2][1][2][1][2]
1	Rough Rider	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	[010]	--	74	[016]	--	[On]	[On]	4	1 1 1 1
2	Buddha Bell	DM1 - Drum Melodic 1	Generated-Drum	WholeTone	--	--	--	--	--	[On]	[On]	8	1 1 1 1 1 1 1 2
3	Ethnica	DM1 - Drum Melodic 1	Generated-Drum	WholeTone	--	--	--	--	--	[On]	[On]	8	1 1 1 1 1 1 1 2
4	Magical Sun	DM1 - Drum Melodic 1	Generated-Drum	WholeTone	--	--	--	--	--	[On]	[On]	8	1 1 1 1 1 1 1 2
5	So Pretty	DM1 - Drum Melodic 1	Generated-Drum	WholeTone	--	--	--	--	--	[On]	[On]	8	1 1 1 1 1 1 1 2
6	Frantic Opera Lead	DM1 - Drum Melodic 1	Generated-Drum	WholeTone	--	--	--	--	--	[On]	[On]	8	1 1 1 1 1 1 1 2
7	Hollow Point	DM1 - Drum Melodic 1	Generated-Drum	WholeTone	--	--	--	--	--	[On]	[On]	8	1 1 1 1 1 1 1 2
8	Vel Expression Lead	DM1 - Drum Melodic 1	Generated-Drum	WholeTone	--	--	--	--	--	[On]	[On]	8	1 1 1 1 1 1 1 2
9	Sync Lead	DM1 - Drum Melodic 1	Generated-Drum	WholeTone	--	--	--	--	--	[On]	[On]	8	1 1 1 1 1 1 1 2
10	Low Flying Objects	DM1 - Drum Melodic 1	Generated-Drum	WholeTone	--	--	--	--	--	[On]	[On]	8	1 1 1 1 1 1 1 2
11	Secret Toy Room	DM1 - Drum Melodic 1	Generated-Drum	WholeTone	--	--	--	--	--	[On]	[On]	8	1 1 1 1 1 1 1 2
12	Solar Winds	DM1 - Drum Melodic 1	Generated-Drum	WholeTone	--	--	--	--	--	[On]	[On]	8	1 1 1 1 1 1 1 2
13	Simple Pluck	DM1 - Drum Melodic 1	Generated-Drum	WholeTone	85	87	--	--	--	[On]	[On]	8	1 1 1 1 1 1 1 2
14	Exotica	DM1 - Drum Melodic 1	Generated-Drum	WholeTone	85	--	--	--	--	[On]	[On]	8	1 1 1 1 1 1 1 2
15	Fluid	DM1 - Drum Melodic 1	Generated-Drum	WholeTone	19	--	--	--	--	[On]	[On]	8	1 1 1 1 1 1 1 2
16	Pitch	DM1 - Drum Melodic 1	Generated-Drum	WholeTone	--	--	--	--	--	[On]	[On]	8	1 1 1 1 1 1 1 2
17	Raisemeup	DM1 - Drum Melodic 1	Generated-Drum	WholeTone	16	--	--	--	--	[On]	[On]	8	1 1 1 1 1 1 1 2
18	Random	DM1 - Drum Melodic 1	Generated-Drum	WholeTone	16	--	--	--	--	[On]	[On]	8	1 1 1 1 1 1 1 2
19	Stardust	DM1 - Drum Melodic 1	Generated-Drum	WholeTone	19	--	--	--	--	[On]	[On]	8	1 1 1 1 1 1 1 2
20	Vector	DM1 - Drum Melodic 1	Generated-Drum	WholeTone	88	--	--	--	--	[On]	[On]	8	1 1 1 1 1 1 1 2
21	Darker	DM1 - Drum Melodic 1	Generated-Drum	WholeTone	16	--	--	--	--	[On]	[On]	8	1 1 1 1 1 1 1 2
22	Simple Arp	DM1 - Drum Melodic 1	Generated-Drum	WholeTone	19	--	--	--	--	[On]	[On]	8	1 1 1 1 1 1 1 2
23	Sleep Walker	DM1 - Drum Melodic 1	Generated-Drum	WholeTone	16	--	--	--	--	[On]	[On]	8	1 1 1 1 1 1 1 2
24	Zombie Groans	DM1 - Drum Melodic 1	Generated-Drum	WholeTone	86	--	--	--	--	[On]	[On]	8	1 1 1 1 1 1 1 2
25	Confrontation Synth	GV1 - Gated Vel/Pat 1	Generated-Gated	[Regular]	[074]	[008]	--	--	--	[On]	[On]	4	1 2 1 2
26	Classica	DM1 - Drum Melodic 1	Generated-Drum	WholeTone	--	--	--	--	--	[On]	[On]	8	1 1 1 1 1 1 1 2
27	Via VPM	DM1 - Drum Melodic 1	Generated-Drum	WholeTone	--	--	--	--	--	[On]	[On]	8	1 1 1 1 1 1 1 2
28	Dare 2B-Square	DM1 - Drum Melodic 1	Generated-Drum	WholeTone	--	--	--	--	--	[On]	[On]	8	1 1 1 1 1 1 1 2
29	Pointed Anthem	DM1 - Drum Melodic 1	Generated-Drum	WholeTone	--	--	--	--	--	[On]	[On]	8	1 1 1 1 1 1 1 2

Category: Melodic

#	GE Name	RTC Model	GE Type	Note Type	CC-A	CC-B	Env 1	Env 2	Env 3	Bend	Rpt	Items	Phase Pattern
30	Sitar	DM1 - Drum Melodic 1	Generated-Drum	WholeTone	85	--	--	--	--	[On]	[On]	8	1 1 1 1 1 1 1 2
31	Release	DM1 - Drum Melodic 1	Generated-Drum	WholeTone	88	--	--	--	--	[On]	[On]	8	1 1 1 1 1 1 1 2
32	Techno Riff 3 Triplets	GV1 - Gated Vel/Pat 1	Generated-Gated	[Regular]	[010]	--	--	--	--	[On]	[On]	[8]	1 1 1 1 1 1 1 1
33	HardTune	DM1 - Drum Melodic 1	Generated-Drum	WholeTone	--	--	--	--	--	[On]	[On]	8	1 1 1 1 1 1 1 2

Category: Harmonic (Poly)

#	GE Name	RTC Model	GE Type	Note Type	CC-A	CC-B	Env 1	Env 2	Env 3	Bend	Rpt	Items	Phase Pattern
34	Rough Rider Rap Lead	DM1 - Drum Melodic 1	Generated-Drum	WholeTone	10	--	VE	74	--	[On]	[On]	2	1 1
35	Child's Play	DM1 - Drum Melodic 1	Generated-Drum	WholeTone	--	--	--	--	--	[On]	[On]	8	1 1 1 1 1 1 1 2
36	Construction Time	DM1 - Drum Melodic 1	Generated-Drum	WholeTone	--	--	--	--	--	[On]	[On]	8	1 1 1 1 1 1 1 2
37	Rainy Windows	DM1 - Drum Melodic 1	Generated-Drum	WholeTone	--	--	--	--	--	[On]	[On]	8	1 1 1 1 1 1 1 2
38	Summer Night by the Orb	DM1 - Drum Melodic 1	Generated-Drum	WholeTone	--	--	--	--	--	[On]	[On]	8	1 1 1 1 1 1 1 2
39	Harmonic Heights	DM1 - Drum Melodic 1	Generated-Drum	WholeTone	--	--	--	--	--	[On]	[On]	8	1 1 1 1 1 1 1 2
40	Singing Sine Pad	DM1 - Drum Melodic 1	Generated-Drum	WholeTone	--	--	--	--	--	[On]	[On]	8	1 1 1 1 1 1 1 2
41	Simpler	DM1 - Drum Melodic 1	Generated-Drum	WholeTone	17	--	--	--	--	[On]	[On]	8	1 1 1 1 1 1 1 2

Category: Chord Rhythmic

#	GE Name	RTC Model	GE Type	Note Type	CC-A	CC-B	Env 1	Env 2	Env 3	Bend	Rpt	Items	Phase Pattern
42	Picnik	DM1 - Drum Melodic 1	Generated-Drum	WholeTone	86	--	--	--	--	[On]	[On]	8	1 1 1 1 1 1 1 2
43	Potty Mouth Clav	DM1 - Drum Melodic 1	Generated-Drum	WholeTone	--	--	--	--	--	[On]	[On]	8	1 1 1 1 1 1 1 2

Category: Pick

#	GE Name	RTC Model	GE Type	Note Type	CC-A	CC-B	Env 1	Env 2	Env 3	Bend	Rpt	Items	Phase Pattern
44	Alchemy Guitars	DM1 - Drum Melodic 1	Generated-Drum	WholeTone	--	--	--	--	--	[On]	[On]	8	1 1 1 1 1 1 1 2
45	Butterfly E.Guitar	DM1 - Drum Melodic 1	Generated-Drum	WholeTone	--	--	--	--	--	[On]	[On]	8	1 1 1 1 1 1 1 2
46	Funky Bluegrass WS	DM1 - Drum Melodic 1	Generated-Drum	WholeTone	--	--	74	71	72	[On]	[On]	16	1 1 1 2 1 1 1 2 1 1 1 2 1 1 1 2

Category: Bass Pattern

#	GE Name	RTC Model	GE Type	Note Type	CC-A	CC-B	Env 1	Env 2	Env 3	Bend	Rpt	Items	Phase Pattern
47	Shuffle Bass	DM1 - Drum Melodic 1	Generated-Drum	WholeTone	74	--	--	--	--	[On]	[On]	16	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 2
48	WS Dream Dance	BL1 - Bass/Lead 1	Generated-Riff	[Regular]	2	16	71	--	--	[On]	[On]	4	1 1 1 1
49	WS Ethereal Beings	BL1 - Bass/Lead 1	Generated-Riff	[Scalic2]	2	16	71	--	--	[On]	[On]	4	1 1 1 1
50	WS Power Bass 1	BL1 - Bass/Lead 1	Generated-Riff	[Scalic2]	2	16	71	--	--	[On]	[On]	4	1 1 1 1
51	WS Power Bass 2	BL1 - Bass/Lead 1	Generated-Riff	[Scalic2]	2	16	71	--	--	[On]	[On]	4	1 1 1 1

Voice Name List

[] = can be controlled or changed by GE Parameters.

#	GE Name	RTC Model	GE Type	Note Type	CC-A	CC-B	Env 1	Env 2	Env 3	Bend	Rpt	Items	Phase Pattern
52	WS Reso Bass 1	BL1 - Bass/Lead 1	Generated-Riff	[Scalic2]	2	16	71	--	--	[On]	[On]	4	1 1 1 1
53	WS Reso Bass 2	BL1 - Bass/Lead 1	Generated-Riff	[Scalic2]	2	83	71	--	--	[On]	[On]	4	1 1 1 1
54	Confrontation Bass	GV1 - Gated Vel/Pat 1	Generated-Gated	[Regular]	[074]	--	--	--	--	[On]	[On]	4	1 1 1 2
55	Rough Rider Bass	BL1 - Bass/Lead 1	Generated-Riff	[Scalic]	10	--	79	71	11	[On]	[On]	8	1 1 1 1 1 1 1 1
56	Trance Bass Riff	GV1 - Gated Vel/Pat 1	Generated-Gated	[Regular]	[010]	--	--	--	--	[On]	[On]	[8]	1 1 1 1 1 1 1 1
57	Gnarly Bass	DM1 - Drum Melodic 1	Generated-Drum	WholeTone	86	--	--	--	--	[On]	[On]	8	1 1 1 1 1 1 1 2
58	Snaplight Bass	DM1 - Drum Melodic 1	Generated-Drum	WholeTone	--	--	--	--	--	[On]	[On]	8	1 1 1 1 1 1 1 2
59	Electro Bass	DM1 - Drum Melodic 1	Generated-Drum	WholeTone	17	--	--	--	--	[On]	[On]	8	1 1 1 1 1 1 1 2
60	Tribe Bass	DM1 - Drum Melodic 1	Generated-Drum	WholeTone	86	--	--	--	--	[On]	[On]	8	1 1 1 1 1 1 1 2
61	Blaster	DM1 - Drum Melodic 1	Generated-Drum	WholeTone	87	--	--	--	--	[On]	[On]	8	1 1 1 1 1 1 1 2
62	Laugh Out Loud	DM1 - Drum Melodic 1	Generated-Drum	WholeTone	17	--	--	--	--	[On]	[On]	8	1 1 1 1 1 1 1 2

Category: Gated

#	GE Name	RTC Model	GE Type	Note Type	CC-A	CC-B	Env 1	Env 2	Env 3	Bend	Rpt	Items	Phase Pattern
63	Confrontation Gated Gtr	DM1 - Drum Melodic 1	Generated-Drum	WholeTone	10	--	11	--	--	[On]	[On]	[8]	1 1 1 1 1 1 2 2
64	Cosmology-8th Swing	GC1 - Gated CCs 1	Generated-Gated	[Regular]	[010]	9	--	--	--	[On]		[4]	1 1 1 2

Category: Drum

#	GE Name	RTC Model	GE Type	Note Type	CC-A	CC-B	Env 1	Env 2	Env 3	Bend	Rpt	Items	Phase Pattern
65	6/8 Slow Rock 3 [All Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	10	16	--	--	--	[On]	[On]	16	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 2
66	Simple Shuffle	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	--	--	--	--	--	[On]	[On]	16	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 2
67	Beatbox	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	--	--	--	--	--	[On]	[On]	16	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 2
68	HipHop 43 [Dance Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	1	--	PB	--	--	[On]	[On]	16	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 2
69	Dumb Kut	DM1 - Drum Melodic 1	Generated-Drum	WholeTone	88	--	--	--	--	[On]	[On]	8	1 1 1 1 1 1 1 2
70	Analog Machine2 [Dance Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	10	16	--	--	--	[On]	[On]	16	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 2
71	Breakdance 2006	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	--	--	--	--	PB	[On]	[On]	16	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 2
72	Pure Trance [Dance Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	[--]	--	--	--	--	[On]	[On]	16	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 2
73	Rough Riders Groove	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	10	--	--	--	--	[On]	[On]	16	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
74	Stealth NuPop [All Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	--	--	--	--	PB	[On]	[On]	16	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 2
75	SyncoPop [All Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	[010]	--	--	--	--	[On]	[On]	16	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 2
76	Confrontation Drums [All Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	1	--	--	--	--	[On]	[On]	16	1 1 1 1 1 1 2 1 1 1 1 1 1 1 1 2
77	Degree Of Funk2 [All Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	[010]	--	--	--	--	[On]	[On]	16	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 2
78	Studio RnB 2 [Acoustic Kits]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	1	1	--	--	--	[On]	[On]	16	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 2
79	Djembaia 3 [Orig Perc Kit]	DP1 - Drum/Perc 1	Generated-Drum	WholeTone	[010]	--	--	--	--	[On]	[On]	16	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 2
80	Drumbelina.mid	DM1 - Drum Melodic 1	Generated-Drum	WholeTone	--	--	--	--	--	[On]	[On]	8	1 1 1 1 1 1 1 2
81	MadGodzilla	DM1 - Drum Melodic 1	Generated-Drum	WholeTone	85	--	--	--	--	[On]	[On]	8	1 1 1 1 1 1 1 2
82	Nasty	DM1 - Drum Melodic 1	Generated-Drum	WholeTone	16	--	--	--	--	[On]	[On]	8	1 1 1 1 1 1 1 2

Category: Wavesequene

#	GE Name	RTC Model	GE Type	Note Type	CC-A	CC-B	Env 1	Env 2	Env 3	Bend	Rpt	Items	Phase Pattern
83	Trance WS 2	GV1 - Gated Vel/Pat 1	Generated-Gated	[Regular]	[010]	--	--	--	--	[On]	[On]	[4]	1 1 1 1
84	WS Metal Trance Riff	GV1 - Gated Vel/Pat 1	Generated-Gated	[Regular]	[008]	--	--	--	--	[On]	[On]	[2]	1 1
85	WS Multi Guitar [El & Ac]	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	--	--	--	--	--	[On]	[On]	4	1 1 1 1
86	WS Pulse Bass 1	GV1 - Gated Vel/Pat 1	Generated-Gated	[Regular]	[010]	--	--	--	--	[On]	[On]	[8]	1 1 1 1 1 1 1 1
87	WS Shy GirlBot	GV1 - Gated Vel/Pat 1	Generated-Gated	[Regular]	[010]	--	--	--	--	[On]	[On]	4	1 1 1 1
88	WS Spy Bots	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	80	--	--	--	--	[On]	[On]	4	1 1 1 1
89	WS Trance Riff 1	GV1 - Gated Vel/Pat 1	Generated-Gated	[Regular]	[008]	--	--	--	--	[On]	[On]	[2]	1 1
90	WS Trance Riff 2	GV1 - Gated Vel/Pat 1	Generated-Gated	[Regular]	[008]	--	--	--	--	[On]	[On]	[2]	1 1
91	WS Wacky Boy	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	80	--	--	--	--	[On]	[On]	4	1 1 1 2
92	Lower Ground 12/8 WS	DM1 - Drum Melodic 1	Generated-Drum	WholeTone	--	--	--	--	--	[On]	[On]	16	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 2
93	Aggressive WaveSeq 2	CL1 - Comp/Lead 1	Generated-Riff	[Scalic]	10	16	--	--	--	[On]	[On]	8	1 2 1 2 1 2 1 2
94	Organbell WS	DM1 - Drum Melodic 1	Generated-Drum	WholeTone	10	11	11	72	--	[On]	[On]	16	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
95	WS Colorful Twinkles	CL1 - Comp/Lead 1	Generated-Riff	[Regular]	1	16	1	--	--	[On]	[On]	8	1 2 1 2 1 2 1 2

KARMA RTC Names

#	Name
000	[no name]
001	Alternate Drum Map
002	Alternate DrumMap On/Off
003	Arp<->Gated<->Fixed
004	Arpeggio<->Gated
005	Auto Transpose On
006	Bend (Note) On/Off
007	Bend Alternation
008	Bend Always Even If Zero
009	Bend Amount
010	Bend Amt [-] Rand [+]
011	Bend Arpeggiation On
012	Bend Attack Time
013	Bend Delay
014	Bend Direction
015	Bend Direction (To/From)
016	Bend End %
017	Bend Env. Delay
018	Bend Env. Latch Mode
019	Bend Env. Latch On
020	Bend Env. Time Scale
021	Bend Env. Trig. Mode
022	Bend Env. [-] Off [+]
023	Bend Envelope Level
024	Bend Envelope On/Off
025	Bend Envelope Shape
026	Bend Length
027	Bend Normal/Arpeggiated
028	Bend Note Release Delay
029	Bend On Release
030	Bend On/Off
031	Bend Pattern
032	Bend Range (Semitones)
033	Bend Release Delay
034	Bend Release Level
035	Bend Release Time
036	Bend Shape
037	Bend Smooth/Stepped
038	Bend Start %
039	Bend Start Level
040	Bend Start/End/Width
041	Bend Trigger By Vel.
042	Bend Width %
043	Chop <0 Restrike
044	Chord Size/Density
045	Chord Size/Density[1]
046	Chord Size/Density[2]
047	Chord Strum On/Off
048	Chord Strum Time
049	Chord Strum/Pick
050	Chord Strum/Pick [1]
051	Chord Strum/Pick [2]
052	Chord Voicing
053	Chorus Control
054	Clock Adv.Chord Trig
055	Clock Advance Mode
056	Clock Advance On/Off
057	Clock Advance Size
058	Cluster Advance
059	Cluster Pattern
060	Cluster Pattern [1]
061	Cluster Pattern [2]
062	Cluster Randomize
063	Cluster Randomize[1]
064	Cluster Randomize[2]
065	Cluster Randomize[3]
066	Complexity
067	Crash Level
068	Delay Start Length
069	Delay Start On/Off
070	Density
071	Direct Index Velocity

#	Name
072	Drum/Perc Sound
073	Drum/Perc Sound [1]
074	Drum/Perc Sound [2]
075	Drum/Perc Sound [3]
076	Drum/Perc Sound [4]
077	Drum/Perc Sound [5]
078	Drum/Perc Sound [6]
079	Drum/Perc Sound [7]
080	Duration % (Gate)
081	Duration % (Gate) [1]
082	Duration % (Gate) [2]
083	Duration Control
084	Duration Control/Mode
085	Duration Mode
086	Duration Pattern
087	Duration Pattern [1]
088	Duration Pattern [2]
089	Duration Randomize
090	Duration Randomize[1]
091	Duration Randomize[2]
092	End Loop Length
093	End Loop On/Off
094	End Loop Start Step
095	Env(s) Latch Mode
096	Env(s) Latch On/Off
097	Env(s) Trigger Mode
098	Env. Amount
099	Env. Amount [1]
100	Env. Amount [2]
101	Env. Amount [3]
102	Env. Attack Level
103	Env. Attack Level [1]
104	Env. Attack Level [2]
105	Env. Attack Level [3]
106	Env. Attack Time
107	Env. Attack Time [1]
108	Env. Attack Time [2]
109	Env. Attack Time [3]
110	Env. AttackSmoothing
111	Env. Decay Time
112	Env. Decay Time [1]
113	Env. Decay Time [2]
114	Env. Decay Time [3]
115	Env. Loop Mode
116	Env. Loop Mode [1]
117	Env. Loop Mode [2]
118	Env. Loop Mode [3]
119	Env. Loop On/Off
120	Env. Loop On/Off [1]
121	Env. Loop On/Off [2]
122	Env. Loop On/Off [3]
123	Env. Note Trig Rhythm
124	Env. Note Trigger [1]
125	Env. Note Trigger [2]
126	Env. Note Trigger [3]
127	Env. NoteTrig Multiplier
128	Env. On/Off
129	Env. On/Off [1]
130	Env. On/Off [2]
131	Env. On/Off [3]
132	Env. Release Level
133	Env. Release Level [1]
134	Env. Release Level [2]
135	Env. Release Level [3]
136	Env. Release Time
137	Env. Release Time [1]
138	Env. Release Time [2]
139	Env. Release Time [3]
140	Env. Start Level
141	Env. Start Level [1]
142	Env. Start Level [2]
143	Env. Start Level [3]
144	Env. Sustain Level
145	Env. Sustain Level [1]

#	Name
146	Env. Sustain Level [2]
147	Env. Sustain Level [3]
148	Env. Time Scale
149	Env. Time Scale [1]
150	Env. Time Scale [2]
151	Env. Time Scale [3]
152	Env. Trigger Mode
153	Envelope(s) Level
154	Envelope(s) On/Off
155	Envelope(s)TimeScale
156	FX/Ctrl Nte#<->Pat[1]
157	FX/Ctrl Nte#<->Pat[2]
158	FX/Ctrl Pat.Polarity[1]
159	FX/Ctrl Pat.Polarity[2]
160	FX/Ctrl CC Number
161	FX/Ctrl CC Number[1]
162	FX/Ctrl CC Number[2]
163	FX/Ctrl Depth
164	FX/Ctrl Depth [-]0[+]
165	FX/Ctrl Depth [1]
166	FX/Ctrl Depth [2]
167	FX/Ctrl Env. Latch On
168	FX/Ctrl Env. Level
169	FX/Ctrl Env. On/Off
170	FX/Ctrl Env. Shape
171	FX/Ctrl Env. Shape[1]
172	FX/Ctrl Env. Shape[2]
173	FX/Ctrl Env. Shape[3]
174	FX/Ctrl Env.LatchMde
175	FX/Ctrl Env.TimeScale
176	FX/Ctrl Env.Trig.Mode
177	FX/Ctrl Fixed/Patn[1]
178	FX/Ctrl Fixed/Patn[2]
179	FX/Ctrl Fixed/Patrn
180	FX/Ctrl Level
181	FX/Ctrl Level [1]
182	FX/Ctrl Level [2]
183	FX/Ctrl Level [3]
184	FX/Ctrl Movement
185	FX/Ctrl Movement [1]
186	FX/Ctrl Movement [2]
187	FX/Ctrl Movement [3]
188	FX/Ctrl Note#<->Pat
189	FX/Ctrl On/Off
190	FX/Ctrl On/Off [1]
191	FX/Ctrl On/Off [2]
192	FX/Ctrl Pat. Polarity
193	FX/Ctrl Pattern
194	FX/Ctrl Pattern [1]
195	FX/Ctrl Pattern [2]
196	FX/Ctrl Randomize
197	FX/Ctrl Randomize[1]
198	FX/Ctrl Randomize[2]
199	Fill
200	Force Mono
201	Force Range
202	Freeze Effect
203	Gate Type Vel<->CC
204	Gating [1]
205	Gating [2]
206	Harmony Delay
207	Harmony Mix
208	Harmony NumOfVoices
209	Harmony On/Off
210	Harmony Voicing
211	Harmony Volume
212	HiHat/Cym Randomize
213	HiHat/CymComplexity
214	HiHats Complexity
215	HiHats Level
216	HiHats Randomize
217	HiHats/Cym Level
218	Improvisation
219	Improvisation On/Off

#	Name
220	Indexing Bend On/Off
221	Indexing Duration %
222	Indexing Range
223	Indexing Repeat On
224	Indexing Transpose
225	Invert Phrase
226	Invert Phrase [1]
227	Invert Phrase [2]
228	Kbd Thru Inside Zone
229	Kbd Thru Outside Zone
230	Key Thru/AT Trigger
231	Key Zone Bottom
232	Key Zone Top
233	Keyboard Thru
234	Keyboard Thru [1]
235	Keyboard Thru [2]
236	Keyboard Thru [3]
237	Keyboard Thru [4]
238	Keys Held = Notes Played
239	Keys Held=NotesPlayed[1]
240	Keys Held=NotesPlayed[2]
241	Keys Held=NotesPlayed[3]
242	Kick Complexity
243	Kick Level
244	Kick Randomize
245	Kick Sound
246	Kick/Snare Level
247	Kick/Snare Randomize
248	Kick/SnareComplexity
249	LFO Key Sync On/Off
250	LFO Loop On/Off [1]
251	LFO Loop On/Off [2]
252	LFO Max Val [1]
253	LFO Max Val [2]
254	LFO Min Val [1]
255	LFO Min Val [2]
256	LFO Note Trig Multiplier
257	LFO Note Trig Rhythm
258	LFO Note Trigger
259	LFO Note Trigger [1]
260	LFO Note Trigger [2]
261	LFO Note Trigger [3]
262	LFO On/Off [1]
263	LFO On/Off [2]
264	LFO Rate (Coarse) [1]
265	LFO Rate (Coarse) [2]
266	LFO Rate (Fine) [1]
267	LFO Rate (Fine) [2]
268	Level
269	Loop Length
270	Module Run
271	Module Run [1]
272	Module Run [2]
273	Module Run [3]
274	Module Run [4]
275	Mute Tracks
276	Note Advance On
277	Note Advance On [1]
278	Note Advance On [2]
279	Note ChordShift
280	Note ChordShiftMode
281	Note Direction
282	Note Direction [1]
283	Note Direction [2]
284	Note Doubling Delay
285	Note Doubling Intervl
286	Note Doubling On
287	Note Doubling On [1]
288	Note Doubling On [2]
289	Note Doubling Intvl[1]
290	Note Doubling Intvl[2]
291	Note End Offset
292	Note End Offset [1]
293	Note End Offset [2]

#	Name
294	Note Filter ScaleStep
295	Note FilterDuplicates
296	Note Input Sort
297	Note Interval Shift
298	Note Inv/Dbl Vel. Offset
299	Note Inv/Dbl VelOffs[1]
300	Note Inv/Dbl VelOffs[2]
301	Note Inversion
302	Note Inversion On
303	Note Inversion On [1]
304	Note Inversion On [2]
305	Note Latch On/Off
306	Note Movement
307	Note Movement [1]
308	Note Movement [2]
309	Note Octave Range
310	Note Pattern
311	Note Pattern <-> Chord
312	Note Pattern [1]
313	Note Pattern [2]
314	Note Pattn->Rand[1]
315	Note Pattn->Rand[2]
316	Note Pattn->Random
317	Note Random Jump
318	Note Random Jump[1]
319	Note Random Jump[2]
320	Note Randomize
321	Note Randomize [1]
322	Note Randomize [2]
323	Note Randomize [3]
324	Note Range
325	Note Range Bottom
326	Note Range Limit
327	Note Range Top
328	Note Replications
329	Note Scale Type
330	Note Scale Type [1]
331	Note Scale Type [2]
332	Note Start
333	Note Start Offset
334	Note Start Offset [1]
335	Note Start Offset [2]
336	Note Sweep
337	Note Transpose
338	Note Transpose [1]
339	Note Transpose [2]
340	Note Transpose [3]
341	Note Trigger Mode
342	Note Voicing
343	NoteAsPlayed->Scalic
344	Notes Control Length
345	Notes Ctrl Length [1]
346	Notes Ctrl Length [2]
347	Notes Ctrl Length [3]
348	Number Of Events
349	Number Of Events [1]
350	Number Of Events [2]
351	Number Of Measures
352	Octave
353	Octave Down
354	Octave Up
355	Octave [1]
356	Octave [2]
357	Octave [3]
358	Octave [4]
359	Pan Fixed/Pattern
360	Pan Fixed/Pattern[1]
361	Pan Fixed/Pattern[2]
362	Pan Note#->Patrn[1]
363	Pan Note#->Patrn[2]
364	Pan Note#->Pattern
365	Pan Off <-> Width
366	Pan On/Off
367	Pan On/Off [1]

#	Name
368	Pan On/Off [2]
369	Pan Pattern
370	Pan Pattern Polarity
371	Pan Pattern [1]
372	Pan Pattern [2]
373	Pan Pattn Polarity[1]
374	Pan Pattn Polarity[2]
375	Pan Randomize
376	Pan Randomize [1]
377	Pan Randomize [2]
378	Pan Width
379	Pan Width [1]
380	Pan Width [2]
381	Pan/Bend On/Off
382	Pattern Kbd Track
383	Pattern Kbd Track[1]
384	Pattern Kbd Track[2]
385	Pattern Kbd Track[3]
386	Pattern On/Off
387	Pattern On/Off [1]
388	Pattern On/Off [2]
389	Pattern On/Off [3]
390	Pattern Randomize
391	Pattern Randomize[1]
392	Pattern Randomize[2]
393	Pattern Randomize[3]
394	Pattern Select
395	Pattern Select [1]
396	Pattern Select [2]
397	Pattern Select [3]
398	Pattern Variation
399	Pattern Variation - End
400	Pattern Variation - Main
401	Patterns On/Off
402	Percussion Level
403	Percussion On/Off
404	Percussion Pattern
405	Percussion Pattern [1]
406	Percussion Pattern [2]
407	Percussion Randomize
408	PercussionComplexity
409	Perfect Solo On/Off
410	Phrase Cycle Length
411	Phrase Cycle Length [1]
412	Phrase Cycle Length [2]
413	Phrase Gate
414	Phrase Overlap
415	Phrase Retrigger
416	Phrase Selection
417	Phrase Selection [1]
418	Phrase Selection [2]
419	Pitch Humanize
420	Pitch Pattern
421	Quantize
422	Randomize/Improvise
423	Repeat Chord Shift
424	Repeat Decay
425	Repeat Initial Volume
426	Repeat Note Range Limit
427	Repeat On Release
428	Repeat On/Off
429	Repeat On/Off By Pattern
430	Repeat On/Off Pattern[1]
431	Repeat On/Off Pattern[2]
432	Repeat On/Off Pattern[3]
433	Repeat Range Abs/Rel
434	Repeat Range Top
435	Repeat Rebound Mode
436	Repeat Repetitions
437	Repeat Rhythm Value
438	Repeat Stop Mode
439	Repeat Time +/-
440	Repeat Time Tuning
441	Repeat Transpose

