

1.TRANSMITTED DATA

1-1 CHANNEL MESSAGES
 [D] :Decimal

[H] :Hex,

Status	Second	Third	Description (Transmitted by)	
ENA	[Hex] [H] [D]	[H] [D]		
*1	8n A	kk (kk) 40	(64)	Note Off (Key Off)
*1	9n A	kk (kk) vv	(vv)	Note On (vv)=1-127 (Key On)
	An	kk (kk) vv	(vv)	Poly Key Pressure (Sequence data)
	T,Q	Bn	00 (00) mm	Bank Select(MSB) (BANK keys, Prog/Combi
change)	*2	PB		
	Bn	01 (01) vv	(vv)	Modulation1 (Joy Stick +Y)
	C	Bn	02 (02) vv	Modulation2 (Joy Stick -Y)
	C	Bn	04 (04) vv	Foot Pedal (A.Pdl = Foot Pedal)
	C	Bn	05 (05) vv	Portamento Time (A.Pdl/Knob-B =
Porta.Time,S Chg)	C	Bn	07 (07) vv	Volume (A.Pdl/Knob-B = Volume,S/C
Chg)	C	Bn	08 (08) vv	Post IFX Panpot (A.Pdl/Knob-B = IFX Pan,S
Chg)	C	Bn	0A (10) vv	Panpot (A.Pdl/Knob-B = Pan,S Chg)
	C	Bn	0B (11) vv	Expression (A.Pdl/Knob-B = Expression
)	C	Bn	0C (12) vv	Effect Control 1 (A.Pdl/Knob-B = FX Control1
)	C	Bn	0D (13) vv	Effect Control 2 (A.Pdl/Knob-B = FX Control2
)	C	Bn	0E (14) vv	(KARMA ON/OFF,
A.SW=KARMAOn/Off)*3	C	Bn	10 (16) vv	Multi Purpose Ctrl1 (Knob-B = MIDI CC#16)
	C	Bn	11 (17) vv	Multi Purpose Ctrl2 (Knob-B = Knob Mod1)
	C	Bn	12 (18) vv	Multi Purpose Ctrl3 (Value Slider)
	C	Bn	13 (19) vv	Multi Purpose Ctrl4 (Knob-B = Knob Mod2)
	C	Bn	14 (20) vv	(Knob-B = Knob Mod3)
	C	Bn	15 (21) vv	(Knob-B = Knob Mod4)
	C	Bn	16 (22) vv	(KARMA Knob1)
*3	C	Bn	17 (23) vv	(KARMA Knob2)
*3	C	Bn	18 (24) vv	(KARMA Knob3)
*3	C	Bn	19 (25) vv	(KARMA Knob4)
*3	C	Bn	1A (26) vv	(KARMA Knob5)
*3	C			

*3	Bn	1B (27)	vv	(vv)		(KARMA Knob6)
	C					
*3	Bn	1C (28)	vv	(vv)		(KARMA Knob7)
	C					
*3	Bn	1D (29)	vv	(vv)		(KARMA Knob8)
	C					
*3	Bn	1E (30)	00/7F	(00/127)		(KARMA SCENE)
	C					
*3	Bn	1F (31)	00/7F	(00/127)		(KARMA LATCH, A.SW=KARMA
Latch) *3	C					
	Bn	20 (32)	bb	(bb)	Bank Select(LSB)	(BANK keys, Prog/Combi
change) *2	PB					
	Bn	40 (64)	vv	(vv)	Hold1	(Damper)
	C					
	Bn	41 (65)	00/7F	(00/127)	Portamento Off/On	(SW1/SW2/A.SW = Porta.SW, S
Chg)	C					
	Bn	42 (66)	00/7F	(00/127)	Sostenuto Off/On	(A.SW = Sostenuto)
	C					
	Bn	43 (67)	vv	(vv)	Soft Pedal	(A.SW = Soft)
	C					
	Bn	46 (70)	vv	(vv)	Sound Controller 1	(Knob-B = F/A Sustain)
	C					
	Bn	47 (71)	vv	(vv)	Sound Controller 2	(Knob-2A/Knob-B =
Resonance/HPF)	C					
	Bn	48 (72)	vv	(vv)	Sound Controller 3	(Knob-4A/Knob-B = F/A
Release)	C					
	Bn	49 (73)	vv	(vv)	Sound Controller 4	(Knob-B = F/A Attack)
	C					
	Bn	4A (74)	vv	(vv)	Sound Controller 5	(Knob-1A/Knob-B = LPF
Cutoff)	C					
	Bn	4B (75)	vv	(vv)	Sound Controller 6	(Knob-B = F/A Decay)
	C					
	Bn	4C (76)	vv	(vv)	Sound Controller 7	(Knob-B = Pitch LFO1 Spd)
	C					
	Bn	4D (77)	vv	(vv)	Sound Controller 8	(Knob-B = Pitch LFO1 Dep)
	C					
	Bn	4E (78)	vv	(vv)	Sound Controller 9	(Knob-B = Pitch LFO1 Dly)
	C					
	Bn	4F (79)	vv	(vv)	Sound Controller 10	(Knob-3A/Knob-B = Filter EG
Int)	C					
	Bn	50 (80)	00/7F	(00/127)	Multi Purpose Ctrl5	(SW1/Knob-B = SW1 Mod.)
	C					
	Bn	51 (81)	00/7F	(00/127)	Multi Purpose Ctrl6	(SW2/Knob-B = SW2 Mod.)
	C					
	Bn	52 (82)	00/7F	(00/127)	Multi Purpose Ctrl7	(A.SW/Knob-B = Foot SW)
	C					
	Bn	53 (83)	vv	(vv)	Multi Purpose Ctrl8	(Knob-B = MIDI CC#83)
	C					
	Bn	55 (85)	00/7F	(00/127)		(KARMA SW1)
*3	C					
	Bn	56 (86)	00/7F	(00/127)		(KARMA SW2)
*3	C					
	Bn	57 (87)	00/7F	(00/127)		(CHORD TRIGGER1)
*3	C					
	Bn	58 (88)	00/7F	(00/127)		(CHORD TRIGGER2)
*3	C					
	Bn	59 (89)	00/7F	(00/127)		(CHORD TRIGGER3)
*3	C					
	Bn	5A (90)	00/7F	(00/127)		(CHORD TRIGGER4)
*3	C					
	Bn	5B (91)	vv	(vv)	Effect 1 Depth	(A.Pdl/Knob-B = MFX Send2,
S Chg)	C					
	Bg	5C (92)	00/7F	(00/127)	Effect 2 Depth	(All Insert FX Off/On)
	C					
	Bn	5D (93)	vv	(vv)	Effect 3 Depth	(A.Pdl/Knob-B = MFX Send1,
S Chg)	C					
	Bg	5E (94)	00/7F	(00/127)	Effect 4 Depth	(Master FX1 Off/On)
	C					

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| Bg | 5F (95) | 00/7F (00/127) | Effect 5 Depth ( Master FX2 Off/On )
| C |
| Bn | cc (cc) | vv (vv) | Control (cc)=0-95 ( Knob-B = MIDI CC#00-95 )
| C |
| Bn | cc (cc) | vv (vv) | Control (cc)=0-95 ( KARMA RTC = MIDI CC#00-95 )
) | C |
| Bn | cc (cc) | vv (vv) | Control (cc)=0-95 ( KARMA TxCC = MIDI CC#00-95 )
) *4 | C |
| Bn | cc (cc) | vv (vv) | Control (cc)=0-95•@ ( KARMA GE data )
| C |
| Bn | cc (cc) | vv (vv) | Control (cc)=0-101 ( Sequence data )
| Q |
| Cn | pp (pp) | -- -- | Program Change ( Prog/Combi change )
*2 | P |
| Dn | vv (vv) | -- -- | Channel Pressure ( After Touch )
| T |
| En | bb (bb) | bb (bb) | Bender Change ( Joy Stick X )
| C |

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+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+
A.Pdl : Assignable Pedal
A.SW : Assignable Switch
S Chg : Transmitted when change a Song No.(Seq. mode). (Status = EXT,EX2,BTH)
C/S Chg : Transmitted when change a Combination or Song No.(Seq. mode). (Status =
EXT,EX2,BTH)

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n : MIDI Channel No. (0 - 15) ¥¥¥¥¥¥ Usually Global Channel.
When in Combination/Sequencer/Song Play mode, each timbre's/track's channel.(Status
= EXT,EX2 or BTH)
g : Always Global Channel No. (0 - 15)

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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)

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*1 : kk = 24 - 108 : Keyboard (61keys + Transpose)
= 00 - 127 : Sequencer and KARMA-Module

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*2 : Program Combination MIDI Out[Hex] (Bank Map is KORG) (Bank
Map is GM(2))
BankA 000 - 127 : BankA 000 - 127 : mm,bb,pp = 00,00, 00 - 7F = 3F,00,
00 - 7F
B 000 - 127 : B 000 - 127 : 00,01, 00 - 7F 3F,01,
00 - 7F
C 000 - 127 : C 000 - 127 : 00,02, 00 - 7F 3F,02,
00 - 7F
D 000 - 127 : D 000 - 127 : 00,03, 00 - 7F 3F,03,
00 - 7F
E 000 - 127 : E 000 - 127 : 00,04, 00 - 7F 3F,04,
00 - 7F
F 000 - 127 : F 000 - 127 : 00,05, 00 - 7F 3F,05,
00 - 7F
G 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

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*3 : When "Default Setting" CC# is assigned to the KARMA RTC(Realtime Controls) in Global
mode .

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KARMA Relative Controls "Default Setting" :
ON/OFF : CC#14

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- Knob1 : CC#22
- Knob2 : CC#23
- Knob3 : CC#24
- Knob4 : CC#25
- Knob5 : CC#26
- Knob6 : CC#27
- Knob7 : CC#28
- Knob8 : CC#29
- SCENE : CC#30
- LATCH : CC#31
- SW1 : CC#85
- SW2 : CC#86
- CHORD TRIGGER1 : CC#87
- CHORD TRIGGER2 : CC#88
- CHORD TRIGGER3 : CC#89
- CHORD TRIGGER4 : CC#90

n : When in Program/Combination mode, Global channel.
 When in Sequencer/Song Play mode, current selected track's channel.

*4 : Transmitted when turn KARMA On.
 Transmitted when change a GE. (KARMA ON/OFF = On)
 Transmitted when change a Program, Combination or Song No. (Seq. mode) (KARMA ON/OFF = On)

1-2 SYSTEM COMMON MESSAGES [H] :Hex, [D]
 :Decimal

Status	Second	Third	Description (Transmitted when)
[Hex]	[H] [D]	[H] [D]	
F2	ss (ss)	tt (tt)	Song Position Pointer
			ss : Least significant [LSB]
			tt : Most significant [MSB]
F3	ss (ss)		Song Select (Song or Cue List is selected)
			ss : Song(0-127)/Cue List(0-19) No.

Transmits Song Position Pointer message when in Sequencer and Song Play mode (Internal Clock)
 Transmits Song Select message when in Sequencer mode (Internal Clock)
 *4 : 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/Song Play/Global mode) *
FA	Start (START in Seq/Song Play mode) *
FB	Continue (Continue START in Seq/Song Play mode) *
FC	Stop (STOP in Seq/Song Play mode) *
FE	Active Sensing (Always)

* Transmits these messages when MIDI Clock in Global mode is Internal.