#	Name
442	Repeat Trigger By Vel.
443	Repeat Velocity Range
444	Repeat Velocity/Decay
445	Repeat Volume/Decay
446	Resync To Downbeat
447	Resync To Downbeat [1]
448	Resync To Downbeat [2]
449	Resync To Downbeat [3]
450	Resynchronize Indexes
451	Reverb Control
452	Rhythm Complexity
453	Rhythm Complexity[1]
454	Rhythm Complexity[2]
455	Rhythm Complexity[3]
456	Rhythm Humanize
457	Rhythm Multiplier
458	Rhythm Multiplier [1]
459	Rhythm Multiplier [2]
460	Rhythm Multiplier [3]
461	Rhythm Pattern
462	Rhythm Pattern [1]
463	Rhythm Pattern [2]
464	Rhythm Randomize
465	Rhythm Randomize[1]
466	Rhythm Randomize[2]
467	Rhythm Randomize[3]
468	Rhythm Swing %
469	Rhythm Syncopation
470	Rhythm Syncopatin.[1]
471	Rhythm Syncopatin.[2]
472	Rhythm Syncopatin.[3]
473	Rhythm Value
474	Rhythm Value [1]
475	Rhythm Value [2]
476	Rhythmic Feel
477	Riff->Gated
478	Snare Complexity
479	Snare Level
480	Snare Randomize
481	Snare Sound
482	Split On/Off
483	Step Transpose Pattern
484	Tempo Env. Level
485	Tempo Env. On/Off
486	Tempo Env.Latch On
487	Tempo Env.LatchMode
488	Tempo Env.Time Scale
489	Tempo Env.Trig.Mode
490	Tempo Envelope Shape
491	Timbre Brightness
492	Timbre F/A Attack
493	Timbre F/A Decay
494	Timbre F/A Release
495	Timbre F/A Sustain
496	Timbre Filt EG Intens.
497	Timbre HPF Cut
498	Timbre LPF Cutoff
499	TimbreLPF Resonance
500	Time Signature
501	Time Signature On/Off
502	Time Signature [1]
503	Time Signature [2]
504	Time Signature x2
505	TimeSignature On/Off
506	Toms/Fill Complexity
507	Toms/Fill Level
508	Toms/Fill Randomize
509	Transpose Pattern
510	Trigger By Velocity
511	Vel. Env. Latch Mode
512	Vel. Env. LatchOn/Off
513	Vel. Env. Time Scale
514	Vel. Env. TriggerMode
515	Velocity Accents

#	Name
516	Velocity Accents [1]
517	Velocity Accents [2]
518	Velocity Accents [3]
519	Velocity Chord Mode
520	Velocity Chrd Mode[1]
521	Velocity Chrd Mode[2]
522	Velocity Env. Level
523	Velocity Env. On/Off
524	Velocity Env. Shape
525	Velocity Level
526	Velocity Level [1]
527	Velocity Level [2]
528	Velocity Level [3]
529	Velocity Mode
530	Velocity Pattern
531	Velocity Pattern [1]
532	Velocity Pattern [2]
533	Velocity Randomize
534	Velocity Randomize[1]
535	Velocity Randomize[2]
536	Velocity Randomize[3]
537	Velocity Range Bottom
538	Velocity Range Top
539	Velocity Sensitivity
540	Vibrato <-> Bend
541	Vibrato Env. Delay
542	W.Seq Pattern Length[1]
543	W.Seq Pattern Length[2]
544	WaveSeq Offset
545	WaveSeq Offset [1]
546	WaveSeq Offset [2]
547	WaveSeq Pattern
548	WaveSeq Pattern Length
549	WaveSeq Pattern [1]
550	WaveSeq Pattern [2]
551	WaveSeq Randomize
552	WaveSeq Randomize [1]
553	WaveSeq Randomize [2]
554	WaveSequence On/Off
555	Waveform Select
556	Waveform Select [1]
557	Waveform Select [2]
558	Waveform Select [3]
559	Waveform Select [4]
560	Waveform Select [5]
561	Waveform Select [6]
562	Waveform Select [7]
563	Waveform Select [8]
564	Waveform Select [9]
565	Waveform Select [10]
566	Waveform Select [11]
567	Waveform Select [12]
568	Waveform Select [13]
569	Waveform Select [14]
570	Waveform Select [15]
571	Waveform Select [16]

External Setups

000: NI Pro53

Controller	Knob1	Knob2	Knob3	Knob4	Knob5	Knob6	Knob7	Knob8	
Name	Filter Cutoff	Filter Resonance	Filter Env Amount	Gilde	Delay Time	Delay Spread	Delay Feedback	Delay Wet/Dry	
CC#	CC#099	CC#103	CC#079	CC#078	CC#063	CC#064	CC#066	CC#065	
Controller	SW1	SW2	SW3	SW4	SW5	SW6	SW7	SW8	
Name	Filter High Pass Mode	Filter Env. Invert	Velocity Enable	Release Enable	Unison On/Off	Delay On/Off	Delay LFO Sync	Delay MIDI Sync	
CC#	CC#017	CC#001	CC#023	CC#003	CC#012	CC#004	CC#020	CC#030	
Controller	SW9	SW10	SW11	SW12	SW13	SW14	SW15	SW16	
Name	Mod Wheel Dest FreqA	Mod Wheel Dest FreqB	Mod Wheel Dest PWA	Mod Wheel Dest PWB	Mod Wheel Dest Filter	PolyMod Dest FreqA	PolyMod Dest PWA	PolyMod Dest Filt	
CC#	CC#001	CC#020	CC#037	CC#051	CC#027	CC#042	CC#023	CC#035	
Controller	Slider 1	Slider 2	Slider 3	Slider 4	Slider 5	Slider 6	Slider 7	Slider 8	Slider 9
Name	Filter Attack	Filter Decay	Filter Sustain	Filter Release	Amp Attack	Amp Decay	Amp Sustain	Amp Release	Volume
CC#	CC#101	CC#105	CC#114	CC#115	CC#069	CC#070	CC#072	CC#071	Off

001: Atmosphere

Controller	Knob1	Knob2	Knob3	Knob4	Knob5	Knob6	Knob7	Knob8	
Name	Layer A Pan	Layer B Pan	Filter Cutoff	Filter Resonance	Filter Attack	Filter Decay	Filter Sustain	Filter Release	
CC#	CC#083	CC#084	CC#077	CC#078	CC#097	CC#098	CC#100		
Controller	SW1	SW2	SW3	SW4	SW5	SW6	SW7	SW8	
Name	Layer A On/Off	Layer B On/Off	Layer Select	Layer Link					
CC#	CC#106	CC#107	CC#108	CC#109	Off	Off	Off	Off	
Controller	SW9	SW10	SW11	SW12	SW13	SW14	SW15	SW16	
Name								Solo On/Off	
CC#	Off	Off	Off	Off	Off	Off	Off	CC#110	
Controller	Slider 1	Slider 2	Slider 3	Slider 4	Slider 5	Slider 6	Slider 7	Slider 8	Slider 9
Name	Layer A Level	Layer B Level	Master Filter Cutoff	Master Filter Resonance	Amp Attack	Amp Decay	Amp Sustain	Amp Release	Glide Time
CC#	CC#081	CC#082	CC#074	CC#071	CC#073	CC#075	CC#076	CC#072	CC#005

002: B4

Controller	Knob1	Knob2	Knob3	Knob4	Knob5	Knob6	Knob7	Knob8	
Name	Expression	Tube Drive	Tube Body	Tube Brightness	Key Click	Perc Volume	Perc. Decay	Perc. Harmonic	
CC#	CC#011	CC#076	CC#078	CC#079	CC#075	CC#070	CC#071	CC#072	
Controller	SW1	SW2	SW3	SW4	SW5	SW6	SW7	SW8	
Name	V/C Lower	V/C Upper				Perc. On/Off			
CC#	CC#030	CC#031	Off	Off	Off	Off	Off	Off	
Controller	SW9	SW10	SW11	SW12	SW13	SW14	SW15	SW16	
Name	Rotary On/Off	Rotary Fast/Slow							
CC#	CC#068	CC#001	Off	Off	Off	Off	Off	Off	
Controller	Slider 1	Slider 2	Slider 3	Slider 4	Slider 5	Slider 6	Slider 7	Slider 8	Slider 9
Name	Drawbars	Drawbars	Drawbars	Drawbars	Drawbars	Drawbars	Drawbars	Drawbars	Drawbars
CC#	CC#012	CC#013	CC#014	CC#015	CC#016	CC#017	CC#018	CC#019	CC#020

003: FM7 (requires FM7 controller file)

Controller	Knob1	Knob2	Knob3	Knob4	Knob5	Knob6	Knob7	Knob8	
Name	Stereo Width	Timbre Brightness	Timbre Harmonic	Detune	Velocity Sens.	Tremolo	Filter1 Cutoff	Filter1 Resonance	
CC#	CC#010	CC#102	CC#103	CC#104	CC#083	CC#090	CC#111	CC#112	
Controller	SW1	SW2	SW3	SW4	SW5	SW6	SW7	SW8	
Name	Operator A	Operator B	Operator C	Operator D	Operator E	Operator F	Operator X	Operator Z	
CC#	CC#075	CC#076	CC#077	CC#078	CC#079	CC#080	CC#081	CC#082	
Controller	SW9	SW10	SW11	SW12	SW13	SW14	SW15	SW16	
Name	Mono On/Off	Portamento	Filter1 Mode	Filter2 Mode	Effect On/Off	Tempo Sync	Invert	Sync Delays	
CC#	CC#119	CC#086	CC#088	CC#089	CC#118	CC#119	CC#084	CC#085	
Controller	Slider 1	Slider 2	Slider 3	Slider 4	Slider 5	Slider 6	Slider 7	Slider 8	Slider 9
Name	Timbre Attack	Timbre Decay	Timbre Sustain	Timbre Release	Amp Attack	Amp Decay	Amp Sustain	Amp Release	Master Volume
CC#	CC#106	CC#107	CC#108	CC#109	CC#114	CC#115	CC#116	CC#117	CC#007

Voice Name List

004: Subtractor (Reason)

Controller	Knob1	Knob2	Knob3	Knob4	Knob5	Knob6	Knob7	Knob8	
Name	Filter1 Cutoff	Filter1 Resonance	Filter2 Cutoff	Filter2 Resonance	Osc1 Phase	Osc2 Phase	FM	Mix	
CC#	CC#074	CC#071	CC#079	CC#078	CC#093	CC#106	CC#108	CC#107	
Controller	SW1	SW2	SW3	SW4	SW5	SW6	SW7	SW8	
Name	Osc2 On/Off	Ring Mod On/Off	Noise On/Off	Filter Link	Filter2 On/Off				
CC#	CC#094	CC#109	CC#081	CC#075	Off	Off	Off	Off	
Controller	SW9	SW10	SW11	SW12	SW13	SW14	SW15	SW16	
Name	LFO 1 Sync								
CC#	CC#030	Off	Off	Off	Off	Off	Off	Off	
Controller	Slider 1	Slider 2	Slider 3	Slider 4	Slider 5	Slider 6	Slider 7	Slider 8	Slider 9
Name	Filter Attack	Filter Decay	Filter Sustain	Filter Release	Amp Attack	Amp Decay	Amp Sustain	Amp Release	Filter Type
CC#	CC#014	CC#015	CC#106	CC#107	CC#073	CC#009	CC#012	CC#072	CC#076

005: NNXT (Reason)

Controller	Knob1	Knob2	Knob3	Knob4	Knob5	Knob6	Knob7	Knob8	
Name	Filter Cutoff	Filter Resonance							
CC#	CC#074	CC#071	Off	Off	Off	Off	Off	Off	
Controller	SW1	SW2	SW3	SW4	SW5	SW6	SW7	SW8	
Name									
CC#	Off	Off	Off	Off	Off	Off	Off	Off	
Controller	SW9	SW10	SW11	SW12	SW13	SW14	SW15	SW16	
Name									
CC#	Off	Off	Off	Off	Off	Off	Off	Off	
Controller	Slider 1	Slider 2	Slider 3	Slider 4	Slider 5	Slider 6	Slider 7	Slider 8	Slider 9
Name	Amp Attack	Amp Decay	Amp Release	Mod Env Decay					Master Volume
CC#	CC#073	CC#009	CC#072	CC#015	Off	Off	Off	Off	CC#007

006: Dr.Rex (Reason)

Controller	Knob1	Knob2	Knob3	Knob4	Knob5	Knob6	Knob7	Knob8	
Name	Filter Cutoff	Filter Resonance	Filter Env. Amount	Amp Level	LFO Amount	LFO Rate	Pitch Fine Tune	Transpose	
CC#	CC#074	CC#071	CC#018	CC#007	CC#027	CC#026	CC#023	CC#022	
Controller	SW1	SW2	SW3	SW4	SW5	SW6	SW7	SW8	
Name									
CC#	Off	Off	Off	Off	Off	Off	Off	Off	
Controller	SW9	SW10	SW11	SW12	SW13	SW14	SW15	SW16	
Name	Filter On/Off								
CC#	CC#075	Off	Off	Off	Off	Off	Off	Off	
Controller	Slider 1	Slider 2	Slider 3	Slider 4	Slider 5	Slider 6	Slider 7	Slider 8	Slider 9
Name	Filter Mode	Filter Attack	Filter Decay	Filter Sustain	Filter Release	Amp Attack	Amp Decay	Amp Sustain	Amp Release
CC#	CC#076	CC#014	CC#015	CC#016	CC#017	CC#073	CC#009	CC#012	CC#072

007: Redrum (Reason) 8-channel mixer

Controller	Knob1	Knob2	Knob3	Knob4	Knob5	Knob6	Knob7	Knob8	
Name	Drum1 Pan	Drum2 Pan	Drum3 Pan	Drum4 Pan	Drum5 Pan	Drum6 Pan	Drum7 Pan	Drum8 Pan	
CC#	CC#019	CC#020	CC#021	CC#022	CC#023	CC#024	CC#025	CC#026	
Controller	SW1	SW2	SW3	SW4	SW5	SW6	SW7	SW8	
Name									
CC#	Off	Off	Off	Off	Off	Off	Off	Off	
Controller	SW9	SW10	SW11	SW12	SW13	SW14	SW15	SW16	
Name									
CC#	Off	Off	Off	Off	Off	Off	Off	Off	
Controller	Slider 1	Slider 2	Slider 3	Slider 4	Slider 5	Slider 6	Slider 7	Slider 8	Slider 9
Name	Drum1 Level	Drum2 Level	Drum3 Level	Drum4 Level	Drum5 Level	Drum7 Level	Drum8 Level	Drum9 Level	Mastr Level
CC#	CC#008	CC#009	CC#010	CC#012	CC#013	CC#014	CC#015	CC#016	CC#007

008: Redrum (Reason) 8-channel Editor

Controller	Knob1	Knob2	Knob3	Knob4	Knob5	Knob6	Knob7	Knob8	
Name	Drum1 Pitch	Drum2 Pitch	Drum3 Pitch	Drum4 Pitch	Drum5 Pitch	Drum6 Pitch	Drum7 Pitch	Drum8 Pitch	
CC#	CC#051	CC#052	CC#053	CC#054	CC#055	CC#056	CC#057	CC#058	
Controller	SW1	SW2	SW3	SW4	SW5	SW6	SW7	SW8	
Name									
CC#	Off	Off	Off	Off	Off	Off	Off	Off	
Controller	SW9	SW10	SW11	SW12	SW13	SW14	SW15	SW16	
Name									
CC#	Off	Off	Off	Off	Off	Off	Off	Off	
Controller	Slider 1	Slider 2	Slider 3	Slider 4	Slider 5	Slider 6	Slider 7	Slider 8	Slider 9
Name	Drum1 Length	Drum2 Length	Drum3 Length	Drum4 Length	Drum5 Length	Drum7 Length	Drum8 Length	Drum9 Length	Mastr Level
CC#	CC#077	CC#078	CC#079	CC#080	CC#081	CC#082	CC#083	CC#084	CC#007

009: Malstrom (Reason)

Controller	Knob1	Knob2	Knob3	Knob4	Knob5	Knob6	Knob7	Knob8	
Name	FilterA Cutoff	FilterA Resonance	FilterA Mode	FilterB Cutoff	FilterB Resonance	FilterB Mode	Portamento	Spread	
CC#	CC#079	CC#078	CC#055	CC#074	CC#071	CC#076	CC#005	CC#105	
Controller	SW1	SW2	SW3	SW4	SW5	SW6	SW7	SW8	
Name	FilterA Enable	FilterA Env On/Off	FilterB Enable	FilterB Env. On/Off	Filter Env. Invert	ModA Enable	ModB Enable	Legato On/Off	
CC#	CC#054	CC#080	CC#075	CC#082	CC#019	CC#025	CC#114	CC#068	
Controller	SW9	SW10	SW11	SW12	SW13	SW14	SW15	SW16	
Name	OscA to Shaper	OscA to FilterB	OscB to Shaper	OscB to FilterB		Shaper Enable	OscA Enable	OscB Enable	
CC#	CC#061	CC#060	CC#062	CC#059	Off	CC#056	CC#095	CC#068	
Controller	Slider 1	Slider 2	Slider 3	Slider 4	Slider 5	Slider 6	Slider 7	Slider 8	Slider 9
Name	Filter Env. Amount	Filter Attack	Filter Decay	Filter Sustain	Filter Release	Shaper Amount	OscA Level	OscB Level	Master Volume
CC#	CC#018	CC#014	CC#015	CC#016	CC#017	CC#058	CC#091	CC#053	CC#007

010: Mixer (Reason)

Controller	Knob1	Knob2	Knob3	Knob4	Knob5	Knob6	Knob7	Knob8	
Name	Channel1 Pan	Channel2 Pan	Channel3 Pan	Channel4 Pan	Channel5 Pan	Channel6 Pan	Channel7 Pan	Channel8 Pan	
CC#	CC#023	CC#024	CC#025	CC#026	CC#027	CC#028	CC#029	CC#030	
Controller	SW1	SW2	SW3	SW4	SW5	SW6	SW7	SW8	
Name									
CC#	Off	Off	Off	Off	Off	Off	Off	Off	
Controller	SW9	SW10	SW11	SW12	SW13	SW14	SW15	SW16	
Name									
CC#	Off	Off	Off	Off	Off	Off	Off	Off	
Controller	Slider 1	Slider 2	Slider 3	Slider 4	Slider 5	Slider 6	Slider 7	Slider 8	Slider 9
Name	Channel1 Level	Channel2 Level	Channel3 Level	Channel4 Level	Channel5 Level	Channel6 Level	Channel7 Level	Channel8 Level	Master Volume
CC#	CC#008	CC#009	CC#010	CC#011	CC#012	CC#013	CC#014	CC#015	CC#007

011: NN-19 (Reason)

Controller	Knob1	Knob2	Knob3	Knob4	Knob5	Knob6	Knob7	Knob8	
Name	Filter Cutoff	Filter Resonance	Filter Mode	Spread	Portamento	Semitone Tuning	LFO Rate	LFO Amount	
CC#	CC#074	CC#071	CC#076	CC#057	CC#005	CC#022	CC#026	CC#027	
Controller	SW1	SW2	SW3	SW4	SW5	SW6	SW7	SW8	
Name	Filter On/Off	Filter Env. Invert			Trigger Mode		LFO Sync		
CC#	CC#075	CC#019	Off	Off	CC#068	Off	CC#030	Off	
Controller	SW9	SW10	SW11	SW12	SW13	SW14	SW15	SW16	
Name									
CC#	Off	Off	Off	Off	Off	Off	Off	Off	
Controller	Slider 1	Slider 2	Slider 3	Slider 4	Slider 5	Slider 6	Slider 7	Slider 8	Slider 9
Name	Filter Attack	Filter Decay	Filter Sustain	Filter Release	Amp Attack	Amp Decay	Amp Sustain	Amp Release	Master Volume
CC#	CC#014	CC#015	CC#016	CC#017	CC#073	CC#009	CC#012	CC#072	CC#007

Voice Name List

012: Legacy MS-20

Controller	Knob1	Knob2	Knob3	Knob4	Knob5	Knob6	Knob7	Knob8	
Name	VCO1 Waveform	VCO1 Level	VCO2 Waveform	VCO2 Level	HPF Cutoff	HPF Peak	LPF Cutoff	LPF Peak	
CC#	CC#077	CC#020	CC#082	CC#021	CC#028	CC#029	CC#74	CC#071	
Controller	SW1	SW2	SW3	SW4	SW5	SW6	SW7	SW8	
Name									
CC#	Off	Off	Off	Off	Off	Off	Off	Off	
Controller	SW9	SW10	SW11	SW12	SW13	SW14	SW15	SW16	
Name									
CC#	Off	Off	Off	Off	Off	Off	Off	Off	
Controller	Slider 1	Slider 2	Slider 3	Slider 4	Slider 5	Slider 6	Slider 7	Slider 8	Slider 9
Name	EG1 Attack	EG1 Release	EG1 Delay	EG2 Attack	EG2 Decay	EG2 Sustain	EG2 Release	EG2 Hold	MasterVolume
CC#	CC#023	CC#026	CC#024	CC#073	CC#075	CC#070	CC#072	CC#025	CC#007

013: Legacy Polysix

Controller	Knob1	Knob2	Knob3	Knob4	Knob5	Knob6	Knob7	Knob8	
Name	Octave	Waveform	PW/PWM	PWM Speed	Filter Cutoff	Filter Resonance	EG Intensity	Effect Mode	
CC#	CC#022	CC#77	CC#014	CC#015	CC#074	CC#071	CC#079	CC#012	
Controller	SW1	SW2	SW3	SW4	SW5	SW6	SW7	SW8	
Name									
CC#	Off	Off	Off	Off	Off	Off	Off	Off	
Controller	SW9	SW10	SW11	SW12	SW13	SW14	SW15	SW16	
Name					Arp On/Off	Latch On/Off	EG Mode	Hold	
CC#	Off	Off	Off	Off	CC#088	CC#025	CC#086	CC#087	
Controller	Slider 1	Slider 2	Slider 3	Slider 4	Slider 5	Slider 6	Slider 7	Slider 8	Slider 9
Name	EG Attack	EG Decay	EG Sustain	EG Release	Arp Speed	Arp Range	Arp Mode	Effect Speed/ Intensity	Master Volume
CC#	CC#073	CC#075	CC#070	CC#072	CC#021	CC#023	CC#026	CC#093	CC#007

014: NI Elektrik Piano

Controller	Knob1	Knob2	Knob3	Knob4	Knob5	Knob6	Knob7	Knob8	
Name	Controller 1	Controller 2	Controller 3	Controller 4				Pan	
CC#	CC#020	CC#021	CC#022	CC#023				CC#010	
Controller	SW1	SW2	SW3	SW4	SW5	SW6	SW7	SW8	
Name									
CC#	Off	Off	Off	Off	Off	Off	Off	Off	
Controller	SW9	SW10	SW11	SW12	SW13	SW14	SW15	SW16	
Name									
CC#	Off	Off	Off	Off	Off	Off	Off	Off	
Controller	Slider 1	Slider 2	Slider 3	Slider 4	Slider 5	Slider 6	Slider 7	Slider 8	Slider 9
Name	Mod Wheel								Master Volume
CC#	CC#001	Off	Off	Off	Off	Off	Off	Off	CC#007

015: USB Ultra Focus

Controller	Knob1	Knob2	Knob3	Knob4	Knob5	Knob6	Knob7	Knob8	
Name	Layer A Pan	Layer B Pan	Filter Cutoff	Filter Resonance	Filter Attack	Filter Decay	Filter Sustain	Filter Release	
CC#	CC#083	CC#084	CC#077	CC#078	CC#097	CC#098	CC#099	CC#100	
Controller	SW1	SW2	SW3	SW4	SW5	SW6	SW7	SW8	
Name	Layer A On/Off	Layer B On/Off	Layer Link						
CC#	CC#106	CC#107	CC#109	Off	Off	Off	Off	Off	
Controller	SW9	SW10	SW11	SW12	SW13	SW14	SW15	SW16	
Name									
CC#	CC#020	CC#030	Off	Off	Off	Off	Off	Off	
Controller	Slider 1	Slider 2	Slider 3	Slider 4	Slider 5	Slider 6	Slider 7	Slider 8	Slider 9
Name	Layer A Level	Layer B Level	Master Filter Cut- off	Master Filter Res- onance	Amp Attack	Amp Decay	Amp Sustain	Amp Release	Master Volume
CC#	CC#081	CC#082	CC#074	CC#071	CC#073	CC#075	CC#076	CC#072	CC#007

016: 8-channel MIDI Mixer

Controller	Knob1	Knob2	Knob3	Knob4	Knob5	Knob6	Knob7	Knob8	
Name	Channel1 Pan	Channel2 Pan	Channel3 Pan	Channel4 Pan	Channel5 Pan	Channel6 Pan	Channel7 Pan	Channel8 Pan	
CC#	CC#010	CC#010	CC#010	CC#010	CC#010	CC#010	CC#010	CC#010	
Controller	SW1	SW2	SW3	SW4	SW5	SW6	SW7	SW8	
Name									
CC#	Off	Off	Off	Off	Off	Off	Off	Off	
Controller	SW9	SW10	SW11	SW12	SW13	SW14	SW15	SW16	
Name									
CC#	Off	Off	Off	Off	Off	Off	Off	Off	
Controller	Slider 1	Slider 2	Slider 3	Slider 4	Slider 5	Slider 6	Slider 7	Slider 8	Slider 9
Name	Channel1 Level	Channel2 Level	Channel3 Level	Channel4 Level	Channel5 Level	Channel6 Level	Channel7 Level	Channel8 Level	
CC#	CC#007	CC#007	CC#007	CC#007	CC#007	CC#007	CC#007	CC#007	Off

Pro53, B4, FM7, and Elektrik Piano are the trademarks or registered trademarks of NATIVE INSTRUMENTS Software Synthesis GmbH.

Atmosphere is a trademark or a registered trademark of Spectrasonics.

Reason, Subtractor, NNXT, Dr.Rex, Redrum, Malstrom, and NN-19 are the trademarks or registered trademarks of Propellerhead Software.

Legacy MS-20 and Legacy Polysix are the trademarks or registered trademarks of KORG INC.

USB Ultra Focus is a trademark or a registered trademark of Ultimate Sound Bank.

Voice Name List

Multisamples

ROM mono

#	Name
0000	Acoustic Piano 1 mf -L
0001	Acoustic Piano 1 mf -R
0002	Acoustic Piano 1 f -L
0003	Acoustic Piano 1 f -R
0004	Acoustic Piano 1 ff -L
0005	Acoustic Piano 1 ff -R
0006	Acoustic Piano 1 mf-mono
0007	Acoustic Piano 1 f-mono
0008	Acoustic Piano 1 ff-mono
0009	A.Piano-M1
0010	Electric Grand Piano
0011	E.Piano-Suit Bright mp
0012	E.Piano-Suit Bright mf
0013	E.Piano-Suit Bright f
0014	E.Piano-Suit Dark mp
0015	E.Piano-Suit Dark mf
0016	E.Piano-Suit Dark f
0017	E.Piano-Suit Soft
0018	E.Piano-Suit Hard
0019	E.Piano-Stage Soft
0020	E.Piano-Stage Hard
0021	E.Piano-Dyno Soft
0022	E.Piano-Dyno Medium
0023	E.Piano-Dyno Hard
0024	E.Piano-Wurly mp
0025	E.Piano-Wurly mf
0026	E.Piano-Wurly f
0027	E.Piano-FM 1 mf
0028	E.Piano-FM 1 f
0029	E.Piano-FM 1 ff
0030	E.Piano-FM 2
0031	E.Piano-FM 3 mf
0032	E.Piano-FM 3 f
0033	E.Piano-FM 3 ff
0034	E.Piano-FM 4
0035	E.Piano-FM 5
0036	E.Piano Pad 1
0037	E.Piano Pad 2
0038	Clavi 1
0039	Clavi 2
0040	Clavi 3
0041	Clavi 4
0042	Clavi 2-Muted
0043	Clavi 3-Muted
0044	Clavi 4-Muted
0045	Harpsichord-Single
0046	Harpsichord-Double
0047	Harpsichord-Keyoff
0048	E.Organ-Perc/Jazz 1
0049	E.Organ-Perc/Jazz 2
0050	E.Organ-Perc. 1
0051	E.Organ-M1
0052	E.Organ-House
0053	E.Organ-N1
0054	E.Organ-CX-3
0055	E.Organ-8'
0056	E.Organ-16'+5 1/3'
0057	E.Organ-Perc.2nd
0058	E.Organ-Gospel 1
0059	E.Organ-Full
0060	E.Organ-Perc. 2
0061	E.Organ-Perc. 3rd
0062	E.Organ-BX-3
0063	E.Organ-Distortion
0064	E.Organ-F Click
0065	E.Organ-Vox 1
0066	E.Organ-Vox 2
0067	Positive Organ 1
0068	Positive Organ 2
0069	Pipe Organ-Tuenticiana
0070	Pipe Organ-Reed
0071	Pipe Organ-Mixture 1
0072	Pipe Organ-Mixture 2
0073	Pipe Organ-Full

#	Name
0074	Ehorn Pipe Organ -L
0075	Ehorn Pipe Organ -R
0076	Kalimba
0077	Kalimba-Mute
0078	Music Box 1
0079	Music Box 2
0080	Marimba
0081	Xylophone 1 p
0082	Xylophone 1 mf
0083	Xylophone 1 f
0084	Xylophone 2
0085	Xylophone 3
0086	Balaphone
0087	Log Drum
0088	Vibraphone 1
0089	Vibraphone 2
0090	Celesta
0091	Glockenspiel 1
0092	Glockenspiel 2
0093	Tubular Bell
0094	FM Tubular
0095	Steel Drum 1 mf
0096	Steel Drum 1 f
0097	Steel Drum 2
0098	Gamelan
0099	Metal FM Bell
0100	Finger Cymbal
0101	FM Solar
0102	Ensemble Bell
0103	FM Glass Bell
0104	FM Pluck
0105	Glass Bell
0106	Bottle Pop
0107	Piccolo
0108	Flute
0109	Flute-Vibrato
0110	Flute-Flutter Tonguing
0111	Flute-Voice
0112	Flute-Attack p
0113	Flute-Attack f
0114	Pan Flute
0115	Pan Flute-Attack
0116	Tin Whistle
0117	Tin Whistle-Voice
0118	Tin Whistle-Attack
0119	Shakuhachi
0120	Shakuhachi-Attack
0121	Nay
0122	Bottle
0123	Bottleizer
0124	Ocarina 1
0125	Ocarina 2
0126	Native American Flute
0127	Recorder
0128	Bass Recorder-Tap
0129	Clarinet
0130	Bass Clarinet 1
0131	Bass Clarinet 2
0132	DoubleReed
0133	Oboe p
0134	Oboe f
0135	Oboe-Key
0136	English Horn
0137	Bassoon
0138	Soprano Saxophone mf
0139	Soprano Saxophone f
0140	Soprano Saxophone-Growl
0141	Alto Saxophone 1 mf
0142	Alto Saxophone 1 f
0143	Alto Saxophone 1-Growl
0144	Alto Saxophone 2
0145	Tenor Saxophone mp
0146	Tenor Saxophone mf
0147	Tenor Saxophone f
0148	Tenor Saxophone-Growl
0149	Tenor Saxophone-Vibrato
0150	Baritone Saxophone mf
0151	Baritone Saxophone f

#	Name
0152	Baritone Saxophone-Growl
0153	Saxophone-Vibrato
0154	Saxophone-Fall
0155	Musette
0156	Accordion
0157	Bandoneon
0158	Cassotto Accordion
0159	Accordion 4'
0160	Noise Key On
0161	Noise Key Off
0162	Harmonica
0163	Bagpipe
0164	Bagpipe & Drone
0165	Uilleann Pipe
0166	Woodwind Ensemble
0167	Trumpet mp
0168	Trumpet ff
0169	Trumpet-Overblown
0170	Trumpet-Cup
0171	Trumpet-Cup Muted
0172	Piccolo Trumpet-Staccato
0173	Trombone 1 mf
0174	Trombone 1 ff
0175	Trombone 2
0176	Trombone-Muted
0177	French Horn
0178	Tuba f
0179	Tuba ff
0180	Trumpet-Fall
0181	Trombone & Trumpet-Fall
0182	French Horn Ensemble
0183	2 Trumpets mp -L
0184	2 Trumpets mp -R
0185	2 Trumpets f -L
0186	2 Trumpets f -R
0187	2 Trombones mf -L
0188	2 Trombones mf -R
0189	2 Trombones f -L
0190	2 Trombones f -R
0191	Brass Ensemble 1 -L
0192	Brass Ensemble 1 -R
0193	Brass Ensemble 2
0194	Brass Ensemble 3
0195	Brass Ensemble 4 -L
0196	Brass Ensemble 4 -R
0197	Voice-Pop Ooh
0198	Voice-Pop Ooh REV
0199	Voice-Gospel Umm
0200	Voice-Gospel Ah
0201	Voice-Pop Ah
0202	Voice-Pop Ah REV
0203	Voice-Choir
0204	Voice-Choir REV
0205	Voice-Female Wuuh
0206	Voice-Female Wah
0207	Voice-Female Wah
0208	Voice-Female Dah
0209	Voice-Male Wuh
0210	Voice-Male Wah
0211	Voice-Male Wah
0212	Voice-Male Dah
0213	Voice-Doo
0214	Voice-Wave
0215	Violin 1
0216	Violin 2
0217	Violin-Vibrato
0218	Viola
0219	Cello
0220	Contrabass & Cello
0221	Strings Quartet
0222	Strings Quartet-Vibrato 1
0223	Strings Quartet-Vib.1REV
0224	Strings Quartet-Vibrato2
0225	Strings Quartet-Vib.2REV
0226	Strings Ensemble 1 -L
0227	Strings Ensemble 1 -R
0228	Strings Ensemble 1 REV-L
0229	Strings Ensemble 1 REV-R