1-4 SYSTEM EXCLUSIVE

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1-4-1 UNIVERSAL SYSTEM EXCLUSIVE MESSAGES ( NON REALTIME )
      DEVICE INQULRY REPLY ( Transmits when received a INQUIRY MESSAGE REQUEST )
      [ F0,7E,0g,06,02,42,5D,00,05,00,nn,00,vv,00,F7 ]
      3rd byte g : Global Channel
      6th byte 42 : KORG ID
      7th byte 5D : KARMA - Music

Workstation ID
      9th byte 05 : KARMA - Music

Workstation Member Code
      11th byte nn : System No.      (
01 - )
      13th byte vv : System Version (
01 - )

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1-4-2 UNIVERSAL SYSTEM EXCLUSIVE MESSAGES ( REALTIME )
      Master Volume
      [ F0,7F,0g,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

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2.RECOGNIZED RECEIVE DATA

2-1 CHANNEL MESSAGES [H] :Hex, [D] :Decimal

Status	Second	Third	Description (Use)
[Hex]	[H] [D]	[H] [D]	
8n	kk (kk)	xx (xx)	Note Off
A 9n	kk (kk)	00 (00)	Note Off
A 9n	kk (kk)	vv (vv)	Note On (vv)=1-127
A An	kk (kk)	vv (vv)	Poly Key Pressure (as AMS)
T,Q Bn	00 (00)	mm (mm)	Bank Select(MSB) (for Prog/Combi change)
*1 P 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
=Pedal) C Bn	05 (05)	vv (vv)	Portamento Time
C Bn	06 (06)	vv (vv)	Data Entry (MSB) (for RPC edit)
C Bn	07 (07)	vv (vv)	Volume
C Bn	08 (08)	vv (vv)	Balance Control (for Post IFX Panpot
control) *2 C Bn	0A (10)	vv (vv)	Panpot
C Bn	0B (11)	vv (vv)	Expression

C	Bn	0C (12)	vv	(vv)	Effect Control 1	(as FX Dmod Src =FX1)
C	Bn	0D (13)	vv	(vv)	Effect Control 2	(as FX Dmod Src =FX2)
*5,6	Bn	0E (14)	dd	(dd)		(as KARMA ON/OFF)
=Ribbon	Bn	10 (16)	vv	(vv)	Multi Purpose Ctrl1	(as AMS & FX Dmod Src
=KnobM1	Bn	11 (17)	vv	(vv)	Multi Purpose Ctrl2	(as AMS & FX Dmod Src
C	Bn	12 (18)	vv	(vv)	Multi Purpose Ctrl3	(as Value Slider)
=KnobM2	Bn	13 (19)	vv	(vv)	Multi Purpose Ctrl4	(as AMS & FX Dmod Src
=KnobM3	Bn	14 (20)	vv	(vv)		(as AMS & FX Dmod Src
=KnobM4	Bn	15 (21)	vv	(vv)		(as AMS & FX Dmod Src
*5	Bn	16 (22)	vv	(vv)		(as KARMA Knob1)
*5	Bn	17 (23)	vv	(vv)		(as KARMA Knob2)
*5	Bn	18 (24)	vv	(vv)		(as KARMA Knob3)
*5	Bn	19 (25)	vv	(vv)		(as KARMA Knob4)
*5	Bn	1A (26)	vv	(vv)		(as KARMA Knob5)
*5	Bn	1B (27)	vv	(vv)		(as KARMA Knob6)
*5	Bn	1C (28)	vv	(vv)		(as KARMA Knob7)
*5	Bn	1D (29)	vv	(vv)		(as KARMA Knob8)
*5,6	Bn	1E (30)	dd	(dd)		(as KARMA SCENE)
*5,6	Bn	1F (31)	dd	(dd)		(as KARMA LATCH)
*1	P	20 (32)	bb	(bb)	Bank Select(LSB)	(for Prog / Combi change)
C	Bn	26 (38)	vv	(vv)	Data Entry (LSB)	(for RPC edit)
C	Bn	40 (64)	vv	(vv)	Hold1	(as Damper)
*6	Bn	41 (65)	dd	(dd)	Portamento Off/On	
*6	Bn	42 (66)	dd	(dd)	Sostenuto Off/On	
C	Bn	43 (67)	vv	(vv)	Soft Pedal	
)	Bn	46 (70)	vv	(vv)	Sound Controller 1	(for Sustain Level control
ctrl)	Bn	47 (71)	vv	(vv)	Sound Controller 2	(for Resonance/HPF Cutoff
C	Bn	48 (72)	vv	(vv)	Sound Controller 3	(for Release Time control)
C	Bn	49 (73)	vv	(vv)	Sound Controller 4	(for Attack Time control)
C	Bn	4A (74)	vv	(vv)	Sound Controller 5	(for LPF Cutoff control)
C	Bn	4B (75)	vv	(vv)	Sound Controller 6	(for Decay Time control)
C	Bn	4C (76)	vv	(vv)	Sound Controller 7	(for LF01 Speed control)
control)	Bn	4D (77)	vv	(vv)	Sound Controller 8	(for LF01 Pitch Depth
C	Bn	4E (78)	vv	(vv)	Sound Controller 9	(for LF01 Delay control)