#	Name
0230	Strings Ensemble 2
0231	Strings Ensemble 2 REV
0232	Cello & Violin Ensemble
0233	Cello & Violin Ens. REV
0234	Pizzicato
0235	Pizzicato Ensemble
0236	Nylon Guitar 1 p
0237	Nylon Guitar 1 mf
0238	Nylon Guitar 1 f
0239	Ac.Steel Guitar-Pick p
0240	Ac.Steel Guitar-Pick mf
0241	Ac.Steel Guitar-Pick f
0242	Ac.Steel Guitar-Muted
0243	Ac.SteelGuitar-Glissando
0244	Ac.Resonator Guitar
0245	Ac.12 Strings Guitar
0246	El.Guitar Clean 1
0247	El.Guitar Clean 2 mf
0248	El.Guitar Clean 2 f
0249	El.Guitar Clean 2-Slap
0250	El.Guitar Clean 3-Stra
0251	El.Guitar Clean 3-Tele
0252	El.Guitar Clean 4 p
0253	El.Guitar Clean 4 f
0254	El.Guitar Clean 5 p
0255	El.Guitar Clean 5 f
0256	El.Guitar Clean 6-Prkr
0257	El.Guitar Clean 7-Piezo
0258	El.Guitar Funky 1-Stra
0259	El.Guitar Funky 2-Prkr
0260	El.Guitar Jazz
0261	El.Guitar Muted 1 p
0262	El.Guitar Muted 1 mp
0263	El.Guitar Muted 2
0264	El.Guitar Muted 3
0265	Pedal Steel Guitar
0266	El.Guitar Harmonics
0267	El.Guitar Harmonics 32'
0268	El.Guitar-Fret Noise 1
0269	El.Guitar-Fret Noise 2
0270	El.Guitar-Fret Noise 3
0271	El.Guitar-Fret Noise 4
0272	El.Guitar-Fret Noise 5
0273	El.Guitar Ghost
0274	El.Guitar Dead
0275	El.Guitar OverDrive
0276	El.Guitar Distortion1 mf
0277	El.Guitar Distortion1 f
0278	El.Guitar Distortion 2
0279	El.Guitar PickHarmonics1
0280	El.Guitar PickHarmonics2
0281	El.Guitar DistMuted p
0282	El.Guitar DistMuted mp
0283	El.Guitar PowerChord
0284	Ac.Steel Gtr-Pick p VAR
0285	Ac.Steel Gtr-Pick mf VAR
0286	Ac.Steel Gtr-Pick f VAR
0287	Ac.Steel Gtr-Muted VAR
0288	Ac.Resonator Guitar VAR
0289	Ac.12 Strings Guitar VAR
0290	El.Guitar Clean 1 VAR
0291	El.Guitar Clean 2 mf VAR
0292	El.Guitar Clean 2 f VAR
0293	El.Gtr Clean 2-Slap VAR
0294	El.Gtr Clean 3-Stra VAR
0295	El.Gtr Clean 3-Tele VAR
0296	El.Guitar Clean 4 p VAR
0297	El.Guitar Clean 4 f VAR
0298	El.Guitar Clean 5 p VAR
0299	El.Guitar Clean 5 f VAR
0300	El.Gtr Clean 6-Prkr VAR
0301	El.Gtr Clean 7-Piezo VAR
0302	El.Gtr Funky 1-Stra VAR
0303	El.Gtr Funky 2-Prkr VAR
0304	El.Guitar Jazz VAR
0305	El.Guitar Muted 1 p VAR
0306	El.Guitar Muted 1 mp VAR
0307	El.Guitar Muted 2 VAR

#	Name	#	Name	#	Name	#	Name
0308	El.Guitar Muted 3 VAR	0386	SynLead-MG 2	0464	Swish Terra	0542	Tuba&Flu
0309	Acoustic Bass 1	0387	SynLead-MG 3	0465	Spectone -L	0543	Bowing
0310	Acoustic Bass 2 mp	0388	SynLead-MG 4	0466	Spectone -R	0544	Synorch
0311	Acoustic Bass 2 mf	0389	SynLead-Pro5	0467	Spectraslicer	0545	PWM String
0312	Acoustic Bass 2 f	0390	SynLead-700S 1	0468	Dissonance	0546	SynString
0313	Acoustic Bass 2 Noise a	0391	SynLead-700S 2	0469	Syn-FX01Z	0547	Airvox
0314	Acoustic Bass 2 Noise b	0392	SynLead-Poly6	0470	Syn-FX01Z REV	0548	Voices
0315	El.Bass-Finger 1	0393	SynComp-Poly6	0471	Syn-Palawan	0549	Choir
0316	El.Bass-Finger 2	0394	Bs/Lead-MG Rez 1	0472	Syn-Palawan REV	0550	Glass Vox
0317	El.Bass-Finger 3 PB	0395	Bs/Lead-MG Rez 2	0473	Syn-Zingle	0551	"OO" Vox
0318	El.Bass-Finger 4	0396	Bass/Lead-M/poly	0474	Syn-Zingle REV	0552	"AH" Vox
0319	El.Bass-Finger 5 SG	0397	Bass/Lead-Dance	0475	Twinkler	0553	MV Wave
0320	El.Bass-Finger 6	0398	Bass/Lead-DSP	0476	Twinkler REV	0554	FV Wave
0321	El.Bass-Pick 1 SG	0399	Bs/Lead-DSPMetal	0477	WaveSweep	0555	DW Voice
0322	El.Bass-Pick 2 PB	0400	Syn-Phone Square	0478	WaveSweep A	0556	SynthPad
0323	El.Bass-Pick Muted 1 SG	0401	Syn-Dist.Bs/Lead	0479	WaveSweep A REV	0557	Birdland
0324	El.Bass-Pick Muted 2 PB	0402	Sync Wave 1	0480	WaveSweep B	0558	ChromRes
0325	El.Bass-Slap 1	0403	Sync Wave 2	0481	Air Noise	0559	ProSync
0326	El.Bass-Slap 2	0404	Sync Wave 3	0482	Pole	0560	SuperSaw
0327	El.Bass-Slap 3 SG	0405	Sync	0483	Xylo-Spectrum	0561	Ping Wave
0328	El.Bass-Slap 4 JB	0406	Sync-Comp	0484	Syn-FX02Z	0562	Digital1
0329	El.Bass-Slap 5	0407	Syn-MS2K Sync	0485	Syn-FX02Z REV	0563	Digital2
0330	El.Bass-Slap Muted	0408	Syn-M/Poly Sync	0486	TunRhythmix	0564	Digital3
0331	Fretless Bass 1	0409	Syn Bass-Dist	0487	Syn-Clicker	0565	BellWave
0332	Fretless Bass 2	0410	Syn Bass-TB	0488	Soft EP	0566	PercWave
0333	El.Bass-Fret Noise	0411	Syn Bass-Mpoly	0489	Hard EP	0567	ShellDrum
0334	Acoustic Bass 1 VAR	0412	Klub Bass	0490	EP Tine	0568	BD head
0335	Acoustic Bass 2 mp VAR	0413	Syn Bass-FM	0491	EP Body1	0569	Tambourine
0336	Acoustic Bass 2 mf VAR	0414	Knock Bass	0492	EP Body2	0570	Cabasa
0337	Acoustic Bass 2 f VAR	0415	Syn-Dark Bass 1	0493	EP Body3	0571	Woodblock
0338	El.Bass-Finger 1 VAR	0416	Syn-Dark Bass 2	0494	Digi EP	0572	HH Loop
0339	El.Bass-Finger 2 VAR	0417	Syn-ResBass 1	0495	E_PIANO3	0573	WhiteNoi
0340	El.Bass-Finger 3 PB VAR	0418	Syn-ResBass 2	0496	CLAV_DSM	0574	Spectrm1
0341	El.Bass-Finger 4 VAR	0419	Syn-ResBass 3	0497	Organ 1	0575	Spectrm2
0342	El.Bass-Finger 5 SG VAR	0420	Antic Bass loop	0498	Organ 2	0576	Spectrm3
0343	El.Bass-Finger 6 VAR	0421	Analog Strings 1	0499	Organ 3	0577	Spectrm4
0344	El.Bass-Pick 1 SG VAR	0422	AnaStrings 1 REV	0500	PipeOrg1	0578	Sonar
0345	El.Bass-Pick 2 PB VAR	0423	Analog Strings 2	0501	PipeOrg2	0579	Metal 1TR
0346	El.Bs-Pick Muted1 SG VAR	0424	AnaStrings 2 REV	0502	Pluck 1	0580	Metal 2TR
0347	El.Bs-Pick Muted2 PB VAR	0425	Brass-Pad	0503	Pluck 2	0581	KalimbaTR
0348	El.Bass-Slap 1 VAR	0426	Brass-Pad REV	0504	Pluck 3	0582	GamelanTR
0349	El.Bass-Slap 2 VAR	0427	Synth Brass	0505	A. Guitar	0583	MarimbaTR
0350	El.Bass-Slap 3 SG VAR	0428	Synth Brass REV	0506	E. Guitar	0584	Potnoise
0351	El.Bass-Slap 4 JB VAR	0429	Detuned-Super 1	0507	Dist. Gtr	0585	Ticker
0352	El.Bass-Slap 5 VAR	0430	Detuned-Super 1 REV	0508	EGuitChime	0586	VibelHit
0353	El.Bass-Slap Muted VAR	0431	Detuned-Super 2	0509	MuteGtr1	0587	Whack 1
0354	Fretless Bass 1 VAR	0432	Detuned-Super 2 REV	0510	MuteGtr2	0588	Whack 2
0355	Fretless Bass 2 VAR	0433	POWER SAW	0511	MuteGtr3	0589	HDulciTR
0356	Sitar 1	0434	POWER SAW REV	0512	Koto WS	0590	HoseHit1
0357	Sitar 1 & Tambura	0435	Detuned-Quiet	0513	harmonic	0591	HoseHit2
0358	Sitar 2	0436	Detuned-Quiet REV	0514	Stick	0592	SynbassTR
0359	Sitar 2 & Tambura	0437	StrEns-Slina	0515	E. Bass	0593	A.BassTR
0360	Bouzouki	0438	StrEns-Slina REV	0516	Synbass1	0594	"ch"
0361	Santur	0439	SynEns-A2600	0517	Synbass2	0595	"hhh"
0362	Mandolin 1	0440	SynEns-A2600 REV	0518	BassHarm	0596	"kkk"
0363	Mandolin 2	0441	Detuned-PWM	0519	Vibes	0597	"puh"
0364	Oud 1	0442	Detuned-PWM REV	0520	Hi Bell	0598	"sss"
0365	Banjo	0443	Flug Pad	0521	Jar	0599	"inn"
0366	Shamisen 1	0444	Flug Pad REV	0522	TinCup	0600	Inharm1
0367	Koto	0445	White Pad	0523	Agogo	0601	Inharm2
0368	Harp	0446	White Pad REV	0524	Gendar	0602	Inharm3
0369	Harp-Harmonics	0447	Glass Vox REV	0525	Tubular	0603	Inharm4
0370	Xmod. MonoPoly	0448	Syn-Air Vox	0526	New Pole	0604	Inharm5
0371	DarkReso-MG	0449	Syn-Air Vox REV	0527	Soft Mrmba	0605	Inharm6
0372	SynDark-MG	0450	Syn-Vocalscape	0528	Thai Mrmba	0606	Inharm7
0373	SynReso-MG 1	0451	Syn-Vocalscape REV	0529	Glass Hit	0607	Inharm8
0374	SynReso-MG 2	0452	Syn-Ghostly REV	0530	Crystal	0608	Inharm9
0375	SynReso-MG 3	0453	Syn-Flute Pad	0531	Flute WS	0609	Inharm10
0376	SynReso-MG 4	0454	Syn-Flute Pad REV	0532	FluteTrans	0610	Formant1
0377	SynReso-A2600	0455	Cymbal Flute -L	0533	Overblown	0611	Formant2
0378	SynReso-Pro5_1	0456	Cymbal Flute -R	0534	Bottle WS	0612	Formant3
0379	SynReso-Pro5_2	0457	CharalMultitapped Flutes	0535	BassnOboe	0613	Formant4
0380	SynReso-Poly6_1	0458	Ghost	0536	Clarinet WS	0614	Formant5
0381	SynReso-Poly6_2	0459	SFX-Noise Spectra	0537	BariSax	0615	Formant6
0382	Bass/Lead-MG	0460	Cricket Spectrum	0538	TenorSax	0616	Formant7
0383	Bass/Lead-800DV 1	0461	Noise Pad	0539	AltoSax	0617	Sine WS
0384	Bass/Lead-800DV 2	0462	Noise Spectrum	0540	BrassEns	0618	Triangle WS
0385	SynLead-MG 1	0463	Noise	0541	TromTrp	0619	VS35

Voice Name List

#	Name
0620	VS36
0621	VS37
0622	VS38
0623	VS39
0624	VS40
0625	VS41
0626	VS42
0627	VS43
0628	VS44
0629	VS45
0630	VS46
0631	VS47
0632	VS48
0633	VS49
0634	VS50
0635	VS51
0636	VS52
0637	VS53
0638	VS54
0639	VS55
0640	VS56
0641	VS57
0642	VS58
0643	VS59
0644	VS60
0645	VS61
0646	VS62
0647	VS63
0648	VS64
0649	VS65
0650	VS66
0651	VS67
0652	VS68
0653	VS69
0654	VS70
0655	VS71
0656	VS72
0657	VS73
0658	VS74
0659	VS75
0660	VS76
0661	VS77
0662	VS78
0663	VS79
0664	VS80
0665	VS81
0666	VS82
0667	VS83
0668	VS84
0669	VS85
0670	VS86
0671	VS87
0672	VS88
0673	VS89
0674	VS90
0675	VS91
0676	VS92
0677	VS93
0678	VS94
0679	VS95
0680	VS96
0681	VS97
0682	VS98
0683	VS99
0684	VS100
0685	VS101
0686	VS102
0687	VS103
0688	VS104
0689	VS105
0690	VS106
0691	VS107
0692	VS108
0693	VS109
0694	VS110
0695	VS111
0696	VS112
0697	VS113

#	Name
0698	VS114
0699	VS115
0700	VS116
0701	VS117
0702	VS118
0703	VS119
0704	VS120
0705	VS121
0706	VS122
0707	VS123
0708	VS124
0709	VS125
0710	saw
0711	OBPUL1
0712	OBPUL3
0713	OBPUL4
0714	OBPUL5
0715	OBPUL6
0716	OBPUL7
0717	OBRES1
0718	OBRES2
0719	OBRES3
0720	OBSAW3
0721	OBTRESB
0722	OBTRES D
0723	OBTRESF
0724	OBTRESH
0725	OBTRESJ
0726	OBTRESL
0727	OBTRESN
0728	PPUL2
0729	PPUL3
0730	PPUL4
0731	PPUL5
0732	PPUL6
0733	PSAW2
0734	13-01
0735	13-03
0736	13-05
0737	13-07
0738	13-09
0739	13-11
0740	13-13
0741	13-15
0742	13-17
0743	13-19
0744	13-21
0745	13-23
0746	13-25
0747	13-27
0748	13-29
0749	13-31
0750	13-33
0751	13-35
0752	13-37
0753	13-39
0754	13-41
0755	13-43
0756	13-45
0757	13-47
0758	13-49
0759	13-51
0760	13-53
0761	13-55
0762	13-57
0763	13-59
0764	13-61
0765	13-63
0766	resx001
0767	resx002
0768	resx003
0769	resx004
0770	resx005
0771	resx006
0772	resx007
0773	resx008
0774	resx009
0775	resx010

#	Name
0776	resx011
0777	resx012
0778	resx013
0779	resx014
0780	resx015
0781	resx016
0782	resx017
0783	resx018
0784	resx019
0785	resx020
0786	resx021
0787	resx022
0788	resx023
0789	resx024
0790	resx025
0791	resx026
0792	resx027
0793	resx028
0794	resx029
0795	resx030
0796	resx031
0797	resx032
0798	Min1-01a
0799	Min1-02a
0800	Min1-04a
0801	Min1-05a
0802	Min1-06a
0803	Min1-07a
0804	Min1-08a
0805	Min1-09a
0806	Min1-12a
0807	Min1-13a
0808	Pres321
0809	Pres335
0810	Pres349
0811	Pres363
0812	Pres377
0813	Pres384
0814	Pres391
0815	Pres398
0816	Pres110
0817	Pres3112
0818	Pres3119
0819	Pres3126
0820	Sax1 sec
0821	Sax1 sec
0822	Sax1.3 sec
0823	Sax1.5 sec
0824	Sax1.7 sec
0825	Sax2 sec
0826	Sax2.2 sec
0827	Sax2.4 sec
0828	Sax2.7 sec
0829	Sax2.9 sec
0830	Sax3 sec
0831	Sax3.4 sec
0832	Sax3.6 sec
0833	Sax4.3 sec
0834	Sax4.7 sec
0835	Sax5 sec
0836	Square WS
0837	Pulse02
0838	Pulse04
0839	Pulse06
0840	Pulse08
0841	Pulse10
0842	Pulse12
0843	Pulse14
0844	Pulse16
0845	Pulse18
0846	Pulse20
0847	Pulse22
0848	Pulse24
0849	Pulse26
0850	Pulse28
0851	Pulse30
0852	Pulse31
0853	MagicOrgan

#	Name
0854	Magic 1a
0855	Crickets
0856	Noise 2
0857	GrandPiano
0858	DigiPiano
0859	SynthPd2
0860	SynPad2a
0861	AirSynth
0862	VoiceSyn
0863	VoiSyn1a
0864	BellWind
0865	PWM
0866	AnaStrings
0867	Square Res
0868	Res Wave
0869	TrashWave
0870	TrshWv1a
0871	PsychoWave
0872	SynBass3
0873	SynBas3a
0874	DynoBass
0875	DynoBs1a
0876	DeepBass
0877	DeepBs1a
0878	MiniBass
0879	MiniBs1a
0880	Slap Bass
0881	Fretless
0882	Fretles1a
0883	Cello WS
0884	Cello 1a
0885	AltoSax2
0886	Horn Sectn
0887	FrenchHorn
0888	PanFlute
0889	PanFl 1a
0890	Hard Flute
0891	Wood Flute
0892	Harmonium
0893	Hrminium1a
0894	Guitar 1
0895	Guitar 2
0896	Harp WS
0897	Harp 1a
0898	Shamisen
0899	Shamsn1a
0900	Marimba WS
0901	Marim 1a
0902	Marim Loop
0903	HrdKalimba
0904	SoffKalimba
0905	SftKalim1a
0906	Vibes 2
0907	PercBell
0908	M.Heaven
0909	BrightBell
0910	BrBel 1a
0911	Drum Kit
0912	Kick
0913	AmbiKick
0914	Crack Snar
0915	Snare
0916	Sidestick
0917	Tom WS
0918	HiHat Clos
0919	HiHat Open
0920	Conga
0921	Conga Loop
0922	Claves
0923	Tenny Hit
0924	Thonk
0925	Tick Hit
0926	Pot Hit
0927	Hammer
0928	PianoHit
0929	NoiseVibe
0930	"Tuunn"
0931	"Pehh"

#	Name
0932	"Thuum"
0933	"Kaahh"
0934	"Tchh"
0935	"Pan"
0936	"Ti"
0937	"Cap"
0938	"Chhi"
0939	"Tinn"
0940	"Haaa"
0941	Glattal
0942	VS126
0943	VS127
0944	VS128
0945	VS129
0946	VS130
0947	VS131
0948	VS132
0949	VS133
0950	VS134
0951	VS135
0952	VS136
0953	VS137
0954	VS138
0955	VS139
0956	VS140
0957	VS141
0958	VS142
0959	VS143
0960	VS144
0961	VS145
0962	VS146
0963	VS147
0964	VS148
0965	VS149
0966	VS150
0967	VS151
0968	VS152
0969	VS153
0970	VS154
0971	VS155
0972	Kit 1
0973	Psycho Kit
0974	Tite BD
0975	Gated Kick
0976	Vox Box
0977	Piccolo SD
0978	Amb SD
0979	Nasty SD
0980	BeatBox SD
0981	Noise SD
0982	Gated SD
0983	Amb Tom
0984	SynTom
0985	HiHat C
0986	HiHat O
0987	SynthHat C
0988	SynthHat O
0989	Tri Closed
0990	Tri Open
0991	Shaker
0992	SRide
0993	Agogo 2
0994	Conga Open
0995	Conga Slap
0996	Conga Palm
0997	Conga Mute
0998	Claves 2
0999	Snare Rim
1000	Wood Hit
1001	Woodblock 2
1002	Log Drum WS
1003	Punch Bag
1004	SynthRim
1005	SynthCow
1006	Pop
1007	Spike
1008	Fingers
1009	Gated Hit

#	Name
1010	BassPop1
1011	BassPop2
1012	You
1013	Big Hit
1014	Agogo Loop
1015	LogDrumLoop
1016	WdBlk Loop
1017	ShakerLoop
1018	Conga loop
1019	Tri O loop
1020	HouseBass
1021	TechBass
1022	MiniBas1
1023	MiniBas2
1024	MiniBas3
1025	X Bass
1026	NewAnaPad
1027	Gosties
1028	EtherBell
1029	SynBrass
1030	FreqShf1
1031	FreqShf2
1032	FreqShf3
1033	StratPluck
1034	Noise Hit
1035	Down Zap
1036	Up&DownZap
1037	Cesium
1038	Cobalt
1039	Krypton
1040	Xenon
1041	WavMlt 1
1042	WavMlt 2
1043	WavMlt 3
1044	WavMlt 4
1045	WavMlt 5
1046	WavMlt 6
1047	WavMlt 7
1048	WavMlt 8
1049	WavMlt 9
1050	WavMlt10
1051	WavMlt11
1052	StraTS-0
1053	StraTS-1
1054	StraTS-2
1055	StraTS-3
1056	StraTS-4
1057	StraTS-5
1058	StraTS-6
1059	StraTS-7
1060	StraTS-8
1061	StraTS-9
1062	VoxFmt 1
1063	VoxFmt 2
1064	Res 1-1
1065	Res 1-2
1066	Res 1-3
1067	Res 1-4
1068	Res 1-5
1069	Res 1-6
1070	Res 1-7
1071	Res 1-8
1072	Res 1-9
1073	Res 1-10
1074	Res 2-1
1075	Res 2-2
1076	Res 2-3
1077	Res 2-4
1078	Res 2-5
1079	Res 2-6
1080	Res 2-7
1081	ClavTS-1
1082	ClavTS-2
1083	ClavTS-3
1084	ClavTS-4
1085	ClavTS-5
1086	Saw
1087	Saw-mg

#	Name
1088	Saw-MG3
1089	Saw-Chroma
1090	SawUp-MG
1091	SawDown-MG
1092	SawUp-A2600
1093	SawDown-A2600
1094	SawUp-Pro5
1095	SawDown-Pro5
1096	SawUp-MX12
1097	SawDown-MX12
1098	SawUp-OB
1099	SawDown-OB
1100	Saw-EXB
1101	Rez Saw-EXB
1102	Pulse-02%
1103	Pulse-05%
1104	Pulse-08%
1105	Pulse-16%
1106	Pulse-33%
1107	Pulse-40%
1108	Pulse 15%-MG
1109	Pulse 25%-MG
1110	Pulse 10%-A2600
1111	Pulse 30%-A2600
1112	Pulse 90%-A2600
1113	Pulse 10%-Pro5
1114	Pulse 20%-Pro5
1115	Pulse 30%-Pro5
1116	Pulse 40%-Pro5
1117	Pulse-10%-MX12
1118	Pulse 20%-MX12
1119	Pulse 35%-MX12
1120	Pulse 20%-OB
1121	Pulse 35%-OB
1122	Pulse 30%-Poly6
1123	Pulse 40%-Poly6
1124	Pulse-EXB
1125	Square
1126	Square-MG3
1127	Square-OB
1128	Sqr-mMG
1129	Square-JP
1130	Square-MG
1131	Square-A2600
1132	Square-Pro5
1133	Square-MX12
1134	Square-OB EXB
1135	Square-EXB
1136	Saw+Sqr-EXB
1137	Triangle-MG3
1138	Triangle
1139	Triangle-MG
1140	Triangle-MX12
1141	Triangle-OB
1142	Triangle-EXB
1143	Ramp
1144	Ramp-mMG
1145	Parabolic
1146	Sine
1147	Sine-01/W
1148	Sine-JP
1149	Sine-MG
1150	Sine-Pro5
1151	Sine-EXB
1152	DWGS-Syn Sine 1
1153	DWGS-Syn Sine 2
1154	DWGS-E.P.1
1155	DWGS-E.P.2
1156	DWGS-E.P.3
1157	DWGS-E.P.4
1158	DWGS-E.P.5
1159	DWGS-Organ 1
1160	DWGS-Organ 2
1161	DWGS-Organ 3
1162	DWGS-Organ 4
1163	DWGS-Organ 5
1164	DWGS-Accordion
1165	DWGS Guitar 1

#	Name
1166	DWGS-Guitar 2
1167	DWGS-Bell 1
1168	DWGS-Bell 2
1169	DWGS-Bell 3
1170	DWGS-Bell 4
1171	DWGS-Clav 1
1172	DWGS-Clav 2
1173	DWGS-Clav 3
1174	DWGS-Digi 1
1175	DWGS-Digi 2
1176	DWGS-Digi 3
1177	DWGS-Wire 1
1178	DWGS-Wire 2
1179	DWGS-Sync 1
1180	DWGS-Sync 2
1181	DWGS-Sync 3
1182	Orch Hit 1
1183	Orch Hit 2
1184	Orch Hit 3
1185	Orch Hit 4
1186	Orch Hit 5
1187	Orch Hit 6
1188	Orch Hit 7
1189	Impact Hit
1190	Orch Hits
1191	Band Hit 1
1192	Band Hit 2
1193	Jazz Hit 1
1194	Jazz Hit 2
1195	Jazz Hit 3
1196	Brass Fall
1197	Dance Hit
1198	Organ Hit
1199	Dance Hits
1200	House Hits
1201	VibeChord
1202	W.E.P.Chord
1203	Synth Hit Loop 1
1204	Synth Hit Loop 2
1205	Synth Hit Loop 3
1206	Synth Hit Loop 4
1207	Synth Hit Loop 5
1208	Synth Hit Loop 6
1209	Synth Hit Decay 1
1210	Synth Hit Decay 2
1211	Synth Hit Decay 3
1212	Synth Hit Decay 4
1213	Vinyl Hit 1
1214	Vinyl Hit 2
1215	Scratch Hi
1216	Zap 1
1217	Zap 2
1218	BD-Cannon
1219	Industry Hit 01
1220	Industry Hit 02
1221	Industry Hit 03
1222	Industry Hit 04
1223	Industry Hit 05
1224	Industry Hit 06
1225	Industry Hit 07
1226	Industry Hit 08
1227	Industry Hit 09
1228	Industry Hit 10
1229	Industry Hit 11
1230	Industry Hit 12
1231	Industry Hit 13
1232	Industry Hit 14
1233	Industry Hit 15
1234	Industry Hit 16
1235	Industry Hit 17
1236	Industry Hit 18
1237	Industry Hit 19
1238	Industry Hit 20
1239	Industry Hit 21
1240	Industry Hit 22
1241	Industry Hit 23
1242	Industry Hit 24
1243	Industry Hit 25

Voice Name List

#	Name
1244	Industry Hit 26
1245	Industry Loop 1
1246	Industry Loop 2
1247	Industry Loop 3
1248	Voice 01
1249	Voice 02
1250	Voice 03
1251	Voice 04
1252	Voice 05
1253	Voice 06
1254	Voice 07
1255	Voice 08
1256	Voice 09
1257	Voice 10
1258	Voice 11
1259	Voice 12
1260	Voice 13
1261	Voice 14
1262	Voice 15
1263	Voice 16
1264	Voice 17
1265	Voice 18
1266	Voice 19
1267	Voice 20
1268	Voice 21
1269	Voice 22
1270	Voice 23
1271	Voice 24
1272	Voice 25
1273	Voice 26
1274	Voice 27 "Ha"
1275	Voice 28 "Funky"
1276	Voice 29 "Yeah"
1277	Voice 30 "Bang"
1278	Voice 31 "Ahhh"
1279	Voice 32 "Ooooh"
1280	Voice 33 "Hrrrr"
1281	Voice 34 "Trrrr"
1282	Voice 35 "Aow"
1283	Voice 36 "TurnAround"
1284	Voice 37 "Well"
1285	Voice 38 "Turnin'Up"
1286	Voice 39 "Uuh"
1287	Voice 40 "Com'On"
1288	Voice 41 "Yah"
1289	Voice 42 "Oohh"
1290	Voice 43 "Go"
1291	Voice 44
1292	Voice 45
1293	Voice 46
1294	Voice 47
1295	Voice 48
1296	Vocoder Voice 01
1297	Vocoder Voice 02
1298	Vocoder Voice 03
1299	Vocoder Voice 04
1300	Vocoder Voice 05
1301	Vocoder Voice 06
1302	Vocoder Voice 07
1303	Vocoder Voice 08
1304	Vocoder Voice 09
1305	Vocoder Voice 10
1306	Vocoder Voice 11
1307	Vocoder Voice 12
1308	Vocoder Voice 13
1309	Vocoder Voice 14
1310	Vocoder Voice 15
1311	Vocoder Voice 16
1312	Vocoder Voice 17
1313	Vocoder Voice 18
1314	Vocoder Voice 19
1315	Vocoder Voice 20
1316	CompuVoice-BEEP
1317	CompuVoice-Noise
1318	CompuVoice-Chi
1319	CompuVoice-Do it
1320	PC Voice 1-01 "Two"
1321	PC Voice 1-02 "Five"

#	Name
1322	PC Voice 1-03
1323	PC Voice 1-04
1324	PC Voice 1-05
1325	Coin Thwack
1326	Meditation Tree
1327	G-BALL
1328	Ac.Gtr Chord Hit
1329	Ac.Gtr Ghost Hit 1
1330	El.Gtr Chord Hit 1
1331	El.Gtr-Glissando Down 1
1332	El.Gtr-Glissando Down 2
1333	El.Gtr-Glissando Down 3
1334	El.Gtr-Glissando Down 4
1335	El.Gtr-Glissando Up 1
1336	El.Gtr-Glissando Up 2
1337	El.Gtr-Glissando Up 3
1338	Vox-Wah Gtr
1339	El.Gtr-ChordGhost Down 1
1340	El.Gtr-ChordGhost Down 2
1341	El.Gtr-ChordGhost Down 3
1342	El.Gtr-ChordGhost Down 4
1343	El.Gtr-ChordGhost Down 5
1344	El.Gtr-ChordGhost Down 6
1345	El.Gtr-ChordGhost Up 1
1346	El.Gtr-ChordGhost Up 2
1347	El.Gtr-ChordGhost Up 3
1348	El.Gtr-ChordGhost Up 4
1349	El.Gtr-ChordGhost Up 5
1350	El.Gtr-ChordGhost Up 6
1351	El.Gtr-ChordGhost Up 7
1352	GtCutNois 1
1353	GtCutNois 2
1354	El.Gtr-Dead Note 1
1355	El.Gtr-Dead Note 2
1356	El.Gtr-DistSlideDown 1
1357	El.Gtr-DistSlideDown 2
1358	El.Gtr-DistScratchDown
1359	El.Gtr-DistMuted a
1360	El.Gtr-DistMuted b
1361	El.Gtr-DistMuted c
1362	El.Gtr-DistGhost 1 a
1363	El.Gtr-DistGhost 1 b
1364	El.Gtr-DistGhost 2 a
1365	El.Gtr-DistGhost 2 b
1366	El.Gtr-DistGhost 3 a
1367	El.Gtr-DistGhost 3 b
1368	El.Gtr-DistGhost 4 a
1369	El.Gtr-DistGhost 4 b
1370	El.Gtr-DistGhost 5 a
1371	El.Gtr-DistGhost 5 b
1372	El.Gtr-DistFretNoise 1 a
1373	El.Gtr-DistFretNoise 1 b
1374	El.Gtr-DistFretNoise 2 a
1375	El.Gtr-DistFretNoise 2 b
1376	El.Gtr-DistFretNoise 2 c
1377	El.Gtr-DistFretNoise 2 d
1378	Ac.Bs-Slide Up&Down 1
1379	Ac.Bs-Slide Up&Down 2
1380	Ac.Bs-Slide Up&Down 3
1381	Ac.Bs-Slide Down 1
1382	Ac.Bs-Slide Down 2
1383	Ac.Bs-Slide Down 3
1384	Ac.Bs-Slide Down 4
1385	Ac.Bs-Slide Up
1386	Ac.Bs-BumpThud 1
1387	Ac.Bs-BumpThud 2
1388	Ac.Bs-DeadNote 1
1389	Ac.Bs-DeadNote 2
1390	Ac.Bs-DeadPizz 1
1391	Ac.Bs-DeadPizz 2
1392	Ac.Bs-DeadPizz 3
1393	Ac.Bs-SlapTouch 1
1394	Ac.Bs-SlapTouch 2
1395	Ac.Bs-SlapTouch 3
1396	Ac.Bs-SlapTouch 4
1397	Ac.Bs-SlapTouch 5
1398	Ac.Bs-String Slap
1399	El.Bs-Slide Up&Down 1

#	Name
1400	El.Bs-Slide Up&Down 2
1401	El.Bs-Slide Up&Down 3
1402	El.Bs-Slide Down 1
1403	El.Bs-Slide Down 2
1404	El.Bs-Slide Down 3
1405	El.Bs-SlapGhostSlide 1
1406	El.Bs-SlapGhostSlide 2
1407	El.Bs-SlapGhostSlide 3
1408	El.Bs-Fret Noise 1
1409	El.Bs-Fret Noise 2
1410	El.Bs-Fret Noise 3
1411	El.Bs-SlapGhostNote 01
1412	El.Bs-SlapGhostNote 02
1413	El.Bs-SlapGhostNote 03
1414	El.Bs-SlapGhostNote 04
1415	El.Bs-SlapGhostNote 05
1416	El.Bs-SlapGhostNote 06
1417	El.Bs-SlapGhostNote 07
1418	El.Bs-SlapGhostNote 08
1419	El.Bs-SlapGhostNote 09
1420	El.Bs-SlapGhostNote 10
1421	El.Bs-SlapGhostNote 11
1422	Stadium
1423	Applause
1424	Scream
1425	Laughing
1426	Footstep 1
1427	Footstep 2
1428	Birds 1
1429	Birds 1 REV
1430	Bird 2
1431	Dog
1432	Gallop
1433	Gallop REV
1434	Crickets 2
1435	Heart Beat
1436	Punch
1437	Tribe
1438	Sword 1
1439	Sword 2
1440	Glass Crash
1441	Rainstick
1442	Ice Drop
1443	Door Creak
1444	Door Slam 1
1445	Car Engine
1446	Car Stop
1447	Car Pass
1448	Car Crash
1449	Train
1450	Train REV
1451	Railroad Crossing
1452	Helicopter
1453	Helicopter REV
1454	Fireworks
1455	Gun Shot
1456	Rifle Shot
1457	Machine Gun
1458	Machine Gun REV
1459	Laser Gun
1460	Cannon 1
1461	Cannon 2
1462	Cannon 3
1463	Explosion
1464	Thunder
1465	Wind
1466	Stream
1467	Bubble
1468	Bubble REV
1469	ChurchBell
1470	ChurchBell REV
1471	Old Telephone-Ring
1472	Old Telephone-Ring REV
1473	Telephone-Call
1474	Telephone-Ring
1475	Telephone-Busy
1476	BD-Orchestral
1477	Timpani MAP1 mf

#	Name
1478	Timpani MAP1 ff
1479	Timpani MAP2 mf
1480	Timpani MAP2 ff
1481	Timpani MAP3 mf
1482	Timpani MAP3 ff
1483	Timpani-Roll mf
1484	Timpani-Roll ff
1485	Taiko
1486	Tom
1487	Tom-Reverb Lo
1488	Tom-Reverb Hi
1489	Tom-Processed
1490	Real E.Tom
1491	88-Tom
1492	Orchestral Cymbal-Open
1493	Orchestral Cymbal-Closed
1494	Ride Cymbal 03 mp
1495	Ride Cymbal 03 rnf
1496	Ride Cymbal 03 f
1497	Ride Cymbal 03 ff
1498	Ride Cymbal 09 mp
1499	Cymbal Reverse
1500	Chinese Gong
1501	Castanet
1502	Click 1
1503	Click 2
1504	Marc Tree

ROM stereo

#	Name
0000	Acoustic Piano 1 mf
0001	Acoustic Piano 1 f
0002	Acoustic Piano 1 ff
0003	Ehorn Pipe Organ
0004	2 Trumpets mp
0005	2 Trumpets f
0006	2 Trombones mf
0007	2 Trombones f
0008	Brass Ensemble 1
0009	Brass Ensemble 4
0010	Strings Ensemble 1
0011	Strings Ensemble 1 REV
0012	Cymbal Flute
0013	Spectone

EXs1 mono

#	Name
0000	Acoustic Piano 1 mp -L
0001	Acoustic Piano 1 mp -R
0002	Acoustic Piano 1 mp-mono
0003	Acoustic Piano 2 mf -L
0004	Acoustic Piano 2 mf -R
0005	Acoustic Piano 2 ff -L
0006	Acoustic Piano 2 ff -R
0007	Acoustic Piano 3
0008	Acoustic Piano 4
0009	Piano Damper -L
0010	Piano Damper -R
0011	E.Organ-Lower
0012	E.Organ-Soft
0013	E.Organ-Gospel 2
0014	E.Organ-Full Long
0015	E.Organ-1 3/5'
0016	E.Organ-Rotary Slow -L
0017	E.Organ-Rotary Slow -R
0018	E.Organ-Rotary Fast -L
0019	E.Organ-Rotary Fast -R
0020	Reed Organ -L
0021	Reed Organ -R
0022	Thai Bell
0023	Flute Jazz-Vibrato
0024	Clarinet-Vibrato
0025	Oboe-Vibrato
0026	English Horn-Vibrato
0027	Contrabassoon
0028	3 Flutes -L
0029	3 Flutes -R
0030	Harmonica-Wah
0031	Voice-Uuh
0032	Voice-Ooh
0033	Voice-Aah
0034	Voice-Female Mnnn
0035	Voice-Male Mnnn
0036	Voice-Yah
0037	Voice-Scat Buh
0038	Voice-Scat Duh
0039	Voice-Scat Bah
0040	Voice-Scat Dah
0041	Erhu-Vibrato
0042	Small Strings Ensemble
0043	Strings Ensemble 3
0044	Strings Ensemble-Tremolo
0045	Nylon Guitar 2 mp
0046	Nylon Guitar 2 mf
0047	Nylon Guitar 2 ff
0048	Ac.Guitar-Harmonics
0049	El.Guitar Clean 8
0050	El.Guitar Clean 8 VAR
0051	El.Guitar Distortion 3
0052	El.Guitar PowerChord 2
0053	El.Guitar PowerChord 3
0054	Acoustic Bass 3
0055	Acoustic Bass 4
0056	El.Bass-Slap 6
0057	El.Bass-Slap Harmonics
0058	Acoustic Bass 3 VAR

#	Name
0059	Acoustic Bass 4 VAR
0060	El.Bass-Slap 6 VAR
0061	Mandolin-Tremolo
0062	Oud 2
0063	Shamisen 2
0064	SynReso-MG 5
0065	ResoSquare-SH
0066	Bass/Lead-Pro5
0067	Syn-ResBass 4
0068	SynArpg-Pro5
0069	Detuned-Lead
0070	Detun-Lead REV
0071	Syn-Air Vortex
0072	Syn-Air Vortex REV
0073	Stereo Spectrum -L
0074	Stereo Spectrum -R
0075	Wet Jungles
0076	Vocoder-VP
0077	Vocoder-VP REV
0078	Tape Choir
0079	Band Hit 3
0080	Band Hits
0081	Synth Hit Loop 7
0082	Synth Hit Loop 8
0083	Synth Hit Loop 9
0084	Synth Hit Loop 10
0085	Synth Hit Loop 11
0086	Synth Hit Loop 12
0087	Synth Hit Decay 5
0088	Synth Hit Decay 6
0089	Synth Hit Decay 7
0090	Industry Hit 27
0091	Industry Hit 28
0092	Industry Hit 29
0093	Industry Hit 30
0094	Industry Hit 31
0095	Industry Hit 32
0096	Industry Hit 33
0097	Industry Hit 34
0098	Industry Hit 35
0099	Industry Hit 36
0100	Industry Hit 37
0101	Industry Hit 38
0102	Industry Hit 39
0103	Industry Loop 4
0104	Voice 49
0105	Voice 50
0106	Voice 51
0107	Voice 52
0108	Voice 53 "Wh-O"
0109	Voice 54 "Yea"
0110	Voice 55
0111	Voice 56
0112	Voice 57
0113	"One..." Solo
0114	"Two..." Solo
0115	"Three..." Solo
0116	"Four..." Solo
0117	Vocoder Voice 21
0118	Vocoder Voice 22
0119	Vocoder Voice 23
0120	Vocoder Voice 24 "One"
0121	Vocoder Voice 25 "Two"
0122	Vocoder Voice 26 "Three"
0123	Vocoder Voice 27 "Four"
0124	Vocoder Voice 28
0125	Vocoder Voice 29
0126	PC Voice 1-06 "One"
0127	PC Voice 1-07 "Three"
0128	PC Voice 1-08 "Four"
0129	PC Voice 1-09 "Six"
0130	PC Voice 1-10 "Seven"
0131	PC Voice 1-11 "Eight"
0132	PC Voice 1-12 "Nine"
0133	PC Voice 1-13 "Ten"
0134	PC Voice 1-14
0135	PC Voice 1-15
0136	PC Voice 1-16

#	Name
0137	PC Voice 1-17
0138	PC Voice 1-18
0139	PC Voice 1-19
0140	PC Voice 1-20
0141	PC Voice 1-21
0142	PC Voice 1-22
0143	PC Voice 1-23
0144	PC Voice 1-24
0145	PC Voice 1-25
0146	PC Voice 2-01 "One"
0147	PC Voice 2-02 "Two"
0148	PC Voice 2-03 "Three"
0149	PC Voice 2-04 "Four"
0150	PC Voice 2-05
0151	PC Voice 2-06
0152	PC Voice 2-07
0153	PC Voice 3-01 "One"
0154	PC Voice 3-02 "Two"
0155	PC Voice 3-03 "Three"
0156	PC Voice 3-04 "Four"
0157	PC Voice 3-05
0158	PC Voice 3-06
0159	PC Voice 4-01
0160	PC Voice 4-02
0161	PC Voice 4-03
0162	PC Voice 4-04
0163	PC Voice 5-01
0164	PC Voice 5-02
0165	PC Voice 5-03
0166	PC Voice 5-04
0167	PC Voice 5-05
0168	PC Voice 5-06
0169	PC Voice 5-07
0170	PC Voice 5-08
0171	PC Voice 5-09
0172	PC Voice 5-10
0173	Machine Voice
0174	Voice SFX
0175	Ac.Gtr Ghost Hit 2
0176	Ac.Gtr Ghost Hit-Slide
0177	El.Gtr Chord Hit 2
0178	El.Gtr-Ghost Note 1
0179	El.Gtr-Ghost Note 2
0180	El.Gtr-Ghost Note 3
0181	El.Gtr-Ghost Note 4
0182	El.Gtr-Ghost Note 5
0183	El.Gtr-Ghost Note 6
0184	El.Guitar Ghost 2
0185	El.Gtr-Dead Note 3
0186	El.Gtr-Dead Note 4
0187	El.Bs-Ghost Note 1
0188	El.Bs-Ghost Note 2
0189	El.Bs-Ghost Note 3
0190	El.Bs-Ghost Note 4
0191	El.Bs-Ghost Note 5
0192	El.Bs-Ghost Note 6
0193	El.Bs-SlapGhostNote 12
0194	El.Bass-Slap Dead LH
0195	El.Bass-Slap Dead RH
0196	El.Bass-Stop LH PB
0197	El.Bass-Stop RH PB
0198	Telephone-Tone 1
0199	Telephone-Tone 2
0200	Telephone-Tone 3
0201	Telephone-Tone 4
0202	Telephone-Tone 5
0203	Door Slam 2
0204	Car Horn
0205	Train Horn
0206	Glass Scratch
0207	Jungle
0208	Forest
0209	Tom-Reverb Lo -L
0210	Tom-Reverb Lo -R
0211	Tom-Reverb Hi -L
0212	Tom-Reverb Hi -R
0213	Ride Cymbal 03 mp -L
0214	Ride Cymbal 03 mp -R

#	Name
0215	Ride Cymbal 03 mf -L
0216	Ride Cymbal 03 mf -R
0217	Ride Cymbal 03 f-L
0218	Ride Cymbal 03 f-R
0219	Ride Cymbal 03 ff -L
0220	Ride Cymbal 03 ff -R
0221	Ride Cymbal 09 mp -L
0222	Ride Cymbal 09 mp -R
0223	Ride Cymbal 09 mf -L
0224	Ride Cymbal 09 mf -R
0225	Ride Cymbal 09 f-L
0226	Ride Cymbal 09 f-R
0227	Angklung-One Shot
0228	Metal Perc

EXs1 stereo

#	Name
0000	Acoustic Piano 1 mp
0001	Acoustic Piano 2 mf
0002	Acoustic Piano 2 ff
0003	Piano Damper
0004	E.Organ-Rotary Slow
0005	E.Organ-Rotary Fast
0006	Reed Organ
0007	3 Flutes
0008	Stereo Spectrum
0009	Tom-Reverb Lo
0010	Tom-Reverb Hi
0011	Ride Cymbal 03 mp
0012	Ride Cymbal 03 mf
0013	Ride Cymbal 03 f
0014	Ride Cymbal 03 ff
0015	Ride Cymbal 09 mp
0016	Ride Cymbal 09 mf
0017	Ride Cymbal 09 f

EXs2 mono

#	Name
0000	A.Piano 88 Key mp -L
0001	A.Piano 88 Key mp -R
0002	A.Piano 88 Key mf -L
0003	A.Piano 88 Key mf -R
0004	A.Piano 88 Key f -L
0005	A.Piano 88 Key f -R
0006	A.Piano 88 Key ff -L
0007	A.Piano 88 Key ff -R
0008	Piano Damper -L
0009	Piano Damper -R

EXs2 stereo

#	Name
0000	A.Piano 88 Key mp
0001	A.Piano 88 Key mf
0002	A.Piano 88 Key f
0003	A.Piano 88 Key ff
0004	Piano Damper

Voice Name List

Drumsamples

ROM mono

#	Name
0000	BD-01-amb f
0001	BD-01-amb ff
0002	BD-02-amb mf
0003	BD-02-amb f
0004	BD-03-amb mf
0005	BD-03-amb f
0006	BD-04-amb mf
0007	BD-04-amb f
0008	BD-05-amb mp
0009	BD-05-amb mf
0010	BD-05-amb f
0011	BD-06-dry mp
0012	BD-06-dry f
0013	BD-06-amb mp
0014	BD-06-amb mf
0015	BD-06-amb f
0016	BD-06-amb ff
0017	BD-07-dry mf
0018	BD-07-dry f
0019	BD-08-dry mf
0020	BD-08-dry f
0021	BD-08-amb mf
0022	BD-08-amb f
0023	BD-08-amb ff
0024	BD-09-dry mp
0025	BD-09-dry mf
0026	BD-WS 1
0027	BD-WS 2 (Tite)
0028	BD-Dry
0029	BD-Soft
0030	BD-Mondo Kill
0031	BD-Tubby
0032	BD-Gated
0033	BD-WS 3 (Ambi)
0034	BD-Orchestral
0035	BD-Hip 1
0036	BD-WS 4 (Punch Bag)
0037	BD-Dance 01
0038	BD-Cannon
0039	BD-Trance 1
0040	BD-Trance 2
0041	BD-Slugg
0042	BD-Dance 02
0043	BD-Dance 03
0044	BD-Ambi
0045	BD-Dance 04
0046	BD-Dance99
0047	BD-WS 5 (Gated)
0048	BD-Dance 05
0049	BD-Dance 06
0050	BD-Dance 07
0051	BD-Dance 08
0052	BD-Dance 09
0053	BD-Dance 10
0054	BD-Pop
0055	BD-Hip 2
0056	BD-Hip 3
0057	BD-Dance 11
0058	BD-Dance 12
0059	BD-Dance Soft
0060	BD-Short88
0061	BD-Dark
0062	BD-Dance 13
0063	BD-Dance 14
0064	BD-Dance 15
0065	BD-Dance 16
0066	BD-Dance 17
0067	BD-Dance 18
0068	BD-Dance 19
0069	BD-Dance 20
0070	BD-Dance 21
0071	BD-Dance 22
0072	BD-Dance 23
0073	BD-Dance 24

#	Name
0074	BD-Dance 25
0075	BD-Dance 26
0076	BD-Dance 27
0077	BD-Dance 28
0078	BD-Dance 29
0079	BD-Dance 30
0080	BD-Dance 31
0081	BD-Dance 32
0082	BD-Dance 33
0083	BD-Dance 34
0084	BD-Dance 35
0085	BD-Dance 36
0086	BD-Dance 37
0087	BD-Dance 38
0088	BD-Dance 39
0089	BD-Dance 40
0090	BD-Dance 41
0091	BD-Dance 42
0092	BD-Dance 43
0093	BD-Dance 44
0094	BD-Dance 45
0095	BD-Dance 46
0096	BD-Dance 47
0097	BD-Dance 48
0098	BD-Dance 49
0099	BD-Dance 50
0100	BD-Dance 51
0101	BD-Dance 52
0102	BD-Dance 53
0103	BD-Dance 54
0104	BD-Dance 55
0105	BD-Dance 56
0106	BD-99 Dance 01
0107	BD-99 Dance 02
0108	BD-99 Dance 03
0109	BD-99 Dance 04
0110	BD-99 Dance 05
0111	BD-99 Dance 06
0112	BD-99 Dance 07
0113	BD-99 Dance 08
0114	BD-99 Dance 09
0115	BD-99 Dance 10
0116	BD-99 Dance 11
0117	BD-99 Dance 12
0118	99-BD 1
0119	99-BD 2
0120	99-BD 3
0121	88-BD
0122	BD-Dance Revers
0123	SD-01-dry mp
0124	SD-01-dry mf
0125	SD-01-dry f
0126	SD-02-dry mp
0127	SD-02-dry mf
0128	SD-02-dry f
0129	SD-02-dry ff
0130	SD-03-dry mp
0131	SD-03-dry mf
0132	SD-03-dry f
0133	SD-04-amb p
0134	SD-04-amb mp
0135	SD-04-amb mf
0136	SD-04-amb f
0137	SD-04-amb ff
0138	SD-05-dry mp
0139	SD-05-dry f
0140	SD-05-dry ff
0141	SD-06-dry mf
0142	SD-06-dry f
0143	SD-07-amb mf
0144	SD-07-amb f
0145	SD-08-dry f
0146	SD-08-dry ff
0147	SD-09-dry f
0148	SD-09-dry ff
0149	SD-09-amb f
0150	SD-09-amb ff
0151	SD-10-dry mp

#	Name
0152	SD-10-dry f
0153	SD-10-dry ff
0154	SD-11-dry mf
0155	SD-11-dry ff
0156	SD-11-amb mf
0157	SD-11-amb ff
0158	SD-12-dry p
0159	SD-12-dry mp
0160	SD-12-dry mf
0161	SD-12-dry f
0162	SD-12-dry ff
0163	SD-12-dry fff
0164	SD-12-amb mp
0165	SD-12-amb f
0166	SD-12-amb fff
0167	SD-13-dry mp
0168	SD-13-dry mf
0169	SD-13-dry ff
0170	SD-14-dry mf
0171	SD-14-dry f
0172	SD-14-dry ff
0173	SD-15-dry mp
0174	SD-15-dry mf
0175	SD-15-dry f
0176	SD-16-dry f
0177	SD-16-dry ff
0178	SD-17-dry mp
0179	SD-17-dry mf
0180	SD-17-dry f
0181	SD-17-dry GhostRoll f
0182	SD-18-amb f
0183	SD-18-amb ff
0184	SD-19-amb mp
0185	SD-19-amb mf
0186	SD-19-amb f
0187	SD-19-amb GhostRoll
0188	SD-20-dry mp
0189	SD-20-dry f
0190	SD-20-dry GhostRoll
0191	SD-20-amb mp
0192	SD-20-amb f
0193	SD-20-amb GhostRoll
0194	SD-21-dry mp
0195	SD-21-dry mf
0196	SD-21-dry f
0197	SD-21-dry ff
0198	SD-21-amb f
0199	SD-21-amb ff
0200	SD-22-dry mp
0201	SD-22-dry f
0202	SD-22-amb mf
0203	SD-23-dry mp
0204	SD-23-dry mf
0205	SD-23-dry GhostRoll
0206	SD-24-dry mp
0207	SD-24-dry f
0208	SD-24-dry ff
0209	SD-24-dry GhostRoll
0210	SD-WS 01
0211	SD-Dry
0212	SD-Off Center
0213	SD-Jazz Ring
0214	SD-Amb.Piccolo
0215	SD-Classic Room
0216	SD-Atomic
0217	SD-25-dry Brush Tap mp
0218	SD-25-dry Brush Tap mf
0219	SD-25-dry Brush Tap f
0220	SD-26-dry Brush Tap mp
0221	SD-26-dry Brush Tap mf
0222	SD-26-dry Brush Tap f
0223	SD-26-dry Brush Triplet
0224	SD-26-dry Brush Swirl a
0225	SD-26-dry Brush Swirl b
0226	SD-Roll-Open 1 a
0227	SD-Roll-Open 1 b
0228	SD-Roll-Open 1 c
0229	SD-Roll-Open 2

#	Name
0230	SD-Roll-Open 3 a
0231	SD-Roll-Open 3 b
0232	SD-Roll-Closed 1 a
0233	SD-Roll-Closed 1 b
0234	SD-Roll-Closed 2
0235	SD-Roll-Closed 3 a
0236	SD-Roll-Closed 3 b
0237	SD-Roll-Closed 4
0238	SD-Roll-Closed 5
0239	SD-Orch.Roll
0240	SD-Orchestral
0241	Sidestick 1 mf
0242	Sidestick 1 f
0243	Sidestick 2 mf
0244	Sidestick 3 mf
0245	Sidestick 4 mf
0246	Sidestick 4 f
0247	Sidestick WS
0248	SD-Dance 01
0249	SD-Dance 02
0250	SD-Dance 03
0251	SD-Dance 04
0252	SD-Dance 05
0253	SD-Dance 06
0254	SD-Dance 07
0255	SD-Dance 08
0256	SD-Dance 09
0257	SD-Dance 10
0258	SD-Dance 11
0259	SD-Dance 12
0260	SD-Dance 13
0261	SD-Dance 14
0262	SD-Dance 15
0263	SD-Dance 16
0264	SD-Dance 17
0265	SD-Dance 18
0266	SD-Dance 19
0267	SD-Dance 20
0268	SD-Dance 21
0269	SD-Dance 22
0270	SD-Dance 23
0271	SD-Dance 24
0272	SD-Dance 25
0273	SD-Dance 26
0274	SD-Dance 27
0275	SD-Dance 28
0276	SD-Dance 29
0277	SD-Dance 30
0278	SD-Dance 31
0279	SD-Dance 32
0280	SD-Dance 33
0281	SD-Dance 34
0282	SD-Dance 35
0283	SD-Dance 36
0284	SD-Dance 37
0285	SD-Dance 38
0286	SD-Dance 39
0287	SD-Dance 40
0288	SD-Dance 41
0289	SD-Dance 42
0290	SD-Dance 43
0291	SD-Dance 44
0292	SD-Dance 45
0293	SD-Dance 46
0294	SD-Dance 47
0295	SD-Dance 48
0296	SD-Dance 49
0297	SD-Dance 50
0298	SD-Dance 51
0299	SD-Dance 52
0300	SD-Dance 53
0301	SD-Dance 54
0302	SD-Dance 55
0303	SD-Dance 56
0304	SD-Dance 57
0305	SD-Dance 58
0306	SD-Dance 59
0307	SD-Dance 60

#	Name
0308	SD-Dance 61
0309	SD-Dance 62
0310	SD-Dance 63
0311	SD-Dance 64
0312	SD-Dance 65
0313	SD-Dance 66
0314	SD-Dance 67
0315	SD-Dance 68
0316	SD-Dance 69
0317	SD-Dance 70
0318	SD-Dance 71
0319	SD-Dance 72
0320	SD-Dance 73
0321	SD-Dance 74
0322	SD-Dance 75
0323	SD-Dance 76
0324	SD-Dance 77
0325	SD-Dance 78
0326	SD-Noise
0327	SD-Sizzle
0328	SD-Hip
0329	SD-Vintage
0330	SD-AmbiCrackle 1
0331	SD-AmbiCrackle 2
0332	SD-Whopper
0333	SD-WS 02 (Crack)
0334	SD-WS 03 (Amb)
0335	SD-WS 04 (Nasty)
0336	SD-WS 05 (Piccolo)
0337	SD-WS 06 (BeatBox)
0338	SD-WS 07 (Gated)
0339	SD-WS 08 (Noise)
0340	SD-WS 09 (Tenny)
0341	SD-WS 10 (Gated Hit)
0342	Vocal SD
0343	99-SD 1
0344	99-SD 2
0345	88-SD 1 (New)
0346	88-SD 2 (Old)
0347	88-Rimshot
0348	SD-Dance Sidestick
0349	Tom Basic Lo mf
0350	Tom Basic Lo f
0351	Tom Basic Lo ff
0352	Tom Basic MidLo mf
0353	Tom Basic MidLo f
0354	Tom Basic MidHi mp
0355	Tom Basic MidHi mf
0356	Tom Basic MidHi f
0357	Tom Basic MidHi ff
0358	Tom Basic Hi mp
0359	Tom Basic Hi mf
0360	Tom Basic Hi f
0361	Tom Soul mf
0362	Tom Soul f
0363	Tom Vintage Lo mp
0364	Tom Vintage Lo mf
0365	Tom Vintage Lo f
0366	Tom Vintage Lo ff
0367	Tom Vintage Mid mp
0368	Tom Vintage Mid mf
0369	Tom Vintage Mid f
0370	Tom Vintage Mid ff
0371	Tom Vintage Hi mp
0372	Tom Vintage Hi mf
0373	Tom Vintage Hi f
0374	Tom Vintage Hi ff
0375	Tom Rock1-dry Lo f
0376	Tom Rock1-dry Lo ff
0377	Tom Rock1-dry Mid f
0378	Tom Rock1-dry Mid ff
0379	Tom Rock1-dry Hi f
0380	Tom Rock1-dry Hi ff
0381	Tom Rock2-dry Lo f
0382	Tom Rock2-dry Lo ff
0383	Tom Rock2-dry MidLo mf
0384	Tom Rock2-dry MidLo ff
0385	Tom Rock2-dry MidHi mf

#	Name
0386	Tom Rock2-dry MidHi ff
0387	Tom Rock2-dry Hi mf
0388	Tom Rock2-dry Hi ff
0389	Tom Rock1-amb Low
0390	Tom Rock1-amb Mid
0391	Tom Rock1-amb Hi
0392	Tom Rock2-amb Low
0393	Tom Rock2-amb MidLo
0394	Tom Rock2-amb Hi
0395	Tom-Processed
0396	Tom-WS 1
0397	Tom-WS 2 (Amb)
0398	Tom-Hi
0399	Tom-Old R&B
0400	Tom-Jazz Floor
0401	Tom-Jazz Hi
0402	Tom-Jazz Hi Rim
0403	Tom Brush1 Low mf
0404	Tom Brush1 Low f
0405	Tom Brush1 Low ff
0406	Tom Brush1 Mid mf
0407	Tom Brush1 Mid f
0408	Tom Brush1 Mid ff
0409	Tom Brush1 Hi mp
0410	Tom Brush1 Hi mf
0411	Tom Brush1 Hi ff
0412	Tom Brush2 Floor
0413	Tom Brush2 Hi
0414	Hi-Hat Basic 1-Closed mp
0415	Hi-Hat Basic 1-Closed mf
0416	Hi-Hat Basic 1-Closed f
0417	Hi-Hat Basic 1-Closed ff
0418	Hi-Hat Basic 1-Pedal mp
0419	Hi-Hat Basic 1-Pedal mf
0420	Hi-Hat Basic 1-Pedal f
0421	Hi-Hat Basic 1-Closed ff
0422	Hi-Hat Basic 1-Open mf
0423	Hi-Hat Basic 1-Open f
0424	Hi-Hat Basic 1-Open ff
0425	Hi-Hat Basic 2-Closed mp
0426	Hi-Hat Basic 2-Closed mf
0427	Hi-Hat Basic 2-Closed f
0428	Hi-Hat Basic 2-Open mp
0429	Hi-Hat Basic 2-Open mf
0430	Hi-Hat Basic 2-Open f
0431	Hi-Hat Basic 3-Closed mp
0432	Hi-Hat Basic 3-Closed mf
0433	Hi-Hat Basic 3-Closed f
0434	Hi-Hat Basic 3-Open
0435	Hi-Hat Heavy 1-Closed mp
0436	Hi-Hat Heavy 1-Closed f
0437	Hi-Hat Heavy 1-Open f
0438	Hi-Hat Heavy 1-HallOpen
0439	Hi-Hat Heavy 2-Closed mp
0440	Hi-Hat Heavy 2-Closed mf
0441	Hi-Hat Heavy 2-Closed f
0442	Hi-Hat Heavy 2-Closed ff
0443	Hi-Hat Heavy 2-Open a mf
0444	Hi-Hat Heavy 2-Open a f
0445	Hi-Hat Heavy 2-Pedal mf
0446	Hi-Hat Heavy 2-Pedal f
0447	Hi-Hat Heavy 2-FootOpen
0448	Hi-Hat Basic 4-Closed 1
0449	Hi-Hat Basic 4-Closed 2
0450	Hi-Hat Basic 4-Foot
0451	Hi-Hat Basic 4-FootOpen
0452	Hi-Hat Basic 4-Open 1
0453	Hi-Hat Basic 4-Open 2
0454	Hi-Hat Basic 5-Closed 1
0455	Hi-Hat Basic 5-Closed 2
0456	Hi-Hat Basic 5-Open
0457	Hi-Hat Brush-Closed mp
0458	Hi-Hat Brush-Closed mf
0459	Hi-Hat Brush-Closed f
0460	Hi-Hat Brush-Pedal mf
0461	Hi-Hat Brush-Pedal ff
0462	Hi-Hat Brush-Open mp
0463	Hi-Hat Brush-Open mf