	Bn	4F (79)		vv	(vv)		Sound Controller 10 (for Filter EG Intensity
ctrl)	C					
	Bn	50 (80)		vv	(vv)		Multi Purpose Ctrl15 (as AMS & FX Dmod Src =SW 1
)	C						
	Bn	51 (81)		vv	(vv)		Multi Purpose Ctrl16 (as AMS & FX Dmod Src =SW 2
)	C						
	Bn	52 (82)		vv	(vv)		Multi Purpose Ctrl17 (as AMS & FX Dmod Src =Foot
SW)	C					
	Bn	53 (83)		vv	(vv)		Multi Purpose Ctrl18 (as AMS & FX Dmod Src
=CC#83)	C						
	Bn	55 (85)		dd	(dd)		(as KARMA SW1)
*5,6	C						
	Bn	56 (86)		dd	(dd)		(as KARMA SW2)
*5,6	C						
	Bn	57 (87)		dd	(dd)		(as CHORD TRIGGER1)
*5,6	C						
	Bn	58 (88)		dd	(dd)		(as CHORD TRIGGER2)
*5,6	C						
	Bn	59 (89)		dd	(dd)		(as CHORD TRIGGER3)
*5,6	C						
	Bn	5A (90)		dd	(dd)		(as CHORD TRIGGER4)
*5,6	C						
	Bn	5B (91)		vv	(vv)		Effect 1 Depth (for Send 2 Level control)
	C						
	Bg	5C (92)		ee	(ee)		Effect 2 Depth (for All Insert FX Off/On)
*7	C						
	Bn	5D (93)		vv	(vv)		Effect 3 Depth (for Send 1 Level control)
	C						
	Bg	5E (94)		ee	(ee)		Effect 4 Depth (for Master FX1 Off/On)
*7	C						
	Bg	5F (95)		ee	(ee)		Effect 5 Depth (for Master FX2 Off/On)
*7	C						
	Bn	60 (96)		00	(00)		Data Increment (for RPC edit)
	C						
	Bn	61 (97)		00	(00)		Data Decrement (for RPC edit)
	C						
	Bn	62 (98)		ss	(ss)		NRPN Param No.(LSB) (for NRPN select)
*3	C						
	Bn	63 (99)		tt	(tt)		NRPN Param No.(MSB) (for NRPN select)
*3	C						
	Bn	64(100)		0r	(0r)		RPN Param No. (LSB) (for RPN select)
*4	C						
	Bn	65(101)		00	(00)		RPN Param No. (MSB) (for RPN select)
*4	C						
	Bn	cc (cc)		vv	(vv)		Control data (for Seq. recording
(cc)=0-101)	C,Q					
	Bn	78(120)		00	(00)		All Sound Off
	C						
	Bn	79(121)		00	(00)		Reset All Controllers
	C						
	Bn	79(121)		00/7F	(00/127)		Local Control Off/On
	A						
	Bn	7B(123)		00	(00)		All Notes Off
	A						
	Bn	7C(124)		00	(00)		Omni Mode Off (as All Notes Off)
	A						
	Bn	7D(125)		00	(00)		Omni Mode On (as All Notes Off)
	A						
	Bn	7E(126)		00 - 10	(00 - 16)		Mono Mode On (as All Notes Off)
	A						
	Bn	7F(127)		00	(00)		Poly mode On (as All Notes Off)
	A						
	Cn	pp (pp)		--	--		Program Change (for Prog/Combi change)
*1	P						
	Dn	vv (vv)		--	--		Channel Pressure (as After Touch)
	T						
	En	bb (bb)		bb	(bb)		Bender Change
	C						

AMS : Alternate Modulation Source
FX Dmod Src: Effect Dynamic Modulation Source

n : MIDI Channel No. (0 - 15) ~~YYYYYY~~ Usually Global Channel.
When in Combination/Sequencer/Song Play mode, each timbre's/track's channel.(Status is INT or BTH)

For KARMA module input in Combination/Sequencer/Song Play 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 A	000 - 127 : Bank A 000 - 127
00,01, 00 - 7F :	B	000 - 127 : B 000 - 127
00,02, 00 - 7F :	C	000 - 127 : C 000 - 127
00,03, 00 - 7F :	D	000 - 127 : D 000 - 127
00,04, 00 - 7F :	E	000 - 127 : E 000 - 127
00,05, 00 - 7F :	F	000 - 127 : F 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 A	000 - 127 : Bank A 000 - 127
3F,01, 00 - 7F :	B	000 - 127 : B 000 - 127
3F,02, 00 - 7F :	C	000 - 127 : C 000 - 127
3F,03, 00 - 7F :	D	000 - 127 : D 000 - 127
3F,04, 00 - 7F :	E	000 - 127 : E 000 - 127
3F,05, 00 - 7F :	F	000 - 127 : F 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
00,00, 00 - 7F :	G	001 - 128
38,00, 00 - 7F :	G	001 - 128
3E,00, 00 - 7F :	g(d)	001 - 128
3F,7F, 00 - 7F :	Mute (KORG MUTE)	
(XG) 00,01 - :	Assign correspond program in G, g(1) - g(9)	
(GS) 01,00 - :	Assign correspond program in G, g(1) - g(9)	

*2 : n : When in Program mode, Global channel

When in Combination/Sequencer/Song Play mode, each IFX's channel.

*3 : tt,ss = 01,08 : Vibrato Rate
tt,ss = 01,09 : Vibrato Depth
tt,ss = 01,0A : Vibrato Delay
tt,ss = 01,20 : Filter Cutoff
tt,ss = 01,21 : Filter Resonance
tt,ss = 01,63 : EG Attack Time
tt,ss = 01,64 : EG Decay Time
tt,ss = 01,66 : EG Release Time
tt,ss = 14,kk : Drum Filter Cutoff *
tt,ss = 15,kk : Drum Filter Resonance *
tt,ss = 16,kk : Drum EG Attack Time *
tt,ss = 17,kk : Drum EG Decay Time *
tt,ss = 18,kk : Drum Coarse Tune *
tt,ss = 19,kk : Drum Fine Tune *
tt,ss = 1A,kk : Drum Volume *
tt,ss = 1C,kk : Drum Panpot *

tt,ss = 1D,kk : Drum Rev Send(Send2) *
 tt,ss = 1E,kk : Drum Cho Send(Send1) *

* Only valid when Part Mode is Drum, MDrml - Mdrm4.
 kk: Drum Inst No. (0C - 6C = C0 - C8)
 Data Entry LSB value has no effect.

*4 : r = 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.

*5 : When "Default Setting" CC# is assigned to the KARMA RTC(Realtime Controls) in Global mode .

n : When in Program/Combination mode, Global channel.
 When in Sequencer/Song Play mode, current selected track's channel.

*6 : dd = 00 - 3F : Off
 40 - 7F : On

*7 : ee = 00 : Off
 01 - 7F : On

2-2 SYSTEM COMMON MESSAGES

[H] :Hex, [D]

:Decimal

Status	Second	Third	Description (Use for)
[Hex]	[H] [D]	[H] [D]	
F2	ss (ss)	tt (tt)	Song Position Pointer (Location in Seq & KARMA Control)
			ss : Least significant [LSB]
			tt : Most significant [MSB]
F3	ss (ss)		Song Select (Song or Cue List select)
			ss : Song(0-127)/Cue List(0-19) No.

Receive Song Position Pointer when in Program/Combination/Sequencer mode (External Clock)

Receive Song Select when in Sequencer mode (External Clock)

When in the Cue List page (Seq mode P2.1),
 Song Position Pointer and Song Select respond to Location and No. of Cue List.

2-3 SYSTEM REALTIME MESSAGES

Status[Hex]	Description (Use for.....)
F8	Timing Clock (Tempo, AMS & FX Dmod Src) *
FA	Start (Seq Start & KARMA Control) *
FB	Continue (Seq Continue start & KARMA Control) *
FC	Stop (Seq Stop & KARMA Control) *
FE	Active Sensing (MIDI Connect check)

* Receive when MIDI Clock in Global mode is External.

2-4 SYSTEM EXCLUSIVE

2-4-1 UNIVERSAL SYSTEM EXCLUSIVE MESSAGES (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 Song Play mode)

[F0,7E,nn,09,01,F7] 3rd byte nn : Channel = 0 - F :

Global Channel

= 7F : Any

Channel

2-4-2 UNIVERSAL SYSTEM EXCLUSIVE MESSAGES (REALTIME)

Master Volume

[F0,7F,0g,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,0g,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,0g,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,0g,04,04,vv,mm,F7] 3rd byte g : Global Channel

6

3.KORG System Exclusive Function Code (5th byte of Exclusive message) List

Func	Description
12	MODE REQUEST
10	CURRENT PROGRAM PARAMETER DUMP REQUEST
1C	PROGRAM PARAMETER DUMP REQUEST
19	CURRENT COMBINATION PARAMETER DUMP REQUEST
1D	COMBINATION PARAMETER DUMP REQUEST
18	SEQUENCE DATA DUMP REQUEST
0E	GLOBAL DATA DUMP REQUEST
0D	DRUMKIT DATA DUMP REQUEST
0F	ALL DATA(PROG,COMBI,GLOBAL,DRUMS,SEQ)DUMP REQUEST
11	PROGRAM WRITE REQUEST
1A	COMBINATION WRITE REQUEST
40	CURRENT PROGRAM PARAMETER DUMP
4C	PROGRAM PARAMETER DUMP
49	CURRENT COMBINATION PARAMETER DUMP
4D	COMBINATION PARAMETER DUMP
48	SEQUENCE DATA DUMP
51	GLOBAL DATA DUMP
52	DRUMKIT DATA DUMP
50	ALL DATA(PROG,COMBI,GLOBAL,DRUMS,SEQ)DUMP
4E	MODE CHANGE
41	PARAMETER CHANGE
53	DRUMKIT PARAMETER CHANGE

+-----+

- (1) MODE REQUEST R
 F0, 42, 3g, 5D Excl Header
 12 Function
 F7 End of Excl
 (Receives this message, and transmits Func=42 message)
- (2) CURRENT PROGRAM PARAMETER DUMP REQUEST R
 F0, 42, 3b, 5D Excl Header
 10 Function
 00 Reserved
 F7 End of Excl
 (Receives this message, and transmits Func=40 or Func=24 message)
- (3) PROGRAM PARAMETER DUMP REQUEST R
 F0, 42, 3g, 5D Excl Header
 1C Function
 00kk 0bbb Kind and Bank (*1)
 0ppp pppp Program No.
 00 Reserved
 F7 End of Excl
 (Receives this message, and transmits Func=4C or Func=24 message)
- (4) CURRENT COMBINATION PARAMETER DUMP REQUEST R
 F0, 42, 3g, 5D Excl Header
 19 Function
 00 Reserved
 F7 End of Excl
 (Receives this message, and transmits Func=49 or Func=24 message)
- (5) COMBINATION PARAMETER DUMP REQUEST R
 F0, 42, 3g, 5D Excl Header
 1D Function
 00kk 0bbb Kind and Bank (*2)
 0ccc cccc Combination No.
 00 Reserved
 F7 End of Excl
 (Receives this message, and transmits Func=4D or Func=24 message)
- (6) SEQUENCE DATA (In Memory) DUMP REQUEST R
 F0, 42, 3g, 5D Excl Header
 18 Function
 00 Reserved
 F7 End of Excl
 (Receives this message, and transmits Func=48 or Func=24 message)
- (7) GLOBAL DATA DUMP REQUEST R
 F0, 42, 3g, 5D Excl Header
 0E Function
 00 Reserved
 F7 End of Excl
 (Receives this message, and transmits Func=51 or Func=24 message)
- (8) DRUMKIT DATA (In Memory) DUMP REQUEST R
 F0, 42, 3g, 5D Excl Header
 0D Function
 0000 000k Kind (*3)
 00dd dddd Drumkit No. (*3)
 00 Reserved
 F7 End of Excl

(Receives this message, and transmits Func=52 or Func=24 message)

(9) ALL DATA(PROG,COMBI,GLOBAL,DRUMS,SEQ)DUMP REQUEST R
 F0, 42, 3g, 5D Excl Header
 0F Function
 00 Reserved
 F7 End of Excl

(Receives this message, and transmits Func=50 or Func=24 message)

(10) PROGRAM WRITE REQUEST R
 F0, 42, 3g, 5D Excl Header
 11 Function
 0000 0bbb Write Program Bank (*4)
 0ppp pppp Write Program No.
 F7 End of Excl

(Receives this message, write the data and transmits Func=21 or Func=22 message)

(11) COMBINATION WRITE REQUEST R
 F0, 42, 3g, 5D Excl Header
 1A Function
 0000 0bbb Write Combination Bank (*4)
 0ccc cccc Write Combination No.
 F7 End of Excl

(Receives this message, write the data and transmits Func=21 or Func=22 message)

(12) CURRENT PROGRAM PARAMETER DUMP R , T
 F0, 42, 3g, 5D Excl Header
 40 Function
 0000 000t Program Type(t = 0 : PCM, 1 : MOSS)
 0ddd dddd Data (*5, TABLE1,2)
 F7 End of Excl

(Receives this message & data, and transmits Func=23 or Func=24 message)

Receives Func=10 message, and transmits this message & data.

When Enter the EDIT PROGRAM Page or Edit the PERFORMANCE EDIT by SW, transmits this message & data.

(13) PROGRAM PARAMETER DUMP R , T
 F0, 42, 3g, 5D Excl Header
 4C Function
 0000 000v Available Bank (*7)
 00kk 0bbb Kind and Bank (*7)
 0ppp pppp Program No.
 0ddd dddd Data (*5,*8, TABLE1,2)
 F7 End of Excl

(Receives this message & data, and transmits Func=23 or Func=24 message)

Receives Func=1C message, and transmits this message & data.