#	Name
0464	Hi-Hat Brush-Open f
0465	Hi-Hat Brush-Open ff
0466	Hi-Hat Dance 01
0467	Hi-Hat Dance 02
0468	Hi-Hat Dance 03
0469	Hi-Hat Dance 04
0470	Hi-Hat Dance 05
0471	Hi-Hat Dance 06
0472	Hi-Hat Dance 07
0473	Hi-Hat Dance 08
0474	Hi-Hat Dance 09
0475	Hi-Hat Dance 10
0476	Hi-Hat Dance 11
0477	Hi-Hat Dance 12
0478	Hi-Hat Dance 13
0479	Hi-Hat Dance 14
0480	Hi-Hat Dance 15
0481	Hi-Hat Dance 16
0482	Hi-Hat Dance 17
0483	Hi-Hat Dance 18
0484	Hi-Hat Dance 19
0485	Hi-Hat Dance 20
0486	Hi-Hat Dance 21
0487	Hi-Hat Dance 22
0488	Hi-Hat Dance 23
0489	Hi-Hat Dance 24
0490	Hi-Hat Dance 25
0491	Hi-Hat Dance 26
0492	Hi-Hat Dance 27
0493	Hi-Hat Dance 28
0494	Hi-Hat Dance 29
0495	Hi-Hat Dance 30
0496	Hi-Hat Dance 31
0497	Hi-Hat Dance 32
0498	Hi-Hat WS-Closed a
0499	Hi-Hat WS-Closed b
0500	Hi-Hat WS-HalfOpen
0501	Hi-Hat WS-Open
0502	H.Hat-Chili
0503	H.Hat-Vintage
0504	H.Hat-Hip
0505	H.Hat-Ambi
0506	H.Hat-Crisp Open
0507	H.Hat-ClangyOpen
0508	H.Hat-Whispy
0509	99-HiHat Closed
0510	99-HiHat Open
0511	88-HiHat Closed
0512	88-HiHat Open
0513	Hi-Hat WS Syn-Closed
0514	Hi-Hat WS Syn-Open
0515	Crash Cymbal 01 mf
0516	Crash Cymbal 01 f
0517	Crash Cymbal 01 ff
0518	Crash Cymbal 02 f
0519	Crash Cymbal 02 ff
0520	Crash Cymbal 05 mp
0521	Crash Cymbal 05 mf
0522	Crash Cymbal 05 f
0523	Crash Cymbal 05 ff
0524	Crash Cymbal 06 mp
0525	Crash Cymbal 06 mf
0526	Crash Cymbal 06 ff
0527	Crash Cymbal 07 mf
0528	Crash Cymbal 07 ff
0529	Crash Cymbal 08 mf
0530	Crash Cymbal 08 f
0531	Crash Cymbal 09
0532	Crash Cymbal 10
0533	Orchestral Cymbal-Open
0534	Orchestral Cymbal-Closed
0535	Crash Dance 1
0536	Crash Dance 2
0537	Crash-Dance 99
0538	88-Crash
0539	Cymbal Reverse 1
0540	Cymbal Reverse 2
0541	Ride Cymbal 01 mp

#	Name
0542	Ride Cymbal 01 mf
0543	Ride Cymbal 01 f
0544	Ride Cymbal 01 ff
0545	Ride Cymbal 02 mf
0546	Ride Cymbal 03 mp
0547	Ride Cymbal 03 mf
0548	Ride Cymbal 03 f
0549	Ride Cymbal 03 ff
0550	Ride Cymbal 04 mp
0551	Ride Cymbal 04 f
0552	Ride Cymbal 04 ff
0553	Ride Cymbal 05 mf
0554	Ride Cymbal 05 f
0555	Ride Cymbal 07 mf
0556	Ride Cymbal 07 f
0557	Ride Cymbal 08-Cup mf
0558	Ride Cymbal 09 mp
0559	Ride Dance 1
0560	Ride Dance 2
0561	Ride-Dance 99
0562	Ride Dance WS
0563	China Cymbal 01
0564	China Cymbal 02
0565	Broken Hi-Hat
0566	Splash Cymbal 01 mp
0567	Splash Cymbal 01 mf
0568	Splash Cymbal 01 f
0569	Splash Cymbal 01 ff
0570	Splash Cymbal 02 mp
0571	Splash Cymbal 02 ff
0572	Drumstick Hit
0573	Finger Snap
0574	Hand Claps 1
0575	Hand Claps 2-a
0576	Hand Claps 2-b
0577	Hand Claps 2-c
0578	Hand Claps 2-d
0579	Hand Claps 2-e
0580	Hand Claps 2-f
0581	Hand Claps 2-g
0582	Tumba-Open mf
0583	Tumba-Open f
0584	Conga Lo-Basstone
0585	Conga Lo-Open mf
0586	Conga Lo-Open f
0587	Conga Lo-OpenSlap
0588	Conga Lo-OpenSlapFlam
0589	Conga Lo-Glissando
0590	Conga Lo-Muffled
0591	Conga Lo-Closed
0592	Conga Lo-ClosedSlap
0593	Conga Lo-Heel
0594	Conga Lo-Toe
0595	Conga Hi-Basstone mf
0596	Conga Hi-Basstone f
0597	Conga Hi-Open mf
0598	Conga Hi-Open f
0599	Conga Hi-Open mp
0600	Conga Hi-OpenFlam
0601	Conga Hi-OpenSlap
0602	Conga Hi-OpenSlapFlam
0603	Conga Hi-ClosedSlapFlam
0604	Conga Hi-Muffled
0605	Conga Hi-Closed
0606	Conga Hi-ClosedSlap
0607	Conga Hi-Heel
0608	Conga Hi-Toe
0609	Conga WS Lo-Open
0610	Conga WS Hi-Open
0611	Conga WS Hi-Slap
0612	Conga WS Hi-Palm
0613	Conga WS Hi-Mute
0614	Quinto-Open
0615	Quinto-Closed
0616	Quinto-ClosedSlap
0617	Quinto-Toe
0618	Bongo 1 Lo-Muffled mp
0619	Bongo 1 Lo-Muffled f

Voice Name List

#	Name
0620	Bongo 1 Lo-Closed
0621	Bongo 1 Lo-Flam
0622	Bongo 1 Lo-MuffledFlam
0623	Bongo 1 Lo-Stick
0624	Bongo 1 Lo-StickEdge mf
0625	Bongo 1 Lo-StickEdge f
0626	Bongo 1 Lo-StickBounce
0627	Bongo 1 Lo-Fingernail
0628	Bongo 1 Lo-Cuptone
0629	Bongo 1 Lo-Slap
0630	Bongo 1 Hi-Open mf
0631	Bongo 1 Hi-Open f
0632	Bongo 1 Hi-Pops
0633	Bongo 1 Hi-Hightone
0634	Bongo 1 Hi-OpenFlam
0635	Bongo 1 Hi-Fingernail
0636	Bongo 1 Hi-Stick
0637	Bongo 1 Hi-StickEdge mf
0638	Bongo 1 Hi-StickEdge f
0639	Bongo 1 Hi-StickBounce
0640	Bongo 1 Hi-Cuptone
0641	Bongo 1 Hi-Slap
0642	Bongo 2 Lo-Open a
0643	Bongo 2 Lo-Open b
0644	Bongo 2 Lo-Mute
0645	Bongo 2 Hi-Open a
0646	Bongo 2 Hi-Open b
0647	Bongo 2 Hi-Muffled
0648	Iya Boca-Open mp
0649	Iya Boca-Open mf
0650	Iya Boca-Open f
0651	Iya Boca-Choke mp
0652	Iya Boca-Choke mf
0653	Iya Boca-Choke f
0654	Iya Chacha-OpenSlap mp
0655	Iya Chacha-OpenSlap mf
0656	Iya Chacha-OpenSlap f
0657	Iya Chacha-OpenSlap ff
0658	Itotele Boca-Open mp
0659	Itotele Boca-Open mf
0660	Itotele Boca-Open f
0661	Itotele Boca-Muffled mp
0662	Itotele Boca-Muffled mf
0663	Itotele Boca-Muffled f
0664	Itotele Cha-OpenSlap mp
0665	Itotele Cha-OpenSlap mf
0666	Itotele Cha-OpenSlap f
0667	Itotele Cha-ClosedSlap p
0668	Itotele Cha-ClosedSlap f
0669	Okonkolo Boca-Open mp
0670	Okonkolo Boca-Open mf
0671	Okonkolo Boca-Open f
0672	Okonkolo Boca-Open ff
0673	Okonkolo Chacha-Open mp
0674	Okonkolo Chacha-Open mf
0675	Okonkolo Chacha-Open f
0676	Okonkolo Chacha-Open ff
0677	Okonkolo Chacha-Slap mp
0678	Okonkolo Chacha-Slap mf
0679	Okonkolo Chacha-Slap f
0680	Timbales Lo-Open mp
0681	Timbales Lo-Open mf
0682	Timbales Lo-Edge mf
0683	Timbales Lo-Edge f
0684	Timbales Lo-RimShot
0685	Timbales Lo-Abanico
0686	Timbales Lo-Roll
0687	Timbales Lo-Mute mf
0688	Timbales Lo-Mute f
0689	Timbales Lo-Paila mf
0690	Timbales Lo-Paila f
0691	Timbales Hi-Open
0692	Timbales Hi-Edge
0693	Timbales Hi-RimShot mf
0694	Timbales Hi-RimShot f
0695	Timbales Hi-RimShot ff
0696	Timbales Hi-Abanico 1
0697	Timbales Hi-Abanico 2

#	Name
0698	Timbales Hi-Mute
0699	Timbales Hi-Paila mf
0700	Timbales Hi-Paila f
0701	Cowbell 1
0702	Cowbell 2
0703	Cowbell 3
0704	Cowbell 4-Open
0705	Cowbell 4-Mute
0706	Cowbell 5-Open a
0707	Cowbell 5-Open b
0708	Cowbell 5-Mute
0709	Claves Lo a
0710	Claves Lo b
0711	Claves Hi a
0712	Claves Hi b
0713	Claves WS
0714	Maracas 1-Push a
0715	Maracas 1-Push b
0716	Maracas 1-Pull a
0717	Maracas 1-Pull b
0718	Maracas 2-Push a
0719	Maracas 2-Push b
0720	Maracas 2-Pull a
0721	Maracas 2-Pull b
0722	Guiro-Long a
0723	Guiro-Long b
0724	Guiro-Short a
0725	Guiro-Short b
0726	Vibra-slap
0727	Toy Drum
0728	Toy Drum-Rim
0729	Surdo-Open
0730	Surdo-Mute
0731	Pandeiro-Jingle a
0732	Pandeiro-Jingle b
0733	Pandeiro-Open a
0734	Pandeiro-Open b
0735	Pandeiro-Open c
0736	Pandeiro-Choke a
0737	Pandeiro-Choke b
0738	Pandeiro-ClosedAcc.a
0739	Pandeiro-ClosedAcc.b
0740	Pandeiro-ClosedAcc.c
0741	Pandeiro-SideEdge
0742	Pandeiro-Glissando a
0743	Pandeiro-Glissando b
0744	Tambourine 1-Push
0745	Tambourine 1-Pull
0746	Tambourine 1-Accent
0747	Tambourine 2-Push
0748	Tambourine 2-Pull a
0749	Tambourine 2-Pull b
0750	Tambourine 2-Accent
0751	Tri. & Tamb. a
0752	Tri. & Tamb. b
0753	Tri. & Tamb. c
0754	Tri. & Tamb. d
0755	Tri. & Tamb. e
0756	Tri. & Tamb. f
0757	Tri. & Tamb. g
0758	Tri. & Tamb. h
0759	Tri. & Tamb. i
0760	Tri. & Tamb. j
0761	Tri. & Tamb. k
0762	Tri. & Tamb. l
0763	Tri. & Tamb. m
0764	Cabasa 1 L a-Down
0765	Cabasa 1 L a-Up
0766	Cabasa 1 L b-Down
0767	Cabasa 1 L b-Up
0768	Cabasa 1 S a-Down
0769	Cabasa 1 S a-Up
0770	Cabasa 1 S b-Down
0771	Cabasa 1 S b-Up
0772	Cabasa 2 L-Stack b
0773	Cabasa 2 L-Stack a
0774	Cabasa 2 L-Roll
0775	Cabasa 2 S-Stack a

#	Name
0776	Cabasa 2 S-Stack b
0777	Cabasa 2 S-Roll
0778	Cabasa WS
0779	Shaker 1-Push a
0780	Shaker 1-Push b
0781	Shaker 1-Pull a
0782	Shaker 1-Pull b
0783	Shaker 1-Accent a
0784	Shaker 1-Accent b
0785	Shaker 1-Slow a
0786	Shaker 1-Slow b
0787	Shaker 1-Slow c
0788	Shaker 1-Roll a
0789	Shaker 1-Roll b
0790	Shaker 1-Roll c
0791	Shaker 2 a
0792	Shaker 2 b-Push
0793	Shaker 2 b-Pull
0794	Shaker 2 c-Push
0795	Shaker 2 d-Push
0796	Shaker 2 d-Pull
0797	Shaker 2 e-Push
0798	Shaker 2 e-Pull
0799	Shaker 3-Push
0800	Shaker 3-Pull
0801	Shaker WS
0802	Agogo 1 Lo-Open
0803	Agogo 1 Hi-Open
0804	Agogo 2 Lo-Open
0805	Agogo 2 Hi-Open
0806	Agogo-Belltone
0807	Agogo WS
0808	Triangle 1 L-Open a
0809	Triangle 1 L-Open b
0810	Triangle 1 L-Mute a
0811	Triangle 1 L-Mute b
0812	Triangle 1 L-Mute c
0813	Triangle 1 S Lp a
0814	Triangle 1 S Lp b
0815	Triangle 1 S-Roll a
0816	Triangle 1 S-Roll b
0817	Triangle 1 S-Roll c
0818	Triangle 1 S-Mute a
0819	Triangle 1 S-Mute b
0820	Triangle 2-Open Lp
0821	Triangle 2-Closed a
0822	Triangle 2-Closed b
0823	Triangle 2-Closed c
0824	Triangle 2-Mute a
0825	Triangle 2-Mute b
0826	Triangle 3 Lp
0827	Triangle WS-Open
0828	Triangle WS-Closed
0829	Recoreco-Long
0830	Recoreco-Short a
0831	Recoreco-Short b
0832	Recoreco-Short c
0833	Cuica Lo a
0834	Cuica Lo b
0835	Cuica Lo c
0836	Cuica Hi a
0837	Cuica Hi b
0838	Cuica Hi c
0839	Whistle 1
0840	Whistle 2
0841	Whistle 3
0842	Whistle 4-Long
0843	Whistle 4-Short
0844	Whistle 5
0845	Dumbek-a
0846	Djembe L-Basstone a
0847	Djembe L-Basstone b
0848	Djembe L-Open
0849	Djembe L-OpenSlap
0850	Djembe L-ClosedSlap
0851	Djembe S-Basstone c
0852	Djembe S-ClosedSlap c
0853	Udo-HalfOpen a

#	Name
0854	Udo-HalfOpen b
0855	Udo-HalfOpen c
0856	Udo-Open d
0857	Udo-Bell a
0858	Udo-Bell b
0859	Log Drum
0860	Caxixi 1 a
0861	Caxixi 1 b
0862	Caxixi 1 c
0863	Caxixi 2 a
0864	Caxixi 2 b
0865	Caxixi 3 a
0866	Caxixi 3 b
0867	Caxixi 3 c
0868	Tabla-Tin a
0869	Tabla-Tin b
0870	Tabla-Na a
0871	Tabla-Na b
0872	Tabla-Na c
0873	Tabla-Tun a
0874	Tabla-Tun b
0875	Tabla-Tele a
0876	Tabla-Tele b
0877	Tabla-Tele c
0878	Tabla-Ti a
0879	Tabla-Ti b
0880	Tabla-Ti c
0881	Tabla-Tera
0882	Baya-GheUp a
0883	Baya-GheUp b
0884	Baya-KaPalm
0885	Baya-KaToe a
0886	Baya-KaToe b
0887	Baya-Nail a
0888	Baya-Nail c
0889	Baya-Ge
0890	Baya-Up
0891	Baya-UpDown a
0892	Baya-UpDown b
0893	Taiko-Open
0894	Taiko-Rim
0895	Tsuzumi
0896	Wood Block WS
0897	Wood Block 1 b
0898	Wood Block 2 a
0899	Wood Block 2 b
0900	Wood Block 3 a
0901	Wood Block 3 b
0902	Wood Block 4 a
0903	Wood Block 4 b
0904	Wood Block 5 a
0905	Wood Block 5 b
0906	Wood Block 6 a
0907	Castanet 1-a
0908	Castanet 1-b
0909	Castanet 1-c
0910	Castanet 2
0911	Timpani mf
0912	Timpani ff
0913	Timpani-Roll Lo mf
0914	Timpani-Roll Lo ff
0915	Timpani-Roll Hi mf
0916	Timpani-Roll Hi ff
0917	Chinese Gong
0918	Finger Cymbal
0919	Rap Sleigh Bell
0920	Sleigh Bell
0921	Bell Tree-Slow
0922	Bell Tree-Fast
0923	Marc Tree
0924	Rainstick 1 a
0925	Rainstick 1 b
0926	Rainstick 2
0927	Rainstick-OneShot Down
0928	Rainstick-OneShot Up
0929	Bull Roar
0930	Jew's Harp 01
0931	Jew's Harp 02

#	Name	#	Name	#	Name	#	Name
0932	Jew's Harp 03	1010	Perc-Dance 11	1088	Industry Hit 08	1166	"puh"
0933	Jew's Harp 04	1011	Perc-WS 08 (SynTom)	1089	Thonk	1167	"sss"
0934	Jew's Harp 05	1012	88-Tom	1090	Industry Hit 09	1168	"inn"
0935	Jew's Harp 06	1013	88-Conga	1091	Noise Vibe	1169	"Tuunn"
0936	Jew's Harp 07	1014	Perc-WS 09 (SynthCow)	1092	Industry Hit 10	1170	"Pehh"
0937	Jew's Harp 08	1015	88-Cowbell	1093	Hammer	1171	"Thuum"
0938	Jew's Harp 09	1016	88-Maraca	1094	Industry Hit 11	1172	"Kaahh"
0939	Jew's Harp 10	1017	FM E.Tom	1095	Industry Hit 12	1173	"Tehh"
0940	Jew's Harp 11	1018	Real E.Tom	1096	Industry Hit 13	1174	"Pan"
0941	Jew's Harp 12	1019	Zap 1	1097	Industry Hit 14	1175	"Ti"
0942	Jew's Harp 13	1020	Zap 2	1098	PianoHit	1176	"Cap"
0943	WD-Native Drum 1	1021	Down Zap	1099	Spike	1177	"Chhi"
0944	WD-Native Drum 2	1022	Up Zap	1100	Industry Hit 15	1178	"Tinn"
0945	WD-Native Drum 3	1023	Orch Hit 1	1101	Industry Hit 16	1179	"Haaa"
0946	WD-Native Drum 4	1024	Orch Hit 2	1102	Industry Hit 17	1180	Vocoder Voice 01
0947	WD-Big Hand 1	1025	Orch Hit 3	1103	Industry Hit 18	1181	Vocoder Voice 02
0948	WD-Big Hand 2	1026	Orch Hit 4	1104	Industry Hit 19	1182	Vocoder Voice 03
0949	WD-Big Hand 3	1027	Orch Hit 5	1105	Industry Hit 20	1183	Vocoder Voice 04
0950	WD-Bongo	1028	Orch Hit 6	1106	Industry Hit 21	1184	Vocoder Voice 05
0951	WD-Brazilia 1	1029	Orch Hit 7	1107	Industry Hit 22	1185	Vocoder Voice 06
0952	WD-Brazilia 2	1030	Impact Hit	1108	Industry Hit 23	1186	Vocoder Voice 07
0953	WD-Ethno SD 1	1031	Band Hit 1	1109	Industry Hit 24	1187	Vocoder Voice 08
0954	WD-Ethno SD 2	1032	Band Hit 2	1110	Industry Hit 25	1188	Vocoder Voice 09
0955	WD-Ethno SD 3	1033	Big Hit	1111	Industry Hit 26	1189	Vocoder Voice 10
0956	WD-Ethno SD 4	1034	Jazz Hit 1	1112	Industry Loop 1	1190	Vocoder Voice 11
0957	WD-Ethno SD 5	1035	Jazz Hit 2	1113	Industry Loop 2	1191	Vocoder Voice 12
0958	WD-Ethno SD 6	1036	Jazz Hit 3	1114	Industry Loop 3	1192	Vocoder Voice 13
0959	WD-Gothic 1	1037	Brass Fall 1	1115	Voice 01	1193	Vocoder Voice 14
0960	WD-Gothic 2	1038	Brass Fall 2	1116	Voice 02	1194	Vocoder Voice 15
0961	WD-Gothic 3	1039	Brass Fall 3	1117	Voice 03	1195	Vocoder Voice 16
0962	WD-Gothic 4	1040	Brass Fall 4	1118	Voice 04	1196	Vocoder Voice 17
0963	WD-Kangaroo 1	1041	Dance Hit	1119	Voice 05	1197	Vocoder Voice 18
0964	WD-Kangaroo 2	1042	VibeChord	1120	Voice 06	1198	Vocoder Voice 19
0965	WD-Kangaroo 3	1043	W.E.P.Chord	1121	Voice 07	1199	Vocoder Voice 20
0966	WD-Kangaroo 4	1044	Synth Hit Loop 1	1122	Voice 08	1200	CompuVoice-BEEP
0967	WD-Kangaroo 5	1045	Synth Hit Loop 2	1123	Voice 09	1201	CompuVoicd-Noise
0968	WD-Kangaroo 6	1046	Synth Hit Loop 3	1124	Voice 10	1202	CompuVoicd-Chi
0969	WD-Kangaroo 7	1047	Synth Hit Loop 4	1125	Voice 11	1203	CompuVoicd-Do it
0970	WD-Kangaroo 8	1048	Synth Hit Loop 5	1126	Voice 12	1204	PC Voice 1-01 "Two"
0971	WD-Snake Drum 1	1049	Synth Hit Loop 6	1127	Voice 13	1205	PC Voice 1-02 "Five"
0972	WD-Snake Drum 2	1050	Synth Hit Decay 1	1128	Voice 14	1206	PC Voice 1-03
0973	Perc-WS 01 (Pop)	1051	Synth Hit Decay 2	1129	Voice 15	1207	PC Voice 1-04
0974	Perc-Dance 01	1052	Synth Hit Decay 3	1130	Voice 16	1208	PC Voice 1-05
0975	Perc-Dance 02	1053	Synth Hit Decay 4	1131	Voice 17	1209	You
0976	Perc-WS 02 (Vox Box)	1054	Vinyl Hit 1	1132	Voice 18	1210	Stadium
0977	88-Claps	1055	Vinyl Hit 2	1133	Voice 19	1211	Applause
0978	Dance Claps 1	1056	DJ Vinyl Sliced 01	1134	Voice 20	1212	Scream
0979	Dance Claps 2	1057	DJ Vinyl Sliced 02	1135	Voice 21	1213	Laughing
0980	Dance Claps 3	1058	DJ Vinyl Sliced 03	1136	Voice 22	1214	Footstep 1
0981	Dance Claps 4	1059	DJ Vinyl Sliced 04	1137	Voice 23	1215	Footstep 2
0982	Dance Claps 5	1060	DJ Vinyl Sliced 05	1138	Voice 24	1216	Click 1
0983	Dance Claps 6	1061	DJ Vinyl Sliced 06	1139	Voice 25	1217	Click 2
0984	Dance Claps 7	1062	DJ Vinyl Sliced 07	1140	Voice 26	1218	Bird 1
0985	Dance Conga 1 Lo-Open	1063	DJ Vinyl Sliced 08	1141	Voice 27 "Ha"	1219	Bird 2
0986	Dance Conga 1 Hi-Open	1064	DJ Vinyl Sliced 09	1142	Voice 28 "Funky"	1220	Dog
0987	Dance Conga 1 Hi-Muffled	1065	DJ Vinyl Sliced 10	1143	Voice 29 "Yeah"	1221	Gallop
0988	Dance Caoga 2 Open a	1066	DJ Vinyl Sliced 11	1144	Voice 30 "Bang"	1222	Crickets 1
0989	Dance Conga 2 Open b	1067	DJ Vinyl Sliced 12	1145	Voice 31 "Ahhh"	1223	Crickets 2
0990	Dance Conga 2 Slap a	1068	DJ Vinyl Sliced 13	1146	Voice 32 "Oooh"	1224	Heart Beat
0991	Perc-WS 03 (Claves)	1069	DJ Vinyl Sliced 14	1147	Voice 33 "Hrrrr"	1225	Punch
0992	Perc-WS 04 (Wood Hit)	1070	DJ Vinyl Sliced 15	1148	Voice 34 "Trrrra"	1226	Tribe
0993	Perc-WS 05 (Fingers)	1071	DJ Vinyl Sliced 16	1149	Voice 35 "Aow"	1227	Sword 1
0994	Perc-Dance 03-Closed	1072	DJ Vinyl Sliced 17	1150	Voice 36 "TurnAround"	1228	Sword 2
0995	Perc-Dance 03-Open	1073	DJ Vinyl Sliced 18	1151	Voice 37 "Well"	1229	Glass Crash
0996	Perc-Dance 04-Closed	1074	DJ-Scratch 1	1152	Voice 38 "Turnin'Up"	1230	Ice Drop
0997	Perc-Dance 04-Open	1075	DJ-Scratch 2	1153	Voice 39 "Uuh"	1231	Door Creak
0998	Perc-Dance 05	1076	DJ-BD Rub	1154	Voice 40 "Com'On"	1232	Door Slam 1
0999	Perc-Dance 06 a	1077	DJ-SD Rub	1155	Voice 41 "Yah"	1233	Car Engine
1000	Perc-Dance 06 b	1078	DJ-Record Stop	1156	Voice 42 "Oohh"	1234	Car Stop
1001	Perc-Dance 07 a	1079	DJ-Reverse	1157	Voice 43 "Go"	1235	Car Pass
1002	Perc-Dance 07 b	1080	Industry Hit 01	1158	Voice 44	1236	Car Crash
1003	Perc-Dance 08	1081	Industry Hit 02	1159	Voice 45	1237	Train
1004	Perc-WS 06 (Tick Hit)	1082	Industry Hit 03	1160	Voice 46	1238	Railroad Crossing
1005	Perc-WS 07 (SynthRim)	1083	Industry Hit 04	1161	Voice 47	1239	Railroad Crossing Lp
1006	Perc-Dance 09 a	1084	Pot Hit	1162	Voice 48	1240	Helicopter
1007	Perc-Dance 09 b	1085	Industry Hit 05	1163	"ch"	1241	Fireworks
1008	Perc-Dance 09 c	1086	Industry Hit 06	1164	"hhh"	1242	Gun Shot
1009	Perc-Dance 10	1087	Industry Hit 07	1165	"kkk"	1243	Rifle Shot

Voice Name List

#	Name
1244	Machine Gun
1245	Laser Gun
1246	Cannon 1
1247	Cannon 2
1248	Cannon 3
1249	Explosion
1250	Thunder
1251	Wind
1252	Stream
1253	Bubble
1254	ChurchBell
1255	Old Telephone-Ring
1256	Telephone-Call
1257	Telephone-Ring
1258	Telephone-Busy
1259	Swish Terra
1260	Noise 2
1261	Cricket Spectrum
1262	Noise-White
1263	Noise-FM Mod
1264	Coin Thwack
1265	Meditation Tree
1266	G-BALL
1267	Gamelan
1268	Ac.Gtr Chord Hit
1269	Ac.Gtr Ghost Hit 1
1270	El.Gtr Chord Hit 1
1271	El.Gtr-Glissando Down 1
1272	El.Gtr-Glissando Down 2
1273	El.Gtr-Glissando Down 3
1274	El.Gtr-Glissando Down 4
1275	El.Gtr-Glissando Up 1
1276	El.Gtr-Glissando Up 2
1277	El.Gtr-Glissando Up 3
1278	Vox-Wah Gtr 1
1279	Vox-Wah Gtr 2
1280	Vox-Wah Gtr 3
1281	Vox-Wah Gtr 4
1282	El.Gtr-ChordGhost Down 1
1283	El.Gtr-ChordGhost Down 2
1284	El.Gtr-ChordGhost Down 3
1285	El.Gtr-ChordGhost Down 4
1286	El.Gtr-ChordGhost Down 5
1287	El.Gtr-ChordGhost Down 6
1288	El.Gtr-ChordGhost Up 1
1289	El.Gtr-ChordGhost Up 2
1290	El.Gtr-ChordGhost Up 3
1291	El.Gtr-ChordGhost Up 4
1292	El.Gtr-ChordGhost Up 5
1293	El.Gtr-ChordGhost Up 6
1294	El.Gtr-ChordGhost Up 7
1295	GtCutNois 1
1296	GtCutNois 2
1297	El.Gtr-Dead Note 1
1298	El.Gtr-Dead Note 2
1299	El.Guitar-Fret Noise 1
1300	El.Guitar-Fret Noise 2
1301	El.Guitar-Fret Noise 3
1302	El.Guitar-Fret Noise 4
1303	El.Guitar-Fret Noise 5
1304	El.Guitar PowerChord
1305	El.Gtr-DistSlideDown 1
1306	El.Gtr-DistSlideDown 2
1307	El.Gtr-DistScratchDown
1308	El.Gtr-DistMuted a
1309	El.Gtr-DistMuted b
1310	El.Gtr-DistMuted c
1311	El.Gtr-DistGhost1 a
1312	El.Gtr-DistGhost1 b
1313	El.Gtr-DistGhost2 a
1314	El.Gtr-DistGhost2 b
1315	El.Gtr-DistGhost 3 a
1316	El.Gtr-DistGhost 3 b
1317	El.Gtr-DistGhost 4 a
1318	El.Gtr-DistGhost 4 b
1319	El.Gtr-DistGhost 5 a
1320	El.Gtr-DistGhost 5 b
1321	El.Gtr-DistFretNoise 1 a

#	Name
1322	El.Gtr-DistFretNoise 1 b
1323	El.Gtr-DistFretNoise 2 a
1324	El.Gtr-DistFretNoise 2 b
1325	El.Gtr-DistFretNoise 2 c
1326	El.Gtr-DistFretNoise 2 d
1327	El.Gtr-Amp.Noise
1328	Ac.Bs-Slide Up&Down 1
1329	Ac.Bs-Slide Up&Down 2
1330	Ac.Bs-Slide Up&Down 3
1331	Ac.Bs-Slide Down 1
1332	Ac.Bs-Slide Down 2
1333	Ac.Bs-Slide Down 3
1334	Ac.Bs-Slide Down 4
1335	Ac.Bs-Slide Up
1336	Ac.Bs-BumpThud 1
1337	Ac.Bs-BumpThud 2
1338	Ac.Bs-DeadNote 1
1339	Ac.Bs-DeadNote 2
1340	Ac.Bs-DeadPizz 1
1341	Ac.Bs-DeadPizz 2
1342	Ac.Bs-DeadPizz 3
1343	Ac.Bs-SlapTouch 1
1344	Ac.Bs-SlapTouch 2
1345	Ac.Bs-SlapTouch 3
1346	Ac.Bs-SlapTouch 4
1347	Ac.Bs-SlapTouch 5
1348	Ac.Bs-String Slap
1349	El.Bs-Slide Up&Down 1
1350	El.Bs-Slide Up&Down 2
1351	El.Bs-Slide Down 1
1352	El.Bs-Slide Down 2
1353	El.Bs-Slide Down 3
1354	El.Bs-Slide Down 4
1355	El.Bs-SlapGhostSlide 1
1356	El.Bs-SlapGhostSlide 2
1357	El.Bs-SlapGhostSlide 3
1358	El.Bs-Fret Noise 1
1359	El.Bs-Fret Noise 2
1360	El.Bs-Fret Noise 3
1361	El.Bs-Fret Noise 4
1362	El.Bs-SlapGhostNote 01
1363	El.Bs-SlapGhostNote 02
1364	El.Bs-SlapGhostNote 03
1365	El.Bs-SlapGhostNote 04
1366	El.Bs-SlapGhostNote 05
1367	El.Bs-SlapGhostNote 06
1368	El.Bs-SlapGhostNote 07
1369	El.Bs-SlapGhostNote 08
1370	El.Bs-SlapGhostNote 09
1371	El.Bs-SlapGhostNote 10
1372	El.Bs-SlapGhostNote 11
1373	HarpGliss
1374	Berimbau-Wah-La
1375	Berimbau-Wah-Hi
1376	Berimbau-HO
1377	Berimbau-PO
1378	Berimbau-Phrase1 Loop
1379	Berimbau-Phrase1-1
1380	Berimbau-Phrase1-2
1381	Berimbau-Phrase1-3
1382	Berimbau-Phrase1-4
1383	Berimbau-Phrase2 Loop
1384	Berimbau-Phrase2-1
1385	Berimbau-Phrase2-2
1386	Berimbau-Phrase2-3
1387	Berimbau-Phrase2-4

EXs1 mono

#	Name
0000	BD-01-amb mp -L
0001	BD-01-amb mp -R
0002	BD-01-amb mf -L
0003	BD-01-amb mf -R
0004	BD-01-amb f -L
0005	BD-01-amb f -R
0006	BD-01-amb ff -L
0007	BD-01-amb ff -R
0008	BD-02-amb mp -L
0009	BD-02-amb mp -R
0010	BD-02-amb mf -L
0011	BD-02-amb mf -R
0012	BD-02-amb f -L
0013	BD-02-amb f -R
0014	BD-02-amb ff -L
0015	BD-02-amb ff -R
0016	BD-03-amb mp -L
0017	BD-03-amb mp -R
0018	BD-03-amb mf -L
0019	BD-03-amb mf -R
0020	BD-03-amb f -L
0021	BD-03-amb f -R
0022	BD-03-amb ff -L
0023	BD-03-amb ff -R
0024	BD-04-amb mp -L
0025	BD-04-amb mp -R
0026	BD-04-amb mf -L
0027	BD-04-amb mf -R
0028	BD-04-amb f -L
0029	BD-04-amb f -R
0030	BD-04-amb ff -L
0031	BD-04-amb ff -R
0032	BD-05-amb mp -L
0033	BD-05-amb mp -R
0034	BD-05-amb mf -L
0035	BD-05-amb mf -R
0036	BD-05-amb f -L
0037	BD-05-amb f -R
0038	BD-05-amb ff -L
0039	BD-05-amb ff -R
0040	BD-06-dry mp -L
0041	BD-06-dry mp -R
0042	BD-06-dry mf -L
0043	BD-06-dry mf -R
0044	BD-06-dry f -L
0045	BD-06-dry f -R
0046	BD-06-dry ff -L
0047	BD-06-dry ff -R
0048	BD-06-amb mp -L
0049	BD-06-amb mp -R
0050	BD-06-amb mf -L
0051	BD-06-amb mf -R
0052	BD-06-amb f -L
0053	BD-06-amb f -R
0054	BD-06-amb ff -L
0055	BD-06-amb ff -R
0056	BD-07-dry mp -L
0057	BD-07-dry mp -R
0058	BD-07-dry mf -L
0059	BD-07-dry mf -R
0060	BD-07-dry f -L
0061	BD-07-dry f -R
0062	BD-07-dry ff -L
0063	BD-07-dry ff -R
0064	BD-08-dry mp -L
0065	BD-08-dry mp -R
0066	BD-08-dry mf -L
0067	BD-08-dry mf -R
0068	BD-08-dry f -L
0069	BD-08-dry f -R
0070	BD-08-dry ff -L
0071	BD-08-dry ff -R
0072	BD-08-amb mp -L
0073	BD-08-amb mp -R
0074	BD-08-amb mf -L
0075	BD-08-amb mf -R
0076	BD-08-amb f -L

#	Name
0077	BD-08-amb f -R
0078	BD-08-amb ff -L
0079	BD-08-amb ff -R
0080	BD-09-dry mp -L
0081	BD-09-dry mp -R
0082	BD-09-dry mf -L
0083	BD-09-dry mf -R
0084	BD-09-dry f -L
0085	BD-09-dry f -R
0086	BD-09-dry ff -L
0087	BD-09-dry ff -R
0088	BD-PhatJaz
0089	BD-Dance 56 -L
0090	BD-Dance 56 -R
0091	SD-01-dry mp -L
0092	SD-01-dry mp -R
0093	SD-01-dry mf -L
0094	SD-01-dry mf -R
0095	SD-01-dry f -L
0096	SD-01-dry f -R
0097	SD-01-dry ff -L
0098	SD-01-dry ff -R
0099	SD-02-dry mp -L
0100	SD-02-dry mp -R
0101	SD-02-dry mf -L
0102	SD-02-dry mf -R
0103	SD-02-dry f -L
0104	SD-02-dry f -R
0105	SD-02-dry ff -L
0106	SD-02-dry ff -R
0107	SD-03-dry mp -L
0108	SD-03-dry mp -R
0109	SD-03-dry mf -L
0110	SD-03-dry mf -R
0111	SD-03-dry f -L
0112	SD-03-dry f -R
0113	SD-03-dry ff -L
0114	SD-03-dry ff -R
0115	SD-04-amb p -L
0116	SD-04-amb p -R
0117	SD-04-amb mp -L
0118	SD-04-amb mp -R
0119	SD-04-amb mf -L
0120	SD-04-amb mf -R
0121	SD-04-amb f -L
0122	SD-04-amb f -R
0123	SD-04-amb ff -L
0124	SD-04-amb ff -R
0125	SD-05-dry mp -L
0126	SD-05-dry mp -R
0127	SD-05-dry mf -L
0128	SD-05-dry mf -R
0129	SD-05-dry f -L
0130	SD-05-dry f -R
0131	SD-05-dry ff -L
0132	SD-05-dry ff -R
0133	SD-06-dry p -L
0134	SD-06-dry p -R
0135	SD-06-dry mp -L
0136	SD-06-dry mp -R
0137	SD-06-dry mf -L
0138	SD-06-dry mf -R
0139	SD-06-dry f -L
0140	SD-06-dry f -R
0141	SD-06-dry ff -L
0142	SD-06-dry ff -R
0143	SD-07-amb mp -L
0144	SD-07-amb mp -R
0145	SD-07-amb mf -L
0146	SD-07-amb mf -R
0147	SD-07-amb f -L
0148	SD-07-amb f -R
0149	SD-07-amb ff -L
0150	SD-07-amb ff -R
0151	SD-08-dry mp -L
0152	SD-08-dry mp -R
0153	SD-08-dry mf -L
0154	SD-08-dry mf -R

#	Name
0155	SD-08-dry f-L
0156	SD-08-dry f-R
0157	SD-08-dry ff-L
0158	SD-08-dry ff-R
0159	SD-09-dry mp-L
0160	SD-09-dry mp-R
0161	SD-09-dry mf-L
0162	SD-09-dry mf-R
0163	SD-09-dry f-L
0164	SD-09-dry f-R
0165	SD-09-dry ff-L
0166	SD-09-dry ff-R
0167	SD-09-amb mp-L
0168	SD-09-amb mp-R
0169	SD-09-amb mf-L
0170	SD-09-amb mf-R
0171	SD-09-amb f-L
0172	SD-09-amb f-R
0173	SD-09-amb ff-L
0174	SD-09-amb ff-R
0175	SD-10-dry mp-L
0176	SD-10-dry mp-R
0177	SD-10-dry mf-L
0178	SD-10-dry mf-R
0179	SD-10-dry f-L
0180	SD-10-dry f-R
0181	SD-10-dry ff-L
0182	SD-10-dry ff-R
0183	SD-11-dry mp-L
0184	SD-11-dry mp-R
0185	SD-11-dry mf-L
0186	SD-11-dry mf-R
0187	SD-11-dry f-L
0188	SD-11-dry f-R
0189	SD-11-dry ff-L
0190	SD-11-dry ff-R
0191	SD-11-amb mf-L
0192	SD-11-amb mf-R
0193	SD-11-amb ff-L
0194	SD-11-amb ff-R
0195	SD-12-dry p-L
0196	SD-12-dry p-R
0197	SD-12-dry mp-L
0198	SD-12-dry mp-R
0199	SD-12-dry mf-L
0200	SD-12-dry mf-R
0201	SD-12-dry f-L
0202	SD-12-dry f-R
0203	SD-12-dry ff-L
0204	SD-12-dry ff-R
0205	SD-12-dry fff-L
0206	SD-12-dry fff-R
0207	SD-12-amb mp-L
0208	SD-12-amb mp-R
0209	SD-12-amb mf-L
0210	SD-12-amb mf-R
0211	SD-12-amb f-L
0212	SD-12-amb f-R
0213	SD-12-amb ff-L
0214	SD-12-amb ff-R
0215	SD-13-dry mp-L
0216	SD-13-dry mp-R
0217	SD-13-dry mf-L
0218	SD-13-dry mf-R
0219	SD-13-dry f-L
0220	SD-13-dry f-R
0221	SD-13-dry ff-L
0222	SD-13-dry ff-R
0223	SD-14-dry mp-L
0224	SD-14-dry mp-R
0225	SD-14-dry mf-L
0226	SD-14-dry mf-R
0227	SD-14-dry f-L
0228	SD-14-dry f-R
0229	SD-14-dry ff-L
0230	SD-14-dry ff-R
0231	SD-15-dry mp-L
0232	SD-15-dry mp-R

#	Name
0233	SD-15-dry mf-L
0234	SD-15-dry mf-R
0235	SD-15-dry f-L
0236	SD-15-dry f-R
0237	SD-15-dry ff-L
0238	SD-15-dry ff-R
0239	SD-16-dry mp-L
0240	SD-16-dry mp-R
0241	SD-16-dry mf-L
0242	SD-16-dry mf-R
0243	SD-16-dry f-L
0244	SD-16-dry f-R
0245	SD-16-dry ff-L
0246	SD-16-dry ff-R
0247	SD-17-dry mp-L
0248	SD-17-dry mp-R
0249	SD-17-dry mf-L
0250	SD-17-dry mf-R
0251	SD-17-dry f-L
0252	SD-17-dry f-R
0253	SD-17-dry GhostRoll mf-L
0254	SD-17-dry GhostRoll mf-R
0255	SD-17-dry GhostRoll f-L
0256	SD-17-dry GhostRoll f-R
0257	SD-18-amb mp-L
0258	SD-18-amb mp-R
0259	SD-18-amb mf-L
0260	SD-18-amb mf-R
0261	SD-18-amb f-L
0262	SD-18-amb f-R
0263	SD-18-amb ff-L
0264	SD-18-amb ff-R
0265	SD-19-amb mp-L
0266	SD-19-amb mp-R
0267	SD-19-amb mf-L
0268	SD-19-amb mf-R
0269	SD-19-amb f-L
0270	SD-19-amb f-R
0271	SD-19-amb GhostRoll-L
0272	SD-19-amb GhostRoll-R
0273	SD-20-dry mp-L
0274	SD-20-dry mp-R
0275	SD-20-dry mf-L
0276	SD-20-dry mf-R
0277	SD-20-dry f-L
0278	SD-20-dry f-R
0279	SD-20-dry GhostRoll-L
0280	SD-20-dry GhostRoll-R
0281	SD-20-amb mp-L
0282	SD-20-amb mp-R
0283	SD-20-amb mf-L
0284	SD-20-amb mf-R
0285	SD-20-amb f-L
0286	SD-20-amb f-R
0287	SD-20-amb GhostRoll-L
0288	SD-20-amb GhostRoll-R
0289	SD-21-dry mp-L
0290	SD-21-dry mp-R
0291	SD-21-dry mf-L
0292	SD-21-dry mf-R
0293	SD-21-dry f-L
0294	SD-21-dry f-R
0295	SD-21-dry ff-L
0296	SD-21-dry ff-R
0297	SD-21-amb mp-L
0298	SD-21-amb mp-R
0299	SD-21-amb mf-L
0300	SD-21-amb mf-R
0301	SD-21-amb f-L
0302	SD-21-amb f-R
0303	SD-21-amb ff-L
0304	SD-21-amb ff-R
0305	SD-22-dry mp-L
0306	SD-22-dry mp-R
0307	SD-22-dry mf-L
0308	SD-22-dry mf-R
0309	SD-22-dry f-L
0310	SD-22-dry f-R

#	Name
0311	SD-22-dry GhostRoll-L
0312	SD-22-dry GhostRoll-R
0313	SD-22-amb mf-L
0314	SD-22-amb mf-R
0315	SD-23-dry mp-L
0316	SD-23-dry mp-R
0317	SD-23-dry mf-L
0318	SD-23-dry mf-R
0319	SD-23-dry f-L
0320	SD-23-dry f-R
0321	SD-23-dry GhostRoll-L
0322	SD-23-dry GhostRoll-R
0323	SD-24-dry mp-L
0324	SD-24-dry mp-R
0325	SD-24-dry mf-L
0326	SD-24-dry mf-R
0327	SD-24-dry f-L
0328	SD-24-dry f-R
0329	SD-24-dry ff-L
0330	SD-24-dry ff-R
0331	SD-24-dry GhostRoll-L
0332	SD-24-dry GhostRoll-R
0333	SD-25-dry Brush Tap mp-L
0334	SD-25-dry Brush Tap mp-R
0335	SD-25-dry Brush Tap mf-L
0336	SD-25-dry Brush Tap mf-R
0337	SD-25-dry Brush Tap f-L
0338	SD-25-dry Brush Tap f-R
0339	SD-25-dry Brush Tap ff-L
0340	SD-25-dry Brush Tap ff-R
0341	SD-26-dry Brush Tap mp-L
0342	SD-26-dry Brush Tap mp-R
0343	SD-26-dry Brush Tap mf-L
0344	SD-26-dry Brush Tap mf-R
0345	SD-26-dry Brush Tap f-L
0346	SD-26-dry Brush Tap f-R
0347	SD-26-dry BrushTriplet-L
0348	SD-26-dry BrushTriplet-R
0349	SD-26-dry BrushSwirl-a-L
0350	SD-26-dry BrushSwirl-a-R
0351	SD-26-dry BrushSwirl-b-L
0352	SD-26-dry BrushSwirl-b-R
0353	SD-Roll-Open 1 a-L
0354	SD-Roll-Open 1 a-R
0355	SD-Roll-Open 1 b-L
0356	SD-Roll-Open 1 b-R
0357	SD-Roll-Open 1 c-L
0358	SD-Roll-Open 1 c-R
0359	SD-Roll-Open 2-L
0360	SD-Roll-Open 2-R
0361	SD-Roll-Open 3 a-L
0362	SD-Roll-Open 3 a-R
0363	SD-Roll-Open 3 b-L
0364	SD-Roll-Open 3 b-R
0365	SD-Roll-Closed 1 a-L
0366	SD-Roll-Closed 1 a-R
0367	SD-Roll-Closed 1 b-L
0368	SD-Roll-Closed 1 b-R
0369	SD-Roll-Closed 2-L
0370	SD-Roll-Closed 2-R
0371	SD-Roll-Closed 3 a-L
0372	SD-Roll-Closed 3 a-R
0373	SD-Roll-Closed 3 b-L
0374	SD-Roll-Closed 3 b-R
0375	SD-Roll-Closed 4-L
0376	SD-Roll-Closed 4-R
0377	SD-Roll-Closed 5-L
0378	SD-Roll-Closed 5-R
0379	SD-Sidestick 1 mp-L
0380	SD-Sidestick 1 mp-R
0381	SD-Sidestick 1 mf-L
0382	SD-Sidestick 1 mf-R
0383	SD-Sidestick 1 f-L
0384	SD-Sidestick 1 f-R
0385	SD-Sidestick 2 mp-L
0386	SD-Sidestick 2 mp-R
0387	SD-Sidestick 2 mf-L
0388	SD-Sidestick 2 mf-R

#	Name
0389	SD-Sidestick 2 f-L
0390	SD-Sidestick 2 f-R
0391	SD-Sidestick 3 mf-L
0392	SD-Sidestick 3 mf-R
0393	SD-Sidestick 3 f-L
0394	SD-Sidestick 3 f-R
0395	SD-Sidestick 4 mf-L
0396	SD-Sidestick 4 mf-R
0397	SD-Sidestick 4 f-L
0398	SD-Sidestick 4 f-R
0399	SD-Dance 79-L
0400	SD-Dance 79-R
0401	Tom Basic Lo mp-L
0402	Tom Basic Lo mp-R
0403	Tom Basic Lo mf-L
0404	Tom Basic Lo mf-R
0405	Tom Basic Lo f-L
0406	Tom Basic Lo f-R
0407	Tom Basic Lo ff-L
0408	Tom Basic Lo ff-R
0409	Tom Basic MidLo mp-L
0410	Tom Basic MidLo mp-R
0411	Tom Basic MidLo mf-L
0412	Tom Basic MidLo mf-R
0413	Tom Basic MidLo f-L
0414	Tom Basic MidLo f-R
0415	Tom Basic MidLo ff-L
0416	Tom Basic MidLo ff-R
0417	Tom Basic MidHi mp-L
0418	Tom Basic MidHi mp-R
0419	Tom Basic MidHi mf-L
0420	Tom Basic MidHi mf-R
0421	Tom Basic MidHi f-L
0422	Tom Basic MidHi f-R
0423	Tom Basic MidHi ff-L
0424	Tom Basic MidHi ff-R
0425	Tom Basic Hi mp-L
0426	Tom Basic Hi mp-R
0427	Tom Basic Hi mf-L
0428	Tom Basic Hi mf-R
0429	Tom Basic Hi f-L
0430	Tom Basic Hi f-R
0431	Tom Basic Hi ff-L
0432	Tom Basic Hi ff-R
0433	Tom Soul mf-L
0434	Tom Soul mf-R
0435	Tom Soul f-L
0436	Tom Soul f-R
0437	Tom Vintage Lo mp-L
0438	Tom Vintage Lo mp-R
0439	Tom Vintage Lo mf-L
0440	Tom Vintage Lo mf-R
0441	Tom Vintage Lo f-L
0442	Tom Vintage Lo f-R
0443	Tom Vintage Lo ff-L
0444	Tom Vintage Lo ff-R
0445	Tom Vintage Mid mp-L
0446	Tom Vintage Mid mp-R
0447	Tom Vintage Mid mf-L
0448	Tom Vintage Mid mf-R
0449	Tom Vintage Mid f-L
0450	Tom Vintage Mid f-R
0451	Tom Vintage Mid ff-L
0452	Tom Vintage Mid ff-R
0453	Tom Vintage Hi mp-L
0454	Tom Vintage Hi mp-R
0455	Tom Vintage Hi mf-L
0456	Tom Vintage Hi mf-R
0457	Tom Vintage Hi f-L
0458	Tom Vintage Hi f-R
0459	Tom Vintage Hi ff-L
0460	Tom Vintage Hi ff-R
0461	Tom Rock1-dry Lo mp-L
0462	Tom Rock1-dry Lo mp-R
0463	Tom Rock1-dry Lo mf-L
0464	Tom Rock1-dry Lo mf-R
0465	Tom Rock1-dry Lo f-L
0466	Tom Rock1-dry Lo f-R

Voice Name List

#	Name	#	Name	#	Name	#	Name
0467	Tom Rock1-dry Lo ff-L	0545	Tom Brush1 Hi mp-L	0623	Cymbal Reverse 2-R	0701	Splash Cymbal 01 ff-R
0468	Tom Rock1-dry Lo ff-R	0546	Tom Brush1 Hi mp-R	0624	Ride Cymbal 01 mp-L	0702	Splash Cymbal 02 mp-L
0469	Tom Rock1-dry Mid mp-L	0547	Tom Brush1 Hi mf-L	0625	Ride Cymbal 01 mp-R	0703	Splash Cymbal 02 mp-R
0470	Tom Rock1-dry Mid mp-R	0548	Tom Brush1 Hi mf-R	0626	Ride Cymbal 01 mf-L	0704	Splash Cymbal 02 mf-L
0471	Tom Rock1-dry Mid mf-L	0549	Tom Brush1 Hi f-L	0627	Ride Cymbal 01 mf-R	0705	Splash Cymbal 02 mf-R
0472	Tom Rock1-dry Mid ff-L	0550	Tom Brush1 Hi f-R	0628	Ride Cymbal 01 f-L	0706	Splash Cymbal 02 f-L
0473	Tom Rock1-dry Mid f-L	0551	Tom Brush1 Hi ff-L	0629	Ride Cymbal 01 f-R	0707	Splash Cymbal 02 f-R
0474	Tom Rock1-dry Mid f-R	0552	Tom Brush1 Hi ff-R	0630	Ride Cymbal 01 ff-L	0708	Splash Cymbal 02 ff-L
0475	Tom Rock1-dry Mid ff-L	0553	Hi-Hat Basic 1-Open mp	0631	Ride Cymbal 01 ff-R	0709	Splash Cymbal 02 ff-R
0476	Tom Rock1-dry Mid ff-R	0554	Hi-Hat Basic 3-Closed ff	0632	Ride Cymbal 02 mp-L	0710	Splash Cymbal 03 mp-L
0477	Tom Rock1-dry Hi mp-L	0555	Hi-Hat Heavy 1-Closed mf	0633	Ride Cymbal 02 mp-R	0711	Splash Cymbal 03 mp-R
0478	Tom Rock1-dry Hi mp-R	0556	Hi-Hat Heavy 1-Closed ff	0634	Ride Cymbal 02 mf-L	0712	Splash Cymbal 03 mf-L
0479	Tom Rock1-dry Hi mf-L	0557	Hi-Hat Heavy 1-Open mf	0635	Ride Cymbal 02 mf-R	0713	Splash Cymbal 03 mf-R
0480	Tom Rock1-dry Hi mf-R	0558	Hi-Hat Brush-Closed ff	0636	Ride Cymbal 02 f-L	0714	Splash Cymbal 03 f-L
0481	Tom Rock1-dry Hi f-L	0559	Hi-Hat Brush-Pedal ff	0637	Ride Cymbal 02 f-R	0715	Splash Cymbal 03 f-R
0482	Tom Rock1-dry Hi f-R	0560	Hi-Hat Brush-Pedal f	0638	Ride Cymbal 03 mp-L	0716	Splash Cymbal 03 ff-L
0483	Tom Rock1-dry Hi ff-L	0561	Hi-Hat Dance 33	0639	Ride Cymbal 03 mp-R	0717	Splash Cymbal 03 ff-R
0484	Tom Rock1-dry Hi ff-R	0562	Crash Cymbal 01 mp-L	0640	Ride Cymbal 03 mf-L	0718	Hand Claps 2-a-L
0485	Tom Rock2-dry Lo mp-L	0563	Crash Cymbal 01 mp-R	0641	Ride Cymbal 03 mf-R	0719	Hand Claps 2-a-R
0486	Tom Rock2-dry Lo mp-R	0564	Crash Cymbal 01 mf-L	0642	Ride Cymbal 03 f-L	0720	Hand Claps 2-c-L
0487	Tom Rock2-dry Lo mf-L	0565	Crash Cymbal 01 mf-R	0643	Ride Cymbal 03 f-R	0721	Hand Claps 2-c-R
0488	Tom Rock2-dry Lo mf-R	0566	Crash Cymbal 01 f-L	0644	Ride Cymbal 03 ff-L	0722	Hand Claps 2-d-L
0489	Tom Rock2-dry Lo f-L	0567	Crash Cymbal 01 f-R	0645	Ride Cymbal 03 ff-R	0723	Hand Claps 2-d-R
0490	Tom Rock2-dry Lo f-R	0568	Crash Cymbal 01 ff-L	0646	Ride Cymbal 04 mp-L	0724	Hand Claps 2-e-L
0491	Tom Rock2-dry Lo ff-L	0569	Crash Cymbal 01 ff-R	0647	Ride Cymbal 04 mp-R	0725	Hand Claps 2-e-R
0492	Tom Rock2-dry Lo ff-R	0570	Crash Cymbal 02 mp-L	0648	Ride Cymbal 04 mf-L	0726	Hand Claps 2-f-L
0493	Tom Rock2-dry MidLo mp-L	0571	Crash Cymbal 02 mp-R	0649	Ride Cymbal 04 mf-R	0727	Hand Claps 2-f-R
0494	Tom Rock2-dry MidLo mp-R	0572	Crash Cymbal 02 mf-L	0650	Ride Cymbal 04 f-L	0728	Hand Claps 2-g-L
0495	Tom Rock2-dry MidLo mf-L	0573	Crash Cymbal 02 mf-R	0651	Ride Cymbal 04 f-R	0729	Hand Claps 2-g-R
0496	Tom Rock2-dry MidLo mf-R	0574	Crash Cymbal 02 f-L	0652	Ride Cymbal 04 ff-L	0730	Hand Claps 3-Gospel
0497	Tom Rock2-dry MidLo f-L	0575	Crash Cymbal 02 f-R	0653	Ride Cymbal 04 ff-R	0731	Tumba-Basstone-L
0498	Tom Rock2-dry MidLo f-R	0576	Crash Cymbal 02 ff-L	0654	Ride Cymbal 05 mp-L	0732	Tumba-Basstone-R
0499	Tom Rock2-dry MidLo ff-L	0577	Crash Cymbal 02 ff-R	0655	Ride Cymbal 05 mp-R	0733	Tumba-Open1 mf-L
0500	Tom Rock2-dry MidLo ff-R	0578	Crash Cymbal 03 mp-L	0656	Ride Cymbal 05 mf-L	0734	Tumba-Open1 mf-R
0501	Tom Rock2-dry MidHi mp-L	0579	Crash Cymbal 03 mp-R	0657	Ride Cymbal 05 mf-R	0735	Tumba-Open1 f-L
0502	Tom Rock2-dry MidHi mp-R	0580	Crash Cymbal 03 mf-L	0658	Ride Cymbal 05 f-L	0736	Tumba-Open1 f-R
0503	Tom Rock2-dry MidHi mf-L	0581	Crash Cymbal 03 mf-R	0659	Ride Cymbal 05 f-R	0737	Tumba-Open2 mf-L
0504	Tom Rock2-dry MidHi mf-R	0582	Crash Cymbal 03 f-L	0660	Ride Cymbal 05 ff-L	0738	Tumba-Open2 mf-R
0505	Tom Rock2-dry MidHi f-L	0583	Crash Cymbal 03 f-R	0661	Ride Cymbal 05 ff-R	0739	Tumba-Open2 f-L
0506	Tom Rock2-dry MidHi f-R	0584	Crash Cymbal 03 ff-L	0662	Ride Cymbal 06 mp-L	0740	Tumba-Open2 f-R
0507	Tom Rock2-dry MidHi ff-L	0585	Crash Cymbal 03 ff-R	0663	Ride Cymbal 06 mp-R	0741	Tumba-OpenFlam-L
0508	Tom Rock2-dry MidHi ff-R	0586	Crash Cymbal 04 mp-L	0664	Ride Cymbal 06 mf-L	0742	Tumba-OpenFlam-R
0509	Tom Rock2-dry Hi mp-L	0587	Crash Cymbal 04 mp-R	0665	Ride Cymbal 06 mf-R	0743	Tumba-Glissando-L
0510	Tom Rock2-dry Hi mp-R	0588	Crash Cymbal 04 mf-L	0666	Ride Cymbal 06 f-L	0744	Tumba-Glissando-R
0511	Tom Rock2-dry Hi mf-L	0589	Crash Cymbal 04 mf-R	0667	Ride Cymbal 06 f-R	0745	Tumba-OpenSlapFlam mf-L
0512	Tom Rock2-dry Hi mf-R	0590	Crash Cymbal 04 f-L	0668	Ride Cymbal 07 mp-L	0746	Tumba-OpenSlapFlam mf-R
0513	Tom Rock2-dry Hi f-L	0591	Crash Cymbal 04 f-R	0669	Ride Cymbal 07 mp-R	0747	Tumba-OpenSlapFlam f-L
0514	Tom Rock2-dry Hi f-R	0592	Crash Cymbal 04 ff-L	0670	Ride Cymbal 07 mf-L	0748	Tumba-OpenSlapFlam f-R
0515	Tom Rock2-dry Hi ff-L	0593	Crash Cymbal 04 ff-R	0671	Ride Cymbal 07 mf-R	0749	Tumba-Muffled-L
0516	Tom Rock2-dry Hi ff-R	0594	Crash Cymbal 05 mp-L	0672	Ride Cymbal 07 f-L	0750	Tumba-Muffled-R
0517	Tom Rock1-amb Lo-L	0595	Crash Cymbal 05 mp-R	0673	Ride Cymbal 07 f-R	0751	Conga Lo-Basstone-L
0518	Tom Rock1-amb Lo-R	0596	Crash Cymbal 05 mf-L	0674	Ride Cymbal 07 ff-L	0752	Conga Lo-Basstone-R
0519	Tom Rock1-amb Mid-L	0597	Crash Cymbal 05 mf-R	0675	Ride Cymbal 07 ff-R	0753	Conga Lo-Open mf-L
0520	Tom Rock1-amb Mid-R	0598	Crash Cymbal 05 f-L	0676	Ride Cymbal 08-Cup mf-L	0754	Conga Lo-Open mf-R
0521	Tom Rock1-amb Hi-L	0599	Crash Cymbal 05 f-R	0677	Ride Cymbal 08-Cup mf-R	0755	Conga Lo-Open f-L
0522	Tom Rock1-amb Hi-R	0600	Crash Cymbal 05 ff-L	0678	Ride Cymbal 08-Cup f-L	0756	Conga Lo-Open f-R
0523	Tom Rock2-amb Lo-L	0601	Crash Cymbal 05 ff-R	0679	Ride Cymbal 08-Cup f-R	0757	Conga Lo-OpenSlap-L
0524	Tom Rock2-amb Lo-R	0602	Crash Cymbal 06 mp-L	0680	Ride Cymbal 09 mp-L	0758	Conga Lo-OpenSlap-R
0525	Tom Rock2-amb MidLo-L	0603	Crash Cymbal 06 mp-R	0681	Ride Cymbal 09 mp-R	0759	Conga Lo-OpenSlapFlam-L
0526	Tom Rock2-amb MidLo-R	0604	Crash Cymbal 06 mf-L	0682	Ride Cymbal 09 mf-L	0760	Conga Lo-OpenSlapFlam-R
0527	Tom Rock2-amb Hi-L	0605	Crash Cymbal 06 mf-R	0683	Ride Cymbal 09 mf-R	0761	Conga Lo-Glissando-L
0528	Tom Rock2-amb Hi-R	0606	Crash Cymbal 06 f-L	0684	Ride Cymbal 09 f-L	0762	Conga Lo-Glissando-R
0529	Tom Brush1 Low mp-L	0607	Crash Cymbal 06 f-R	0685	Ride Cymbal 09 f-R	0763	Conga Lo-Muffled-L
0530	Tom Brush1 Low mp-R	0608	Crash Cymbal 06 ff-L	0686	China Cymbal 01-L	0764	Conga Lo-Muffled-R
0531	Tom Brush1 Low mf-L	0609	Crash Cymbal 06 ff-R	0687	China Cymbal 01-R	0765	Conga Lo-Closed-L
0532	Tom Brush1 Low mf-R	0610	Crash Cymbal 07 mp-L	0688	China Cymbal 02-L	0766	Conga Lo-Closed-R
0533	Tom Brush1 Low f-L	0611	Crash Cymbal 07 mp-R	0689	China Cymbal 02-R	0767	Conga Lo-ClosedSlap-L
0534	Tom Brush1 Low f-R	0612	Crash Cymbal 07 mf-L	0690	China Cymbal 03 mf-L	0768	Conga Lo-ClosedSlap-R
0535	Tom Brush1 Low ff-L	0613	Crash Cymbal 07 mf-R	0691	China Cymbal 03 mf-R	0769	Conga Lo-Heel-L
0536	Tom Brush1 Low ff-R	0614	Crash Cymbal 07 f-L	0692	China Cymbal 03 f-L	0770	Conga Lo-Heel-R
0537	Tom Brush1 Mid mp-L	0615	Crash Cymbal 07 f-R	0693	China Cymbal 03 f-R	0771	Conga Lo-Toe-L
0538	Tom Brush1 Mid mp-R	0616	Crash Cymbal 07 ff-L	0694	Splash Cymbal 01 mp-L	0772	Conga Lo-Toe-R
0539	Tom Brush1 Mid mf-L	0617	Crash Cymbal 07 ff-R	0695	Splash Cymbal 01 mp-R	0773	Conga Hi-Basstone mf-L
0540	Tom Brush1 Mid mf-R	0618	Crash Cymbal 08 mf-L	0696	Splash Cymbal 01 mf-L	0774	Conga Hi-Basstone mf-R
0541	Tom Brush1 Mid f-L	0619	Crash Cymbal 08 mf-R	0697	Splash Cymbal 01 mf-R	0775	Conga Hi-Basstone f-L
0542	Tom Brush1 Mid f-R	0620	Crash Cymbal 08 f-L	0698	Splash Cymbal 01 f-L	0776	Conga Hi-Basstone f-R
0543	Tom Brush1 Mid ff-L	0621	Crash Cymbal 08 f-R	0699	Splash Cymbal 01 f-R	0777	Conga Hi-Open mp-L
0544	Tom Brush1 Mid ff-R	0622	Cymbal Reverse 2-L	0700	Splash Cymbal 01 ff-L	0778	Conga Hi-Open mp-R