Transmits this message & data when DATA DUMP is executed.

(14) CURRENT COMBINATION PARAMETER DUMP R
 , T
 F0, 42, 3g, 5D Excl Header
 49 Function
 00 Reserved
 0ddd dddd Data (*5,*9, TABLE3)
 F7 End of Excl

(Receives this message & data, and transmits Func=23 or Func=24 message)

Receives Func=19 message, and transmits this message & data.

When the Combi No. is changed by SW, transmits this message & data.

(15) COMBINATION PARAMETER DUMP
 R , T
 F0, 42, 3g, 5D Excl Header

```

4D                               Function
00                               Reserved
00kk 0bbb                       Kind and Bank      (*10)
0ccc cccc                       Combination No.
00                               Reserved
0ddd dddd                       Data            (*5,*11, TABLE3)
F7                               End of Excl

```

(Receives this message & data, and transmits Func=23 or Func=24 message)

Receives Func=1D message, and transmits this message & data.

Transmits this message & data when DATA DUMP is executed.

(16) SEQUENCE DATA (In Memory) DUMP

```

R , T
F0, 42, 3g, 5D                 Excl Header
48                               Function
00                               Reserved
0sss ssss                       Seq. data Size      [4Bytes]      (*12-1)
:                               :
0mmm mmmm                       CSeqdataMgr        (*5,*12-2, TABLE8)
:                               :
0ccc cccc                       CueLists Data      (*5,*12-3, TABLE9)
:                               :
0ddd dddd                       Sequence Data       (*5,*12-4, TABLE10)
F7                               End of Excl

```

(Receives this message & data, and transmits Func=23 or Func=24 message)

Receives Func=18 message, and transmits this message & data.

Transmits this message & data when DATA DUMP is executed.

(17) GLOBAL DATA DUMP

```

R , T
F0, 42, 3g, 5D                 Excl Header
51                               Function
00                               Reserved
0ddd dddd                       Data            (*5,*13, TABLE4)
:
F7                               End of Excl

```

(Receives this message & data, and transmits Func=23 or Func=24 message)

Receives Func=0E message, and transmits this message & data.

Transmits this message & data when DATA DUMP is executed.

(18) DRUMKIT DATA DUMP

```

R , T
F0, 42, 3g, 5D                 Excl Header
52                               Function
0000 000k                       Kind              (*14)
0ddd dddd                       Drumkit No.       (*14)
00                               Reserved
0ddd dddd                       Data            (*5,*15, TABLE7)
:
F7                               End of Excl

```

(Receives this message & data, and transmits Func=23 or Func=24 message)

Receives Func=0D message, and transmits this message & data.

Transmits this message & data when DATA DUMP is executed.

(19) ALL DATA (PROG,COMBI,GLOBAL,DRUMS,SEQ) DUMP

```

R , T
F0, 42, 3g, 5D                 Excl Header
50                               Function
0000 000v                       Available Bank     (*16)
00                               Reserved
0sss ssss                       Seq. data Size    [4Bytes](*12-1)
:                               :
0ddd dddd                       Data            (*5,*17, TABLE1,2,3,4,7,8,9,10)
F7                               End of Excl

```

(Receives this message & data, and transmits Func=23 or Func=24 message)
 Receives Func=0F message, and transmits this message & data.
 Transmits this message & data when DATA DUMP is executed.

(20) MODE CHANGE

R , T
 F0, 42, 3g, 5D Excl Header
 4E Function
 0000 mmmmm Mode (*18)
 F7 End of Excl

(Receives this message & data, changes the Mode, and transmits Func=23 or Func=24
 When the Mode is changed by SW, transmits this message & data.

(21) PARAMETER CHANGE

R , T
 F0, 42, 3g, 5D Excl Header
 41 Function
 0000 mmmmm Mode (*18)
 0000 0000 Parameter ID (MSB)
 0ppp pppp Parameter ID (LSB) (TABLE 1,2,3,5,6)
 0000 0000 Parameter SUB ID (MSB)
 0qqq qqqq Parameter SUB ID (LSB) (TABLE 1,2,3,5,6)
 0vvv vvvv Value (MSB bit7-18) (*19)
 0vvv vvvv Value (LSB bit0-6) (*19)
 F7 End of Excl

(Receives this message & data, and transmits Func=23 or Func=24 messages)
 When the Parameter No. is changed by SW, transmits this message & data.

(22) DRUMKIT PARAMETER CHANGE

R , T
 F0, 42, 3g, 5D Excl Header
 53 Function
 0kkk kkkk Drumkit No. kk = 00-3F (: 00-63)
 0sss ssss Index No. ss = 00-7F (: C-1-G9)
 0000 0000 Parameter No. (MSB) (TABLE 7)
 0ppp pppp Parameter No. (LSB) (TABLE 7)
 0vvv vvvv Value (MSB bit7~18) (*19)
 0vvv vvvv Value (LSB bit0~6) (*19)
 F7 End of Excl

(Receives this message & data, and transmits Func=23 or Func=24 messages)

(23) MODE DATA

T
 F0, 42, 3g, 5D Excl Header
 42 Function
 0000 mmmmm Mode (*18)
 0ooo oooo Option (*20)
 0sss ssss Setuped data1 (*20)
 0ddd dddd Setuped data2 (*20)
 00 Reserved
 F7 End of Excl

(Receives FUNC=12 message, and transmits this message & data.)

(24) MIDI IN DATA FORMAT ERROR

T
 F0, 42, 3g, 5D Excl Header
 26 MIDI IN DATA FORMAT ERROR
 0ccc cccc Error Code (*21)
 F7 End of Excl

(Transmits this message when there is an error in the MIDI IN message (ex.data length).)

(25) DATA LOAD COMPLETED (ACK)

T

F0, 42, 3g, 5D Excl Header
23 DATA LOAD COMPLETED
F7 End of Excl

(Transmits this message when DATA LOAD,PROCESSING have been completed.)