#	Name
0779	Conga Hi-Open mf -L
0780	Conga Hi-Open mf -R
0781	Conga Hi-Open f -L
0782	Conga Hi-Open f -R
0783	Conga Hi-OpenFlam -L
0784	Conga Hi-OpenFlam -R
0785	Conga Hi-OpenSlap -L
0786	Conga Hi-OpenSlap -R
0787	Conga Hi-OpenSlapFlam -L
0788	Conga Hi-OpenSlapFlam -R
0789	Conga Hi-CloseSlapFlam-L
0790	Conga Hi-CloseSlapFlam-R
0791	Conga Hi-Muffled -L
0792	Conga Hi-Muffled -R
0793	Conga Hi-Closed -L
0794	Conga Hi-Closed -R
0795	Conga Hi-ClosedSlap -L
0796	Conga Hi-ClosedSlap -R
0797	Conga Hi-Heel -L
0798	Conga Hi-Heel -R
0799	Conga Hi-Toe -L
0800	Conga Hi-Toe -R
0801	Quinto-Basstone -L
0802	Quinto-Basstone -R
0803	Quinto-Open mp -L
0804	Quinto-Open mp -R
0805	Quinto-Open f -L
0806	Quinto-Open f -R
0807	Quinto-OpenFlam -L
0808	Quinto-OpenFlam -R
0809	Quinto-OpenSlap -L
0810	Quinto-OpenSlap -R
0811	Quinto-Muffled -L
0812	Quinto-Muffled -R
0813	Quinto-Closed -L
0814	Quinto-Closed -R
0815	Quinto-ClosedSlap -L
0816	Quinto-ClosedSlap -R
0817	Quinto-CloseSlapFlam p-L
0818	Quinto-CloseSlapFlam p-R
0819	Quinto-CloseSlapFlam f-L
0820	Quinto-CloseSlapFlam f-R
0821	Quinto-Heel -L
0822	Quinto-Heel -R
0823	Quinto-Toe -L
0824	Quinto-Toe -R
0825	Bongo 1 Lo-Muffled mp -L
0826	Bongo 1 Lo-Muffled mp -R
0827	Bongo 1 Lo-Muffled f -L
0828	Bongo 1 Lo-Muffled f -R
0829	Bongo 1 Lo-Closed -L
0830	Bongo 1 Lo-Closed -R
0831	Bongo 1 Lo-Flam -L
0832	Bongo 1 Lo-Flam -R
0833	Bongo 1 Lo-MuffledFlam-L
0834	Bongo 1 Lo-MuffledFlam-R
0835	Bongo 1 Lo-Stick -L
0836	Bongo 1 Lo-Stick -R
0837	Bongo 1 Lo-SticEdge mf-L
0838	Bongo 1 Lo-SticEdge mf-R
0839	Bongo 1 Lo-SticEdge f-L
0840	Bongo 1 Lo-SticEdge f-R
0841	Bongo 1 Lo-StickBounce-L
0842	Bongo 1 Lo-StickBounce-R
0843	Bongo 1 Lo-Fingernail -L
0844	Bongo 1 Lo-Fingernail -R
0845	Bongo 1 Lo-Cuptone -L
0846	Bongo 1 Lo-Cuptone -R
0847	Bongo 1 Lo-Slap -L
0848	Bongo 1 Lo-Slap -R
0849	Bongo 1 Hi-Open mf -L
0850	Bongo 1 Hi-Open mf -R
0851	Bongo 1 Hi-Open f -L
0852	Bongo 1 Hi-Open f -R
0853	Bongo 1 Hi-Pops -L
0854	Bongo 1 Hi-Pops -R
0855	Bongo 1 Hi-Hightone -L
0856	Bongo 1 Hi-Hightone -R

#	Name
0857	Bongo 1 Hi-OpenFlam -L
0858	Bongo 1 Hi-OpenFlam -R
0859	Bongo 1 Hi-Fingernail -L
0860	Bongo 1 Hi-Fingernail -R
0861	Bongo 1 Hi-Stick -L
0862	Bongo 1 Hi-Stick -R
0863	Bongo 1 Hi-SticEdge mf-L
0864	Bongo 1 Hi-SticEdge mf-R
0865	Bongo 1 Hi-SticEdge f-L
0866	Bongo 1 Hi-SticEdge f-R
0867	Bongo 1 Hi-StickBounce-L
0868	Bongo 1 Hi-StickBounce-R
0869	Bongo 1 Hi-Cuptone -L
0870	Bongo 1 Hi-Cuptone -R
0871	Bongo 1 Hi-Slap -L
0872	Bongo 1 Hi-Slap -R
0873	Bongo 2 Lo-Muffled
0874	Bongo 2 Lo-Heel
0875	Bongo 2 Hi-Slap -L
0876	Iya Boca-Open mp -L
0877	Iya Boca-Open mp -R
0878	Iya Boca-Open mf -L
0879	Iya Boca-Open mf -R
0880	Iya Boca-Open f -L
0881	Iya Boca-Open f -R
0882	Iya Boca-Choke mp -L
0883	Iya Boca-Choke mp -R
0884	Iya Boca-Choke mf -L
0885	Iya Boca-Choke mf -R
0886	Iya Boca-Choke f -L
0887	Iya Boca-Choke f -R
0888	Iya Chacha-OpenSlap mp-L
0889	Iya Chacha-OpenSlap mp-R
0890	Iya Chacha-OpenSlap mf-L
0891	Iya Chacha-OpenSlap mf-R
0892	Iya Chacha-OpenSlap f-L
0893	Iya Chacha-OpenSlap f-R
0894	Iya Chacha-OpenSlap ff-L
0895	Iya Chacha-OpenSlap ff-R
0896	Itotele Boca-Open mp -L
0897	Itotele Boca-Open mp -R
0898	Itotele Boca-Open mf -L
0899	Itotele Boca-Open mf -R
0900	Itotele Boca-Open f -L
0901	Itotele Boca-Open f -R
0902	Itotele Boca-Muffle mp-L
0903	Itotele Boca-Muffle mp-R
0904	Itotele Boca-Muffle mf-L
0905	Itotele Boca-Muffle mf-R
0906	Itotele Boca-Muffle f-L
0907	Itotele Boca-Muffle f-R
0908	Itotele Cha-OpnSlap mp-L
0909	Itotele Cha-OpnSlap mp-R
0910	Itotele Cha-OpnSlap mf-L
0911	Itotele Cha-OpnSlap mf-R
0912	Itotele Cha-OpnSlap f-L
0913	Itotele Cha-OpnSlap f-R
0914	Itotele Cha-ClosSlap p-L
0915	Itotele Cha-ClosSlap p-R
0916	Itotele Cha-ClosSlap f-L
0917	Itotele Cha-ClosSlap f-R
0918	Okankolo Boca-Open mp -L
0919	Okankolo Boca-Open mp -R
0920	Okankolo Boca-Open mf -L
0921	Okankolo Boca-Open mf -R
0922	Okankolo Boca-Open f -L
0923	Okankolo Boca-Open f -R
0924	Okankolo Boca-Open ff -L
0925	Okankolo Boca-Open ff -R
0926	Okankolo Cha-Open mp -L
0927	Okankolo Cha-Open mp -R
0928	Okankolo Cha-Open mf -L
0929	Okankolo Cha-Open mf -R
0930	Okankolo Cha-Open f -L
0931	Okankolo Cha-Open f -R
0932	Okankolo Cha-Open ff -L
0933	Okankolo Cha-Open ff -R
0934	Okankolo Cha-Slap mp -L

#	Name
0935	Okankolo Cha-Slap mp -R
0936	Okankolo Cha-Slap mf -L
0937	Okankolo Cha-Slap mf -R
0938	Okankolo Cha-Slap f -L
0939	Okankolo Cha-Slap f -R
0940	Timbales Lo-Open mp -L
0941	Timbales Lo-Open mp -R
0942	Timbales Lo-Open mf -L
0943	Timbales Lo-Open mf -R
0944	Timbales Lo-Edge mf -L
0945	Timbales Lo-Edge mf -R
0946	Timbales Lo-Edge f -L
0947	Timbales Lo-Edge f -R
0948	Timbales Lo-RimShot -L
0949	Timbales Lo-RimShot -R
0950	Timbales Lo-Abanico -L
0951	Timbales Lo-Abanico -R
0952	Timbales Lo-Roll -L
0953	Timbales Lo-Roll -R
0954	Timbales Lo-Mute mf -L
0955	Timbales Lo-Mute mf -R
0956	Timbales Lo-Mute f -L
0957	Timbales Lo-Mute f -R
0958	Timbales Lo-Paila mf -L
0959	Timbales Lo-Paila mf -R
0960	Timbales Lo-Paila f -L
0961	Timbales Lo-Paila f -R
0962	Timbales Hi-Open -L
0963	Timbales Hi-Open -R
0964	Timbales Hi-Edge -L
0965	Timbales Hi-Edge -R
0966	Timbales Hi-RimShot mf-L
0967	Timbales Hi-RimShot mf-R
0968	Timbales Hi-RimShot f-L
0969	Timbales Hi-RimShot f-R
0970	Timbales Hi-RimShot ff-L
0971	Timbales Hi-RimShot ff-R
0972	Timbales Hi-Abanico 1 -L
0973	Timbales Hi-Abanico 1 -R
0974	Timbales Hi-Abanico 2 -L
0975	Timbales Hi-Abanico 2 -R
0976	Timbales Hi-Mute -L
0977	Timbales Hi-Mute -R
0978	Timbales Hi-Paila mf -L
0979	Timbales Hi-Paila mf -R
0980	Timbales Hi-Paila f -L
0981	Timbales Hi-Paila f -R
0982	Cowbell 1 -L
0983	Cowbell 1 -R
0984	Cowbell 2 -L
0985	Cowbell 2 -R
0986	Cowbell 3 -L
0987	Cowbell 3 -R
0988	Cowbell 4-Open -L
0989	Cowbell 4-Open -R
0990	Cowbell 4-Mute -L
0991	Cowbell 4-Mute -R
0992	Cowbell 5-Open a -L
0993	Cowbell 5-Open a -R
0994	Cowbell 5-Mute -L
0995	Cowbell 5-Mute -R
0996	Cowbell 5-Open b -L
0997	Cowbell 5-Open b -R
0999	Claves Lo a -L
0999	Claves Lo a -R
1000	Claves Lo b -L
1001	Claves Lo b -R
1002	Claves Hi a -L
1003	Claves Hi a -R
1004	Claves Hi b -L
1005	Claves Hi b -R
1006	Maracas 1-Push a -L
1007	Maracas 1-Push a -R
1008	Maracas 1-Push b -L
1009	Maracas 1-Push b -R
1010	Maracas 1-Pull a -L
1011	Maracas 1-Pull a -R
1012	Maracas 1-Pull b -L

#	Name
1013	Maracas 1-Pull b -R
1014	Maracas 2-Push a -L
1015	Maracas 2-Push a -R
1016	Maracas 2-Push b -L
1017	Maracas 2-Push b -R
1018	Maracas 2-Pull a -L
1019	Maracas 2-Pull a -R
1020	Maracas 2-Pull b -L
1021	Maracas 2-Pull b -R
1022	Guiro-Long a -L
1023	Guiro-Long a -R
1024	Guiro-Long b -L
1025	Guiro-Long b -R
1026	Guiro-Short a -L
1027	Guiro-Short a -R
1028	Guiro-Short b -L
1029	Guiro-Short b -R
1030	Vibra-slap -L
1031	Vibra-slap -R
1032	Pandeiro-Jingle a -L
1033	Pandeiro-Jingle a -R
1034	Pandeiro-Jingle b -L
1035	Pandeiro-Jingle b -R
1036	Pandeiro-Open a -L
1037	Pandeiro-Open a -R
1038	Pandeiro-Open b -L
1039	Pandeiro-Open b -R
1040	Pandeiro-Open c -L
1041	Pandeiro-Open c -R
1042	Pandeiro-Choke a -L
1043	Pandeiro-Choke a -R
1044	Pandeiro-Choke b -L
1045	Pandeiro-Choke b -R
1046	Pandeiro-ClosedAcc.a -L
1047	Pandeiro-ClosedAcc.a -R
1048	Pandeiro-ClosedAcc.b -L
1049	Pandeiro-ClosedAcc.b -R
1050	Pandeiro-ClosedAcc.c -L
1051	Pandeiro-ClosedAcc.c -R
1052	Pandeiro-SideEdge -L
1053	Pandeiro-SideEdge -R
1054	Pandeiro-Glissando a -L
1055	Pandeiro-Glissando a -R
1056	Pandeiro-Glissando b -L
1057	Pandeiro-Glissando b -R
1058	Cabasa 1 L a-Down -L
1059	Cabasa 1 L a-Down -R
1060	Cabasa 1 L a-Up -L
1061	Cabasa 1 L a-Up -R
1062	Cabasa 1 L b-Down -L
1063	Cabasa 1 L b-Down -R
1064	Cabasa 1 L b-Up -L
1065	Cabasa 1 L b-Up -R
1066	Cabasa 1 S a-Down -L
1067	Cabasa 1 S a-Down -R
1068	Cabasa 1 S a-Up -L
1069	Cabasa 1 S a-Up -R
1070	Cabasa 1 S b-Down -L
1071	Cabasa 1 S b-Down -R
1072	Cabasa 1 S b-Up -L
1073	Cabasa 1 S b-Up -R
1074	Cabasa 2 L-Stack a -L
1075	Cabasa 2 L-Stack a -R
1076	Cabasa 2 L-Stack b -L
1077	Cabasa 2 L-Stack b -R
1078	Cabasa 2 L-Roll -L
1079	Cabasa 2 L-Roll -R
1080	Cabasa 2 S-Stack a -L
1081	Cabasa 2 S-Stack a -R
1082	Cabasa 2 S-Stack b -L
1083	Cabasa 2 S-Stack b -R
1084	Cabasa 2 S-Roll -L
1085	Cabasa 2 S-Roll -R
1086	Shaker 1-Push a -L
1087	Shaker 1-Push a -R
1088	Shaker 1-Push b -L
1089	Shaker 1-Push b -R
1090	Shaker 1-Pull a -L

Voice Name List

#	Name
1091	Shaker 1-Pull a -R
1092	Shaker 1-Pull b -L
1093	Shaker 1-Pull b -R
1094	Shaker 1-Accent a -L
1095	Shaker 1-Accent a -R
1096	Shaker 1-Accent b -L
1097	Shaker 1-Accent b -R
1098	Shaker 1-Slow a -L
1099	Shaker 1-Slow a -R
1100	Shaker 1-Slow b -L
1101	Shaker 1-Slow b -R
1102	Shaker 1-Slow c -L
1103	Shaker 1-Slow c -R
1104	Shaker 1-Roll a -L
1105	Shaker 1-Roll a -R
1106	Shaker 1-Roll b -L
1107	Shaker 1-Roll b -R
1108	Shaker 1-Roll c -L
1109	Shaker 1-Roll c -R
1110	Shaker 2 f-Push
1111	Shaker 2 f-Pull
1112	Shaker 2 f-Accent
1113	Toy Shaker-Push
1114	Toy Shaker-Pull
1115	Agogo 1 Lo-Open -L
1116	Agogo 1 Lo-Open -R
1117	Agogo 1 Hi-Open -L
1118	Agogo 1 Hi-Open -R
1119	Agogo 2 Lo-Open -L
1120	Agogo 2 Lo-Open -R
1121	Agogo 2 Hi-Open -L
1122	Agogo 2 Hi-Open -R
1123	Agogo-Belltone -L
1124	Agogo-Belltone -R
1125	Recoreco-Long -L
1126	Recoreco-Long -R
1127	Recoreco-Short a -L
1128	Recoreco-Short a -R
1129	Recoreco-Short b -L
1130	Recoreco-Short b -R
1131	Recoreco-Short c -L
1132	Recoreco-Short c -R
1133	Cuica Lo a -L
1134	Cuica Lo a -R
1135	Cuica Lo b -L
1136	Cuica Lo b -R
1137	Cuica Lo c -L
1138	Cuica Lo c -R
1139	Cuica Hi a -L
1140	Cuica Hi a -R
1141	Cuica Hi b -L
1142	Cuica Hi b -R
1143	Cuica Hi c -L
1144	Cuica Hi c -R
1145	Whistle 1 -L
1146	Whistle 1 -R
1147	Whistle 2 -L
1148	Whistle 2 -R
1149	Whistle 3 -L
1150	Whistle 3 -R
1151	Whistle 4-Long -L
1152	Whistle 4-Long -R
1153	Whistle 4-Short -L
1154	Whistle 4-Short -R
1155	Whistle 5 -L
1156	Whistle 5 -R
1157	Dumbek-b
1158	Dumbek-c
1159	Dumbek-d
1160	Dumbek-e
1161	Dumbek-f
1162	Dumbek-g
1163	Dumbek-i
1164	Dumbek-j
1165	Dumbek-k
1166	Dumbek-l
1167	Djembe L-Basstone a -L
1168	Djembe L-Basstone a -R

#	Name
1169	Djembe L-Basstone b -L
1170	Djembe L-Basstone b -R
1171	Djembe L-Basstone c -L
1172	Djembe L-Basstone c -R
1173	Djembe L-Open -L
1174	Djembe L-Open -R
1175	Djembe L-OpenSlap -L
1176	Djembe L-OpenSlap -R
1177	Djembe L-ClosedSlap -L
1178	Djembe L-ClosedSlap -R
1179	Djembe S-Basstone a -L
1180	Djembe S-Basstone a -R
1181	Djembe S-Basstone b -L
1182	Djembe S-Basstone b -R
1183	Djembe S-Basstone c -L
1184	Djembe S-Basstone c -R
1185	Djembe S-Open -L
1186	Djembe S-Open -R
1187	Djembe S-OpenSlap a -L
1188	Djembe S-OpenSlap a -R
1189	Djembe S-OpenSlap b -L
1190	Djembe S-OpenSlap b -R
1191	Djembe S-ClosedSlap a -L
1192	Djembe S-ClosedSlap a -R
1193	Djembe S-ClosedSlap b -L
1194	Djembe S-ClosedSlap b -R
1195	Djembe S-ClosedSlap c -L
1196	Djembe S-ClosedSlap c -R
1197	Udo-HalfOpen a -L
1198	Udo-HalfOpen a -R
1199	Udo-HalfOpen b -L
1200	Udo-HalfOpen b -R
1201	Udo-HalfOpen c -L
1202	Udo-HalfOpen c -R
1203	Udo-Open a -L
1204	Udo-Open a -R
1205	Udo-Open b -L
1206	Udo-Open b -R
1207	Udo-Open c -L
1208	Udo-Open c -R
1209	Udo-Open d -L
1210	Udo-Open d -R
1211	Udo-Bell a -L
1212	Udo-Bell a -R
1213	Udo-Bell b -L
1214	Udo-Bell b -R
1215	Udo-Slide a -L
1216	Udo-Slide a -R
1217	Udo-Slide b -L
1218	Udo-Slide b -R
1219	Caxixi 1 a -L
1220	Caxixi 1 a -R
1221	Caxixi 1 b -L
1222	Caxixi 1 b -R
1223	Caxixi 1 c -L
1224	Caxixi 1 c -R
1225	Caxixi 2 a -L
1226	Caxixi 2 a -R
1227	Caxixi 2 b -L
1228	Caxixi 2 b -R
1229	Caxixi 2 c -L
1230	Caxixi 2 c -R
1231	Tabla-Tin a -L
1232	Tabla-Tin a -R
1233	Tabla-Tin b -L
1234	Tabla-Tin b -R
1235	Tabla-Na a -L
1236	Tabla-Na a -R
1237	Tabla-Na b -L
1238	Tabla-Na b -R
1239	Tabla-Na c -L
1240	Tabla-Na c -R
1241	Tabla-Tun a -L
1242	Tabla-Tun a -R
1243	Tabla-Tun b -L
1244	Tabla-Tun b -R
1245	Tabla-Tele a -L
1246	Tabla-Tele a -R

#	Name
1247	Tabla-Tele b -L
1248	Tabla-Tele b -R
1249	Tabla-Tele c -L
1250	Tabla-Tele c -R
1251	Tabla-Ti a -L
1252	Tabla-Ti a -R
1253	Tabla-Ti b -L
1254	Tabla-Ti b -R
1255	Tabla-Ti c -L
1256	Tabla-Ti c -R
1257	Tabla-Tira -L
1258	Tabla-Tira -R
1259	Baya-GheUp a -L
1260	Baya-GheUp a -R
1261	Baya-GheUp b -L
1262	Baya-GheUp b -R
1263	Baya-KaPalm -L
1264	Baya-KaPalm -R
1265	Baya-KaToe a -L
1266	Baya-KaToe a -R
1267	Baya-KaToe b -L
1268	Baya-KaToe b -R
1269	Baya-Nail a -L
1270	Baya-Nail a -R
1271	Baya-Nail b -L
1272	Baya-Nail b -R
1273	Baya-Nail c -L
1274	Baya-Nail c -R
1275	Baya-Ge -L
1276	Baya-Ge -R
1277	Baya-Up -L
1278	Baya-Up -R
1279	Baya-UpDown a -L
1280	Baya-UpDown a -R
1281	Baya-UpDown b -L
1282	Baya-UpDown b -R
1283	Angklung-One Shot L
1284	Angklung-One Shot M
1285	Angklung-One Shot S
1286	Wood Block 1 a -L
1287	Wood Block 1 a -R
1288	Wood Block 1 b -L
1289	Wood Block 1 b -R
1290	Wood Block 2 a -L
1291	Wood Block 2 a -R
1292	Wood Block 2 b -L
1293	Wood Block 2 b -R
1294	Wood Block 3 a -L
1295	Wood Block 3 a -R
1296	Wood Block 3 b -L
1297	Wood Block 3 b -R
1298	Wood Block 4 a -L
1299	Wood Block 4 a -R
1300	Wood Block 4 b -L
1301	Wood Block 4 b -R
1302	Wood Block 5 a -L
1303	Wood Block 5 a -R
1304	Wood Block 5 b -L
1305	Wood Block 5 b -R
1306	Wood Block 6 a -L
1307	Wood Block 6 a -R
1308	Wood Block 6 b -L
1309	Wood Block 6 b -R
1310	Castanet 1-a -L
1311	Castanet 1-a -R
1312	Castanet 1-b -L
1313	Castanet 1-b -R
1314	Castanet 1-c -L
1315	Castanet 1-c -R
1316	Flexatone -L
1317	Flexatone -R
1318	Flexatone Lp
1319	Rainstick-Loop a -L
1320	Rainstick-Loop a -R
1321	Rainstick-Loop b -L
1322	Rainstick-Loop b -R
1323	Rainstick-OneShot Down-L
1324	Rainstick-OneShot Down-R

#	Name
1325	Rainstick-OneShot Up -L
1326	Rainstick-OneShot Up -R
1327	Jew's Harp 14
1328	Jew's Harp 15
1329	Jew's Harp 16
1330	Jew's Harp 17
1331	Jew's Harp 18
1332	Jew's Harp 19
1333	WD-Big Hand 4
1334	WD-Big Hand 5
1335	WD-Big Hand 6
1336	WD-Big Hand 7
1337	WD-Bongo Open
1338	WD-Bongo OpenSlap
1339	WD-Bongo Closed
1340	WD-Bongo ClosedSlap
1341	WD-Gothic 5
1342	WD-Gothic 6
1343	Dance Conga 2 Slap b
1344	Dance Tambourine
1345	Perc-Dance 12
1346	Dance Claps 8
1347	88-Crash Processed
1348	Metal Perc
1349	Band Hit 3
1350	Synth Hit Loop 07
1351	Synth Hit Loop 08
1352	Synth Hit Loop 09
1353	Synth Hit Loop 10
1354	Synth Hit Loop 11
1355	Synth Hit Loop 12
1356	Synth Hit Decay 5
1357	Synth Hit Decay 6
1358	Synth Hit Decay 7
1359	DJ Vinyl Slice 19
1360	DJ Vinyl Slice 20
1361	DJ Vinyl Slice 21
1362	DJ Vinyl Slice 22
1363	DJ Vinyl Slice 23
1364	DJ Vinyl Slice 24
1365	DJ Vinyl Slice 25
1366	DJ Vinyl Slice 26
1367	DJ Vinyl Slice 27
1368	DJ Vinyl Slice 28
1369	DJ Vinyl Slice 29
1370	Industry Hit 27
1371	Industry Hit 28
1372	Industry Hit 29
1373	Industry Hit 30
1374	Industry Hit 31
1375	Industry Hit 32
1376	Industry Hit 33
1377	Industry Hit 34
1378	Industry Hit 35
1379	Industry Hit 36
1380	Industry Hit 37
1381	Industry Hit 38
1382	Industry Hit 39
1383	Industry Loop 4
1384	Voice 49
1385	Voice 50
1386	Voice 51
1387	Voice 52
1388	Voice 53 "Wh-O"
1389	Voice 54 "Yea"
1390	Voice 55
1391	Voice 56
1392	Voice 57
1393	"One..." Solo
1394	"Two..." Solo
1395	"Three..." Solo
1396	"Four..." Solo
1397	Vocoder Voice 21
1398	Vocoder Voice 22
1399	Vocoder Voice 23
1400	Vocoder Voice 24 "One"
1401	Vocoder Voice 25 "Two"
1402	Vocoder Voice 26 "Three"

#	Name
1403	Vocoder Voice 27 "Four"
1404	Vocoder Voice 28
1405	Vocoder Voice 29
1406	PC Voice 1-06 "One"
1407	PC Voice 1-07 "Three"
1408	PC Voice 1-08 "Four"
1409	PC Voice 1-09 "Six"
1410	PC Voice 1-10 "Seven"
1411	PC Voice 1-11 "Eight"
1412	PC Voice 1-12 "Nine"
1413	PC Voice 1-13 "Ten"
1414	PC Voice 1-14
1415	PC Voice 1-15
1416	PC Voice 1-16
1417	PC Voice 1-17
1418	PC Voice 1-18
1419	PC Voice 1-19
1420	PC Voice 1-20
1421	PC Voice 1-21
1422	PC Voice 1-22
1423	PC Voice 1-23
1424	PC Voice 1-24
1425	PC Voice 1-25
1426	PC Voice 2-01 "One"
1427	PC Voice 2-02 "Two"
1428	PC Voice 2-03 "Three"
1429	PC Voice 2-04 "Four"
1430	PC Voice 2-05
1431	PC Voice 2-06
1432	PC Voice 2-07
1433	PC Voice 3-01 "One"
1434	PC Voice 3-02 "Two"
1435	PC Voice 3-03 "Three"
1436	PC Voice 3-04 "Four"
1437	PC Voice 3-05
1438	PC Voice 3-06
1439	PC Voice 4-01
1440	PC Voice 4-02
1441	PC Voice 4-03
1442	PC Voice 4-04
1443	PC Voice 5-01
1444	PC Voice 5-02
1445	PC Voice 5-03
1446	PC Voice 5-04
1447	PC Voice 5-05
1448	PC Voice 5-06
1449	PC Voice 5-07
1450	PC Voice 5-08
1451	PC Voice 5-09
1452	PC Voice 5-10
1453	Machine Voice
1454	Telephone-Tone 1
1455	Telephone-Tone 2
1456	Telephone-Tone 3
1457	Telephone-Tone 4
1458	Telephone-Tone 5
1459	Door Slam 2
1460	Car Horn
1461	Train Horn
1462	Glass Scratch
1463	Jungle
1464	Forest
1465	Ac.Gtr Ghost Hit 2
1466	Ac.Gtr Ghost Hit-Slide
1467	El.Gtr Chord Hit 2
1468	El.Gtr-Ghost Note 1
1469	El.Gtr-Ghost Note 2
1470	El.Gtr-Ghost Note 3
1471	El.Gtr-Ghost Note 4
1472	El.Gtr-Ghost Note 5
1473	El.Gtr-Ghost Note 6
1474	El.Gtr-Dead Note 3
1475	El.Gtr-Dead Note 4
1476	El.Bs-Ghost Note 1
1477	El.Bs-Ghost Note 2
1478	El.Bs-Ghost Note 3
1479	El.Bs-Ghost Note 4
1480	El.Bs-Ghost Note 5

#	Name
1481	El.Bs-Ghost Note 6
1482	El.Bs-SlapGhostNote 12

EXs1 stereo

#	Name
0000	BD-01-amb mp
0001	BD-01-amb mf
0002	BD-01-amb f
0003	BD-01-amb ff
0004	BD-02-amb mp
0005	BD-02-amb mf
0006	BD-02-amb f
0007	BD-02-amb ff
0008	BD-03-amb mp
0009	BD-03-amb mf
0010	BD-03-amb f
0011	BD-03-amb ff
0012	BD-04-amb mp
0013	BD-04-amb mf
0014	BD-04-amb f
0015	BD-04-amb ff
0016	BD-05-amb mp
0017	BD-05-amb mf
0018	BD-05-amb f
0019	BD-05-amb ff
0020	BD-06-dry mp
0021	BD-06-dry mf
0022	BD-06-dry f
0023	BD-06-dry ff
0024	BD-06-amb mp
0025	BD-06-amb mf
0026	BD-06-amb f
0027	BD-06-amb ff
0028	BD-07-dry mp
0029	BD-07-dry mf
0030	BD-07-dry f
0031	BD-07-dry ff
0032	BD-08-dry mp
0033	BD-08-dry mf
0034	BD-08-dry f
0035	BD-08-dry ff
0036	BD-08-amb mp
0037	BD-08-amb mf
0038	BD-08-amb f
0039	BD-08-amb ff
0040	BD-09-dry mp
0041	BD-09-dry mf
0042	BD-09-dry f
0043	BD-09-dry ff
0044	BD-Dance 56
0045	SD-01-dry mp
0046	SD-01-dry mf
0047	SD-01-dry f
0048	SD-01-dry ff
0049	SD-02-dry mp
0050	SD-02-dry mf
0051	SD-02-dry f
0052	SD-02-dry ff
0053	SD-03-dry mp
0054	SD-03-dry mf
0055	SD-03-dry f
0056	SD-03-dry ff
0057	SD-04-amb p
0058	SD-04-amb mp
0059	SD-04-amb mf
0060	SD-04-amb f
0061	SD-04-amb ff
0062	SD-05-dry mp
0063	SD-05-dry mf
0064	SD-05-dry f
0065	SD-05-dry ff
0066	SD-06-dry p
0067	SD-06-dry mp
0068	SD-06-dry mf
0069	SD-06-dry f
0070	SD-06-dry ff
0071	SD-07-amb mp
0072	SD-07-amb mf

#	Name
0073	SD-07-amb f
0074	SD-07-amb ff
0075	SD-08-dry mp
0076	SD-08-dry mf
0077	SD-08-dry f
0078	SD-08-dry ff
0079	SD-09-dry mp
0080	SD-09-dry mf
0081	SD-09-dry f
0082	SD-09-dry ff
0083	SD-09-amb mp
0084	SD-09-amb mf
0085	SD-09-amb f
0086	SD-09-amb ff
0087	SD-10-dry mp
0088	SD-10-dry mf
0089	SD-10-dry f
0090	SD-10-dry ff
0091	SD-11-dry mp
0092	SD-11-dry mf
0093	SD-11-dry f
0094	SD-11-dry ff
0095	SD-11-amb mf
0096	SD-11-amb ff
0097	SD-12-dry p
0098	SD-12-dry mp
0099	SD-12-dry mf
0100	SD-12-dry f
0101	SD-12-dry ff
0102	SD-12-dry fff
0103	SD-12-amb mp
0104	SD-12-amb mf
0105	SD-12-amb f
0106	SD-12-amb ff
0107	SD-13-dry mp
0108	SD-13-dry mf
0109	SD-13-dry f
0110	SD-13-dry ff
0111	SD-14-dry mp
0112	SD-14-dry mf
0113	SD-14-dry f
0114	SD-14-dry ff
0115	SD-15-dry mp
0116	SD-15-dry mf
0117	SD-15-dry f
0118	SD-15-dry ff
0119	SD-16-dry mp
0120	SD-16-dry mf
0121	SD-16-dry f
0122	SD-16-dry ff
0123	SD-17-dry mp
0124	SD-17-dry mf
0125	SD-17-dry f
0126	SD-17-dry GhostRoll mf
0127	SD-17-dry GhostRoll f
0128	SD-18-amb mp
0129	SD-18-amb mf
0130	SD-18-amb f
0131	SD-18-amb ff
0132	SD-19-amb mp
0133	SD-19-amb mf
0134	SD-19-amb f
0135	SD-19-amb GhostRoll
0136	SD-20-dry mp
0137	SD-20-dry mf
0138	SD-20-dry f
0139	SD-20-dry GhostRoll
0140	SD-20-amb mp
0141	SD-20-amb mf
0142	SD-20-amb f
0143	SD-20-amb GhostRoll
0144	SD-21-dry mp
0145	SD-21-dry mf
0146	SD-21-dry f
0147	SD-21-dry ff
0148	SD-21-amb mp
0149	SD-21-amb mf
0150	SD-21-amb f