(26) DATA LOAD ERROR (NAC)

T

F0, 42, 3g, 5D Excl Header
24 DATA LOAD ERROR
0ccc cccc Error Code (*22)
F7 End of Excl

(Transmits this message when DATA LOAD,PROCESSING have not been completed (ex. protected).)

(27) WRITE COMPLETED

T

F0, 42, 3g, 5D Excl Header
21 WRITE COMPLETED
F7 End of Excl

(Transmits this message when DATA WRITE MIDI have been completed.)

(28) WRITE ERROR

T

F0, 42, 3g, 5D Excl Header
22 WRITE ERROR
0ccc cccc Error Code (*23)
F7 End of Excl

(Transmits this message when DATA WRITE MIDI have not been completed.)

//////// * The each bank's value is same as value of the internal bank

*1

k = 0 : All Programs
 1 : 1 Bank Programs (Use b)
 2 : 1 Program (Use b & pp)

b = 0-4 : Bank A-E
 5 : Bank F

*2

k = 0 : All Combinations
 1 : 1 Bank Combinations (Use b)
 2 : 1 Combination (Use b & cc)

b = 0-5 : Bank A-F

*3

k = 0 : All Drumkits
 1 : 1 Drumkit (Use d)

d = 0-3F : Drumkit 0-63

*4 PROGRAM, COMBINATION BANK

b = 0-5 : Bank A-F

*5 DUMP DATA CONVERT

Convert 8 to 7
Convert 7 to 8

*6 PROGRAM PARAMETER (IN CURRENT BUFFER) DUMP FORMAT

*PCM
*MOSS

*7

v = 0 : Bank A-E
1 : Bank A-F

k = 0 : All Bank Program (Use v)
1 : 1 Bank Program (Use v & b)
2 : 1 Program (Use b & pp)

b = 0-5 : Bank A-F

*8 PROGRAM PARAMETER (IN INTERNAL MEMORY) DUMP FORMAT

*9 COMBINATION PARAMETER (IN CURRENT BUFFER) DUMP FORMAT

*10

k = 0 : All Bank Combination
1 : 1 Bank Combination (Use b)
2 : 1 Combination (Use b & cc)

b = 0-5 : Bank A-F

*11 COMBINATION PARAMETER (IN INTERNAL MEMORY) DUMP FORMAT

*12 SEQUENCE DATA'S OFFSET,SIZE,ADDRESS FORMAT

12-1 : Sequence Data Size (4Bytes)
'Seq Data Size' is a all song data's length. A unit is Byte.
[Data Size (bit21~27)],
[Data Size (bit14~20)],
[Data Size (bit 7~13)],
[Data Size (bit 0~ 6)]

12-2 : CSeqdataMgr

12-3 : CueLists Data

12-4 : Sequence Data

*13 GLOBAL DATA (IN INTERNAL MEMORY) DUMP FORMAT

*14

k = 0 : All Drumkits
1 : 1 Drumkit (Use d)

d = 0-3F : Drumkit 0-63

*15 DRUMS DATA (IN INTERNAL MEMORY) DUMP FORMAT

*16

Program
v = 0 : Bank A-E
1 : Bank A-F

*17 All DATA (PROG,COMBI,GLOBAL,DRUMS,ARPPAT,SEQ) DUMP FORMAT

[Global Data],
[Drums Data],
[All Combination Parameter Data],
[All Program Parameter Data],
[CSeqdataMgr],
[CueLists Data],
[Sequence Data]

*18

mmmm = 0 : COMBI PLAY
1 : COMBI EDIT
2 : PROG PLAY
3 : PROG EDIT
4 : SEQUENCER
5 : SONGPLAY

7 : GLOBAL
8 : DISK

*19 VALUE DATA FORMAT (Use at PARAMETER CHANGE, DRUM KIT PARAMETER CHANGE)

*20

oo : bit 0 = 0 : No MOSS Synthesizer, = 1 : MOSS Synthesizer is loaded
 ss : bit 0,1 = 0 : Note Receive is EVEN, = 1 : ODD, = 2 : ALL
 bit 3 = 0 : Seq Clock is internal, = 1 : External
 dd : bit 0 = 0 : Prog Mem is not protected, = 1 : protected
 bit 1 = 0 : Combi Mem is not protected, = 1 : protected
 bit 2 = 0 : Seq Mem is not protected, = 1 : protected
 bit 3 = 0 : Drums Mem is not protected, = 1 : protected

*21

cc = 0 : Received Data Length is wrong
 1 : Received Function code is not registered
 40 : Another type error

*22

cc = 0 : Dest Memory is protected
 1 : Dest Bank/Prog/Param is not exist
 2 : The mode is wrong
 3 : Memory over flow
 40 : Another type error

*23

cc = 0 : Dest Memory is protected
 1 : Dest Bank/Prog is not exist
 2 : The mode is wrong
 40 : Another type error

[TABLE 1] PROGRAM PARAMETERS (for PCM Synth)

2000.12.22

No. : No. in the PROGRAM DUMP DATA.

PARA No. : Parameter ID & SUB ID [Hex] for PARAMETER CHANGE.

Left side of ',' is Parameter ID, and right side is SUB ID.

No. (bit) PARA No.	PARAMETER	DATA(Hex) : VALUE	DESCRIPTION
00	PROGRAM NAME (Head)		
:	:	20~~7F	
15	PROGRAM NAME (Tail)		
INSERT EFFECT PARAMETERS			
16			
1E,00			
:	FX1~~5 (24Bytes * 5)		
:			
135	(120 Bytes)		
23,??			
MASTER EFFECT PARAMETERS			
136			
24,00			
:	FX1~~2 (20Bytes * 2)		
:			