#	Name
0151	SD-21-amb ff
0152	SD-22-dry mp
0153	SD-22-dry mf
0154	SD-22-dry f
0155	SD-22-dry GhostRoll
0156	SD-22-amb mf
0157	SD-23-dry mp
0158	SD-23-dry mf
0159	SD-23-dry f
0160	SD-23-dry GhostRoll
0161	SD-24-dry mp
0162	SD-24-dry mf
0163	SD-24-dry f
0164	SD-24-dry ff
0165	SD-24-dry GhostRoll
0166	SD-25-dry Brush Tap mp
0167	SD-25-dry Brush Tap mf
0168	SD-25-dry Brush Tap f
0169	SD-25-dry Brush Tap ff
0170	SD-26-dry Brush Tap mp
0171	SD-26-dry Brush Tap mf
0172	SD-26-dry Brush Tap f
0173	SD-26-dry BrushTriplet
0174	SD-26-dry BrushSwirl a
0175	SD-26-dry BrushSwirl b
0176	SD-Roll-Open 1 a
0177	SD-Roll-Open 1 b
0178	SD-Roll-Open 1 c
0179	SD-Roll-Open 2
0180	SD-Roll-Open 3 a
0181	SD-Roll-Open 3 b
0182	SD-Roll-Closed 1 a
0183	SD-Roll-Closed 1 b
0184	SD-Roll-Closed 2
0185	SD-Roll-Closed 3 a
0186	SD-Roll-Closed 3 b
0187	SD-Roll-Closed 4
0188	SD-Roll-Closed 5
0189	SD-Sidestick 1 mp
0190	SD-Sidestick 1 mf
0191	SD-Sidestick 1 f
0192	SD-Sidestick 2 mp
0193	SD-Sidestick 2 mf
0194	SD-Sidestick 2 f
0195	SD-Sidestick 3 mf
0196	SD-Sidestick 3 f
0197	SD-Sidestick 4 mf
0198	SD-Sidestick 4 f
0199	SD-Dance 79
0200	Tom Basic Lo mp
0201	Tom Basic Lo mf
0202	Tom Basic Lo f
0203	Tom Basic Lo ff
0204	Tom Basic MidLo mp
0205	Tom Basic MidLo mf
0206	Tom Basic MidLo f
0207	Tom Basic MidLo ff
0208	Tom Basic MidHi mp
0209	Tom Basic MidHi mf
0210	Tom Basic MidHi f
0211	Tom Basic MidHi ff
0212	Tom Basic Hi mp
0213	Tom Basic Hi mf
0214	Tom Basic Hi f
0215	Tom Basic Hi ff
0216	Tom Soul mf
0217	Tom Soul f
0218	Tom Vintage Lo mp
0219	Tom Vintage Lo mf
0220	Tom Vintage Lo f
0221	Tom Vintage Lo ff
0222	Tom Vintage Mid mp
0223	Tom Vintage Mid mf
0224	Tom Vintage Mid f
0225	Tom Vintage Mid ff
0226	Tom Vintage Hi mp
0227	Tom Vintage Hi mf
0228	Tom Vintage Hi f

Voice Name List

#	Name
0229	Tom Vintage Hi ff
0230	Tom Rock1-dry Lo mp
0231	Tom Rock1-dry Lo mf
0232	Tom Rock1-dry Lo f
0233	Tom Rock1-dry Lo ff
0234	Tom Rock1-dry Mid mp
0235	Tom Rock1-dry Mid mf
0236	Tom Rock1-dry Mid f
0237	Tom Rock1-dry Mid ff
0238	Tom Rock1-dry Hi mp
0239	Tom Rock1-dry Hi mf
0240	Tom Rock1-dry Hi f
0241	Tom Rock1-dry Hi ff
0242	Tom Rock2-dry Lo mp
0243	Tom Rock2-dry Lo mf
0244	Tom Rock2-dry Lo f
0245	Tom Rock2-dry Lo ff
0246	Tom Rock2-dry MidLo mp
0247	Tom Rock2-dry MidLo mf
0248	Tom Rock2-dry MidLo f
0249	Tom Rock2-dry MidLo ff
0250	Tom Rock2-dry MidHi mp
0251	Tom Rock2-dry MidHi mf
0252	Tom Rock2-dry MidHi f
0253	Tom Rock2-dry MidHi ff
0254	Tom Rock2-dry Hi mp
0255	Tom Rock2-dry Hi mf
0256	Tom Rock2-dry Hi f
0257	Tom Rock2-dry Hi ff
0258	Tom Rock1-amb Lo
0259	Tom Rock1-amb Mid
0260	Tom Rock1-amb Hi
0261	Tom Rock2-amb Lo
0262	Tom Rock2-amb MidLo
0263	Tom Rock2-amb Hi
0264	Tom Brush1 Low mp
0265	Tom Brush1 Low mf
0266	Tom Brush1 Low f
0267	Tom Brush1 Low ff
0268	Tom Brush1 Mid mp
0269	Tom Brush1 Mid mf
0270	Tom Brush1 Mid f
0271	Tom Brush1 Mid ff
0272	Tom Brush1 Hi mp
0273	Tom Brush1 Hi mf
0274	Tom Brush1 Hi f
0275	Tom Brush1 Hi ff
0276	Crash Cymbal 01 mp
0277	Crash Cymbal 01 mf
0278	Crash Cymbal 01 f
0279	Crash Cymbal 01 ff
0280	Crash Cymbal 02 mp
0281	Crash Cymbal 02 mf
0282	Crash Cymbal 02 f
0283	Crash Cymbal 02 ff
0284	Crash Cymbal 03 mp
0285	Crash Cymbal 03 mf
0286	Crash Cymbal 03 f
0287	Crash Cymbal 03 ff
0288	Crash Cymbal 04 mp
0289	Crash Cymbal 04 mf
0290	Crash Cymbal 04 f
0291	Crash Cymbal 04 ff
0292	Crash Cymbal 05 mp
0293	Crash Cymbal 05 mf
0294	Crash Cymbal 05 f
0295	Crash Cymbal 05 ff
0296	Crash Cymbal 06 mp
0297	Crash Cymbal 06 mf
0298	Crash Cymbal 06 f
0299	Crash Cymbal 06 ff
0300	Crash Cymbal 07 mp
0301	Crash Cymbal 07 mf
0302	Crash Cymbal 07 f
0303	Crash Cymbal 07 ff
0304	Crash Cymbal 08 mf
0305	Crash Cymbal 08 f
0306	Cymbal Reverse 2

#	Name
0307	Ride Cymbal 01 mp
0308	Ride Cymbal 01 mf
0309	Ride Cymbal 01 f
0310	Ride Cymbal 01 ff
0311	Ride Cymbal 02 mp
0312	Ride Cymbal 02 mf
0313	Ride Cymbal 02 f
0314	Ride Cymbal 03 mp
0315	Ride Cymbal 03 mf
0316	Ride Cymbal 03 f
0317	Ride Cymbal 03 ff
0318	Ride Cymbal 04 mp
0319	Ride Cymbal 04 mf
0320	Ride Cymbal 04 f
0321	Ride Cymbal 04 ff
0322	Ride Cymbal 05 mp
0323	Ride Cymbal 05 mf
0324	Ride Cymbal 05 f
0325	Ride Cymbal 05 ff
0326	Ride Cymbal 06 mp
0327	Ride Cymbal 06 mf
0328	Ride Cymbal 06 f
0329	Ride Cymbal 07 mp
0330	Ride Cymbal 07 mf
0331	Ride Cymbal 07 f
0332	Ride Cymbal 07 ff
0333	Ride Cymbal 08-Cup mf
0334	Ride Cymbal 08-Cup f
0335	Ride Cymbal 09 mp
0336	Ride Cymbal 09 mf
0337	Ride Cymbal 09 f
0338	China Cymbal 01
0339	China Cymbal 02
0340	China Cymbal 03 mf
0341	China Cymbal 03 f
0342	Splash Cymbal 01 mp
0343	Splash Cymbal 01 mf
0344	Splash Cymbal 01 f
0345	Splash Cymbal 01 ff
0346	Splash Cymbal 02 mp
0347	Splash Cymbal 02 mf
0348	Splash Cymbal 02 f
0349	Splash Cymbal 02 ff
0350	Splash Cymbal 03 mp
0351	Splash Cymbal 03 mf
0352	Splash Cymbal 03 f
0353	Splash Cymbal 03 ff
0354	Hand Claps 2-a
0355	Hand Claps 2-c
0356	Hand Claps 2-d
0357	Hand Claps 2-e
0358	Hand Claps 2-f
0359	Hand Claps 2-g
0360	Tumba-Basstone
0361	Tumba-Open1 mf
0362	Tumba-Open1 f
0363	Tumba-Open2 mf
0364	Tumba-Open2 f
0365	Tumba-OpenFlam
0366	Tumba-Glissando
0367	Tumba-OpenSlapFlam mf
0368	Tumba-OpenSlapFlam f
0369	Tumba-Muffled
0370	Conga Lo-Basstone
0371	Conga Lo-Open mf
0372	Conga Lo-Open f
0373	Conga Lo-OpenSlap
0374	Conga Lo-OpenSlapFlam
0375	Conga Lo-Glissando
0376	Conga Lo-Muffled
0377	Conga Lo-Closed
0378	Conga Lo-ClosedSlap
0379	Conga Lo-Heel
0380	Conga Lo-Toe
0381	Conga Hi-Basstone mf
0382	Conga Hi-Basstone f
0383	Conga Hi-Open mp
0384	Conga Hi-Open mf

#	Name
0385	Conga Hi-Open f
0386	Conga Hi-OpenFlam
0387	Conga Hi-OpenSlap
0388	Conga Hi-OpenSlapFlam
0389	Conga Hi-CloseSlapFlam
0390	Conga Hi-Muffled
0391	Conga Hi-Closed
0392	Conga Hi-ClosedSlap
0393	Conga Hi-Heel
0394	Conga Hi-Toe
0395	Quinto-Basstone
0396	Quinto-Open mp
0397	Quinto-Open f
0398	Quinto-OpenFlam
0399	Quinto-OpenSlap
0400	Quinto-Muffled
0401	Quinto-Closed
0402	Quinto-ClosedSlap
0403	Quinto-CloseSlapFlam p
0404	Quinto-CloseSlapFlam f
0405	Quinto-Heel
0406	Quinto-Toe
0407	Bongo 1 Lo-Muffled mp
0408	Bongo 1 Lo-Muffled f
0409	Bongo 1 Lo-Closed
0410	Bongo 1 Lo-Flam
0411	Bongo 1 Lo-MuffledFlam
0412	Bongo 1 Lo-Stick
0413	Bongo 1 Lo-SticEdge mf
0414	Bongo 1 Lo-SticEdge f
0415	Bongo 1 Lo-SticBounce
0416	Bongo 1 Lo-Fingernail
0417	Bongo 1 Lo-Cuptone
0418	Bongo 1 Lo-Slap
0419	Bongo 1 Hi-Open mf
0420	Bongo 1 Hi-Open f
0421	Bongo 1 Hi-Pops
0422	Bongo 1 Hi-Hightone
0423	Bongo 1 Hi-OpenFlam
0424	Bongo 1 Hi-Fingernail
0425	Bongo 1 Hi-Stick
0426	Bongo 1 Hi-SticEdge mf
0427	Bongo 1 Hi-SticEdge f
0428	Bongo 1 Hi-SticBounce
0429	Bongo 1 Hi-Cuptone
0430	Bongo 1 Hi-Slap
0431	Iya Boca-Open mp
0432	Iya Boca-Open mf
0433	Iya Boca-Open f
0434	Iya Boca-Choke mp
0435	Iya Boca-Choke mf
0436	Iya Boca-Choke f
0437	Iya Chacha-OpenSlap mp
0438	Iya Chacha-OpenSlap mf
0439	Iya Chacha-OpenSlap f
0440	Iya Chacha-OpenSlap ff
0441	Itotele Boca-Open mp
0442	Itotele Boca-Open mf
0443	Itotele Boca-Open f
0444	Itotele Boca-Muffle mp
0445	Itotele Boca-Muffle mf
0446	Itotele Boca-Muffle f
0447	Itotele Cha-OpnSlap mp
0448	Itotele Cha-OpnSlap mf
0449	Itotele Cha-OpnSlap f
0450	Itotele Cha-ClosSlap p
0451	Itotele Cha-ClosSlap f
0452	Okonkolo Boca-Open mp
0453	Okonkolo Boca-Open mf
0454	Okonkolo Boca-Open f
0455	Okonkolo Boca-Open ff
0456	Okonkolo Cha-Open mp
0457	Okonkolo Cha-Open mf
0458	Okonkolo Cha-Open f
0459	Okonkolo Cha-Open ff
0460	Okonkolo Cha-Slap mp
0461	Okonkolo Cha-Slap mf
0462	Okonkolo Cha-Slap f

#	Name
0463	Timbales Lo-Open mp
0464	Timbales Lo-Open mf
0465	Timbales Lo-Edge mf
0466	Timbales Lo-Edge f
0467	Timbales Lo-RimShot
0468	Timbales Lo-Abanico
0469	Timbales Lo-Roll
0470	Timbales Lo-Mute mf
0471	Timbales Lo-Mute f
0472	Timbales Lo-Paila mf
0473	Timbales Lo-Paila f
0474	Timbales Hi-Open
0475	Timbales Hi-Edge
0476	Timbales Hi-RimShot mf
0477	Timbales Hi-RimShot f
0478	Timbales Hi-RimShot ff
0479	Timbales Hi-Abanico 1
0480	Timbales Hi-Abanico 2
0481	Timbales Hi-Mute
0482	Timbales Hi-Paila mf
0483	Timbales Hi-Paila f
0484	Cowbell 1
0485	Cowbell 2
0486	Cowbell 3
0487	Cowbell 4-Open
0488	Cowbell 4-Mute
0489	Cowbell 5-Open a
0490	Cowbell 5-Mute
0491	Cowbell 5-Open b
0492	Claves Lo a
0493	Claves Lo b
0494	Claves Hi a
0495	Claves Hi b
0496	Maracas 1-Push a
0497	Maracas 1-Push b
0498	Maracas 1-Pull a
0499	Maracas 1-Pull b
0500	Maracas 2-Push a
0501	Maracas 2-Push b
0502	Maracas 2-Pull a
0503	Maracas 2-Pull b
0504	Guiro-Long a
0505	Guiro-Long b
0506	Guiro-Short a
0507	Guiro-Short b
0508	Vibra-slap
0509	Pandeiro-Jingle a
0510	Pandeiro-Jingle b
0511	Pandeiro-Open a
0512	Pandeiro-Open b
0513	Pandeiro-Open c
0514	Pandeiro-Choke a
0515	Pandeiro-Choke b
0516	Pandeiro-ClosedAcc.a
0517	Pandeiro-ClosedAcc.b
0518	Pandeiro-ClosedAcc.c
0519	Pandeiro-SideEdge
0520	Pandeiro-Glissando a
0521	Pandeiro-Glissando b
0522	Cabasa 1 L a-Down
0523	Cabasa 1 L a-Up
0524	Cabasa 1 L b-Down
0525	Cabasa 1 L b-Up
0526	Cabasa 1 S a-Down
0527	Cabasa 1 S a-Up
0528	Cabasa 1 S b-Down
0529	Cabasa 1 S b-Up
0530	Cabasa 2 L-Stack a
0531	Cabasa 2 L-Stack b
0532	Cabasa 2 L-Roll
0533	Cabasa 2 S-Stack a
0534	Cabasa 2 S-Stack b
0535	Cabasa 2 S-Roll
0536	Shaker 1-Push a
0537	Shaker 1-Push b
0538	Shaker 1-Pull a
0539	Shaker 1-Pull b
0540	Shaker 1-Accent a

#	Name
0541	Shaker 1-Accent b
0542	Shaker 1-Slow a
0543	Shaker 1-Slow b
0544	Shaker 1-Slow c
0545	Shaker 1-Roll a
0546	Shaker 1-Roll b
0547	Shaker 1-Roll c
0548	Agogo 1 Lo-Open
0549	Agogo 1 Hi-Open
0550	Agogo 2 Lo-Open
0551	Agogo 2 Hi-Open
0552	Agogo-Belltone
0553	Recoreco-Long
0554	Recoreco-Short a
0555	Recoreco-Short b
0556	Recoreco-Short c
0557	Cuica Lo a
0558	Cuica Lo b
0559	Cuica Lo c
0560	Cuica Hi a
0561	Cuica Hi b
0562	Cuica Hi c
0563	Whistle 1
0564	Whistle 2
0565	Whistle 3
0566	Whistle 4-Long
0567	Whistle 4-Short
0568	Whistle 5
0569	Djembe L-Basstone a
0570	Djembe L-Basstone b
0571	Djembe L-Basstone c
0572	Djembe L-Open
0573	Djembe L-OpenSlap
0574	Djembe L-ClosedSlap
0575	Djembe S-Basstone a
0576	Djembe S-Basstone b
0577	Djembe S-Basstone c
0578	Djembe S-Open
0579	Djembe S-OpenSlap a
0580	Djembe S-OpenSlap b
0581	Djembe S-ClosedSlap a
0582	Djembe S-ClosedSlap b
0583	Djembe S-ClosedSlap c
0584	Udo-HalfOpen a
0585	Udo-HalfOpen b
0586	Udo-HalfOpen c
0587	Udo-Open a
0588	Udo-Open b
0589	Udo-Open c
0590	Udo-Open d
0591	Udo-Bell a
0592	Udo-Bell b
0593	Udo-Slide a
0594	Udo-Slide b
0595	Caxixi 1 a
0596	Caxixi 1 b
0597	Caxixi 1 c
0598	Caxixi 2 a
0599	Caxixi 2 b
0600	Caxixi 2 c
0601	Tabla-Tin a
0602	Tabla-Tin b
0603	Tabla-Na a
0604	Tabla-Na b
0605	Tabla-Na c
0606	Tabla-Tun a
0607	Tabla-Tun b
0608	Tabla-Tele a
0609	Tabla-Tele b
0610	Tabla-Tele c
0611	Tabla-Ti a
0612	Tabla-Ti b
0613	Tabla-Ti c
0614	Tabla-Tira
0615	Baya-GheUp a
0616	Baya-GheUp b
0617	Baya-KaPalm
0618	Baya-KaToe a

#	Name
0619	Baya-KaToe b
0620	Baya-Nail a
0621	Baya-Nail b
0622	Baya-Nail c
0623	Baya-Ge
0624	Baya-Up
0625	Baya-UpDown a
0626	Baya-UpDown b
0627	Wood Block 1 a
0628	Wood Block 1 b
0629	Wood Block 2 a
0630	Wood Block 2 b
0631	Wood Block 3 a
0632	Wood Block 3 b
0633	Wood Block 4 a
0634	Wood Block 4 b
0635	Wood Block 5 a
0636	Wood Block 5 b
0637	Wood Block 6 a
0638	Wood Block 6 b
0639	Castanet 1-a
0640	Castanet 1-b
0641	Castanet 1-c
0642	Flexatone
0643	Rainstick-Loop a
0644	Rainstick-Loop b
0645	Rainstick-OneShot Down
0646	Rainstick-OneShot Up

These sounds Processed with INFINITY™.

Wave Sequences

INT

#	Name
INT000	19 Orch/Band HITS
INT001	Ac.Guitar Rhythm 01
INT002	Air Rotation
INT003	Alternating Currents
INT004	Analog Wave Advance
INT005	B/W Hi Hat
INT006	BabbleBeat
INT007	Bell Boyz
INT008	Bell Breath
INT009	Bell Morph
INT010	Bell Ringer
INT011	Bell Waveseq. Bright
INT012	Benny's Bounce A
INT013	Benny's Bounce B
INT014	BoogieBells
INT015	Bottle Poppin'
INT016	BrassEns Transpose
INT017	Breather
INT018	Can't Stop Laughing
INT019	Chippem-Ho
INT020	Clocked Noizes
INT021	Conversations A
INT022	Conversations B
INT023	Counting V.Rhythm
INT024	Crunch
INT025	DWGS Clavs
INT026	Drops
INT027	E.Piano Klik Selection
INT028	EP SEQ
INT029	Evolve
INT030	Evolving 01
INT031	Exposure
INT032	Flashlight
INT033	Flute SEQ
INT034	Follow Me
INT035	Gate Rez
INT036	Glass-Air
INT037	Groove
INT038	Jordan's Bop
INT039	L Strings Octave
INT040	Lab Wave
INT041	Marbles
INT042	Mini
INT043	Mixed Bellish
INT044	Mono Strings Octave
INT045	Motion Guitar
INT046	N.Guitar f SO 1st->3rd
INT047	N.Guitar mf SO 1st->3rd
INT048	N.Guitar p SO 1st->3rd
INT049	N.Guitar p SO 2nd->3rd
INT050	N.Guitar p SO 3rd->3rd
INT051	N.Guitar p SO OFF->3rd
INT052	Organ Fader
INT053	Oscar A
INT054	Oscar B
INT055	Out of Time
INT056	P5 Res
INT057	PW 1
INT058	PW 2
INT059	Pad Morph
INT060	Plucked Off
INT061	Prizimatic
INT062	Pulse Morph
INT063	Pulstronik Bass 1
INT064	Pulstronik Bass 2
INT065	Pulstronik Pulse
INT066	Pulstronik Rhythm 1
INT067	Pulstronik Rhythm 2
INT068	Pulstronik Rhythm 3
INT069	Random Pitch
INT070	Recorder&Flutes Sel.
INT071	Res SEQ 1
INT072	Res SEQ 2
INT073	Res SEQ 3

#	Name
INT074	Romance Bell
INT075	Saw Suite
INT076	Sax Shaper
INT077	Sax Shaper -Y
INT078	Sea Glass A
INT079	Sea Glass B
INT080	Shifting Bells
INT081	Ski Jam
INT082	Slow 1/2th Waves
INT083	Slow 8th Waves
INT084	Soft Waves
INT085	Solar 1
INT086	Solar 2
INT087	Spectra
INT088	SpectrumFades
INT089	Steel GuitaR Offset
INT090	Surging Echos
INT091	Synth Hit Chop
INT092	Synth Hit Morph
INT093	Time Trekker
INT094	TrashMan A
INT095	TrashMan B
INT096	TrashMan C
INT097	TritonBrass Transpose
INT098	VS Motion Bells
INT099	VariRez
INT100	Velo Pulse (Gate)
INT101	Vocal Vowels
INT102	Vocal Vowels REV
INT103	Voice Morph
INT104	Vox Flute Octaver
INT105	Vox Pad
INT106	Vox Shaper
INT107	WS Fade
INT108	WS Noise
INT109	WS S&H
INT110	Wah Vox
INT111	Wave Multi 1
INT112	Wave Multi 2
INT113	Wave Song
INT114	Wave Sweeper
INT115	Wave: Saw Motion
INT116	22 Synth HITS EXs1
INT117	BoomChukka EXs1
INT118	Busy Pik/Pluck 1 EXs1
INT119	Busy Pik/Pluck 2 EXs1
INT120	Coming Home EXs1
INT121	Do Pad EXs1
INT122	Elements A EXs1
INT123	Elements B EXs1
INT124	Klocker Bs EXs1
INT125	Laidback Wah Lick EXs1
INT126	Mystic SEQ 1 EXs1
INT127	Mystic SEQ 2 EXs1
INT128	Outdoor Elements EXs1
INT129	Piano SEQ 1 EXs1
INT130	Piano SEQ 2 EXs1
INT131	Shamizen Offset EXs1
INT132	Slap Bass Oct EXs1
INT133	Slow Octave Strings EXs1
INT134	String Flutes EXs1
INT135	Synpad Reso Filter EXs1
INT136	Tekno Seq. 1a EXs1
INT137	Tekno Seq. 1b EXs1
INT138	Vox Shaper Mixed EXs1
INT139	Yah-mezo EXs1
INT140	
INT141	
INT142	
INT143	
INT144	
INT145	
INT146	
INT147	
INT148	
INT149	

Voice Name List

Preset Patterns

#	Name (Pattern/Drum kit)
P000	Pop&Balad 1/Std
P001	Pop&Balad 2/Std
P002	Pop&Balad 3/Std
P003	Pop&Balad 4/Std
P004	Pop&Balad 5/Std
P005	Pop&Balad 6/Std
P006	Pop&Balad 7/Std
P007	Pop&Balad 8/Std
P008	Pop(6/8) 1/Std
P009	Pop(6/8) 2/Std
P010	Pop(6/8) 3/Std
P011	Rock 1/Process
P012	Rock 2/Process
P013	Rock 3/Process
P014	Rock 4/Process
P015	Rock 5/Process
P016	Rock 6/Process
P017	Rock 7/Process
P018	Rock 8/Process
P019	Rock 9/Process
P020	Rock 10/Process
P021	Rock 11/Process
P022	R&B 1/HipHop
P023	R&B 2/HipHop
P024	R&B 3/HipHop
P025	R&B 4/HipHop
P026	R&B 5/HipHop
P027	R&B 6/HipHop
P028	R&B 7/HipHop
P029	R&B 8/HipHop
P030	R&B 9/HipHop
P031	R&B 10/HipHop
P032	R&B 11/HipHop
P033	Jazz 1/Jazz
P034	Jazz 2/Jazz
P035	Jazz 3/Jazz
P036	Jazz 4/Jazz
P037	Jazz 5/Jazz
P038	Jazz 6/Jazz
P039	Jazz 7/Jazz
P040	Latin 1/Funk
P041	Latin 2/Funk
P042	Latin 3/Funk
P043	Latin 4/Funk
P044	Latin 5/Funk
P045	Latin 6/Funk
P046	Latin 7/Funk
P047	Latin 8/Funk
P048	Reggae 1/Funk
P049	Reggae 2/Funk
P050	Reggae 3/Funk
P051	Reggae 4/Funk
P052	Reggae 5/Funk
P053	Reggae 6/Funk
P054	Country 1/AcPop
P055	Country 2/AcPop
P056	Country 3/AcPop
P057	Country 4/AcPop
P058	Folk 1/Jazz
P059	Folk 2/Jazz
P060	Folk 3/Jazz
P061	Folk 4/Jazz
P062	E.Trad 1/Std
P063	E.Trad 2/Std
P064	E.Trad 3/Std
P065	E.Trad 4/Std
P066	E.Trad(3/4) 1/Std
P067	E.Trad(3/4) 2/Std
P068	Techno 1/Trance
P069	Techno 2/Trance

#	Name (Pattern/Drum kit)
P070	Techno 3/Trance
P071	Techno 4/Trance
P072	Techno 5/Trance
P073	Techno 6/Trance
P074	Techno 7/Trance
P075	Techno 8/Trance
P076	Techno 9/Trance
P077	Techno 10/Trance
P078	Techno 11/Trance
P079	Cool House 1/House
P080	Cool House 2/House
P081	Cool House 3/House
P082	Cool House 4/House
P083	Cool House 5/House
P084	Cool House 6/House
P085	Cool House 7/House
P086	Cool House 8/House
P087	Cool House 9/House
P088	Cool House 10/House
P089	Cool House 11/House
P090	Hard House 1/HardHouse
P091	Hard House 2/HardHouse
P092	Hard House 3/HardHouse
P093	Hard House 4/HardHouse
P094	Hard House 5/HardHouse
P095	Hard House 6/HardHouse
P096	Hard House 7/HardHouse
P097	Hard House 8/HardHouse
P098	Hard House 9/HardHouse
P099	Hard House 10/HardHouse
P100	Hard House 11/HardHouse
P101	Drum'n'Bass 1/D'n'B
P102	Drum'n'Bass 2/D'n'B
P103	Drum'n'Bass 3/D'n'B
P104	Drum'n'Bass 4/D'n'B
P105	Drum'n'Bass 5/D'n'B
P106	Drum'n'Bass 6/D'n'B
P107	Drum'n'Bass 7/D'n'B
P108	Drum'n'Bass 8/D'n'B
P109	Drum'n'Bass 9/D'n'B
P110	Drum'n'Bass 10/D'n'B
P111	Drum'n'Bass 11/D'n'B
P112	Breakbeat 1/Tricki
P113	Breakbeat 2/Tricki
P114	Breakbeat 3/Tricki
P115	Breakbeat 4/Tricki
P116	Breakbeat 5/Tricki
P117	Breakbeat 6/Tricki
P118	Breakbeat 7/Tricki
P119	Breakbeat 8/Tricki
P120	Breakbeat 9/Tricki
P121	Breakbeat 10/Tricki
P122	Breakbeat 11/Tricki
P123	Deep Chill 1/AmbiChill
P124	Deep Chill 2/AmbiChill
P125	Deep Chill 3/AmbiChill
P126	Deep Chill 4/AmbiChill
P127	Deep Chill 5/AmbiChill
P128	Deep Chill 6/AmbiChill
P129	Deep Chill 7/AmbiChill
P130	Deep Chill 8/AmbiChill
P131	Deep Chill 9/AmbiChill
P132	Deep Chill 10/AmbiChill
P133	Deep Chill 11/AmbiChill
P134	Acid Jazz 1/Jazz
P135	Acid Jazz 2/Jazz
P136	Acid Jazz 3/Jazz
P137	Acid Jazz 4/Jazz
P138	Acid Jazz 5/Jazz
P139	Acid Jazz 6/Jazz

#	Name (Pattern/Drum kit)
P140	Acid Jazz 7/Jazz
P141	Acid Jazz 8/Jazz
P142	Acid Jazz 9/Jazz
P143	Acid Jazz 10/Jazz
P144	Acid Jazz 11/Jazz
P145	Hip Hop&Rap 1/HipHop
P146	Hip Hop&Rap 2/HipHop
P147	Hip Hop&Rap 3/HipHop
P148	Hip Hop&Rap 4/HipHop
P149	Hip Hop&Rap 5/HipHop
P150	Hip Hop&Rap 6/HipHop
P151	Hip Hop&Rap 7/HipHop
P152	Hip Hop&Rap 8/HipHop
P153	Hip Hop&Rap 9/HipHop
P154	Hip Hop&Rap 10/HipHop
P155	Hip Hop&Rap 11/HipHop

Template Songs

#	Name
0	Pops/Ballade
1	Rock/Metal Rock
2	R & B
3	Jazz
4	Latin
5	Reggae
6	Country
7	Folk
8	European Trad.
9	Orchestral
10	Techno
11	Cool House
12	Hard House
13	Drum'n'Bass
14	Breakbeat
15	Deep Chill
16	Acid Jazz
17	Hip Hop/Rap

Demo Songs

0. Sinfonia Russe EXs1

1. Love Embraces All EXs1

2. TEKNOSYS EXs1

3. Night On The Town

4. Primitive

“Sinfonia Russe EXs1” and

“TEKNOSYS EXs1”

by Peter Schwartz

©2005 Peter Schwartz - all
rights reserved

“Love Embraces All EXs1”

by Rogers Benjamin Dowling

©2005 Visionsound Music
(www.visionsound.com) - all
rights reserved

“Night On The Town”

by Paul Barrere-Fred Tackett

©2004 feat music

remixed for the OASYS by
Gil Morales

“Primitive” by MAS Anai

©2005 Cosmic Factory - all
rights reserved

IMPORTANT NOTICE TO CONSUMERS

This product has been manufactured according to strict specifications and voltage requirements that are applicable in the country in which it is intended that this product should be used. If you have purchased this product via the internet, through mail order, and/or via a telephone sale, you must verify that this product is intended to be used in the country in which you reside.

WARNING: Use of this product in any country other than that for which it is intended could be dangerous and could invalidate the manufacturer's or distributor's warranty.

Please also retain your receipt as proof of purchase otherwise your product may be disqualified from the manufacturer's or distributor's warranty.

KORG KORG INC.

4015-2 Yanokuchi, Inagi-city, Tokyo 206-0812 Japan