:	Return, Chain & Master EQ (16 Bytes)		
191	(56 Bytes)		
27,??			
-----+-----			
KARMA COMMON PARAMETERS			
-----+-----			
192	TEMPO	28~~F0 : 40~~240	
1C,00			
-----+-----			
bit0	SW1 (for Scen1)	0:OFF, 1:ON	
1C,01			
-----+-----			
bit1	SW2 (for Scen1)	0:OFF, 1:ON	
1C,02			
193			
-----+-----			
bit2	SW1 (for Scene2)	0:OFF, 1:ON	
1C,03			
-----+-----			
bit3	SW2 (for Scene2)	0:OFF, 1:ON	
1C,04			
-----+-----			
bit5	SCENE	0:1, 1:2	
1C,05			
-----+-----			
bit6	LATCH	0:OFF, 1:ON	
1C,06			
-----+-----			
bit7	ON/OFF	0:OFF, 1:ON	
1C,07			
-----+-----			
194	SW1 NAME ID MSB		
		0~~197: 0~~407	
		1C,08	
195	SW1 NAME ID LSB		
-----+-----			
196	SW2 NAME ID MSB		
		0~~197: 0~~407	
		1C,09	
197	SW2 NAME ID LSB		
-----+-----			
198	KNOB1 NAME ID MSB		
		0~~197: 0~~407	
		1C,0A	
199	KNOB1 NAME ID LSB		
-----+-----			
200	KNOB 2~~8 NAME ID		
1C,0B			
:	Same as KNOB 1 NAME ID (198~~199)		
:			
213	(2 * 7 = 14 Bytes)		
1C,11			
-----+-----			
214	KNOB 1 (for Scen1)	00~~7F : 0~~127	
1C,12			

215		KNOB 2~~8 (for Scene1)		
1C,13	:			
:	:	Same as KNOB 1 (for Scene1) (214)		
221		(7 Bytes)		
1C,19				
222		KNOB 1 (for Scene2)	00~~7F : 0~~127	
1C,1A				
223		KNOB 2~~8 (for Scene2)		
1C,1B	:			
:	:	Same as KNOB 1 (for Scene2) (222)		
229		(7 Bytes)		
1C,21				
KARMA COMMON PARAMETERS DYNAMIC MIDI 1				
b0~~2		(INPUT MODULE)	0	0 FIXED

230				
b3~~4		POLARITY	0:+, 1:-, 2:+/-, 3:-/+	
1C,23				
231		SOURCE	**1-8	
1C,24				
232		DESTINATION	**1-9	
1C,25				
bit0		(MODULE A)	1	1 FIXED

bit1		(MODULE B)	0	0 FIXED

bit2		(MODULE C)	0	0 FIXED

233				
bit3		(MODULE D)	0	0 FIXED

bit4		(LAST TRIGED)	0	0 FIXED

b5~~6		SRC ACTION	0:M, 1:T, 2:C	
1C,2B				
234		TOP	00~~7F : 0~~127	
1C,2C				
235		BOTTOM	00~~7F : 0~~127	
1C,2D				
236		DYNAMIC MIDI 2~~4		
1C,2F	:			
:	:	Same as DYNAMIC MIDI 1 (230~~235)		
253		(6 * 3 Bytes)		

1C,51			
KARMA COMMON PARAMETERS RTPARMS 1			
254 1C,52	GROUP		0:OFF, 1:MIX, 2:CTRL, 3:TRIG, 4:ZONE
255 1C,53	PARAMETER		**1-10
bit0 1C,54	MODULE A		0:OFF, 1:ON
bit1 ----- 256	(MODULE B)	0	0 FIXED
bit2 -----	(MODULE C)	0	0 FIXED
bit3 -----	(MODULE D)	0	0 FIXED
257 1C,58	ASSIGN		**1-11
258	MIN MSB		
			000~~1388 : 0~~5000
259	MIN LSB	1C,59	
260	MAX MSB		
			000~~1388 : 0~~5000
261	MAX LSB	1C,5A	
262	VALUE MSB		
			000~~1388 : 0~~5000
263	VALUE LSB	1C,5B	
264 1C,5C : : 333 1C,21	RTPARMS 2~~8 Same as RTPARMS 1 (254~~263) (10 * 7 = 70 Bytes)		
KARMA COMMON PARAMETERS CHORD TRIGGER 1			
334 : ----- 341	CHORD TRIGGER 1 NOTE 1~~8 (8 Bytes)		00~~7F : C-1~~G9
342	CHORD TRIGGER 2~~4		

365	:	Same as CHORD TRIGGER 1 (334~~341)		
	-----	(3 * 8 = 24 Bytes)		
366		CHORD MEMORY 1~~4		
369	:	VELOCITY	00~~7F : 0~~127	
	-----	(4 Bytes)		
KARMA MODULE PARAMETERS				
370		GE SELECT MSB		
			0~~???: 0~~???	
371		GE SELECT LSB	1D,00	
372		(INPUT CHANNEL)	10	10 FIXED
373		(OUTPUT CHANNEL)	10	10 FIXED
374		TRANSPOSE	DC~~24 : -36~~36	
	1D,13			
375		KEY ZONE TOP	00~~7F : C-1~~G9	
	1D,05			
376		KEY ZONE BOTTOM	00~~7F : C-1~~G9	
	1D,06			
	bit0	ROOT POSITION	0:OFF, 1:ON	
	1D,1C			
377	b3~~5	FORCE RANGE	0:OFF, 1:LOWEST, 2:HIGHEST, 3:C3-B3[1], 4:C3-B3[2]	
	1D,14			
	b6~~7	CLK ADV. MODE	0:AUTO, 1:DYN, 2:AUTO+DYN1, 3:AUTO+DYN2	
	1D,2D			
	b0~~2	CHORD MODE	0:OFF, 1:1ST, 2:CHRD1, 3:CHRD2, 4:CHRD3	
	1D,2F			
378				
	b4~~7	CLK ADV. SIZE	**1-12	
	1D,2E			
379		CLOCK ADV. VEL	01~~7F : 1~~127	
	1D,30			
380		DELAY START FIXED MSB		
			000~~1388 : 0~~5000	
381		DELAY START FIXED LSB	1D,15	
382		DELAY START	**1-13	
	1D,16			

383	b0~~3	(TRIGGER BY MODULE)	0	0 FIXED
	bit4	(CUTOFF MODULE A)	0	0 FIXED
	bit5	(CUTOFF MODULE B)	0	0 FIXED
	bit6	(CUTOFF MODULE C)	0	0 FIXED
	bit7	(CUTOFF MODULE D)	0	0 FIXED
384		(MODULE %)	0	0 FIXED
385	b0~~1	NOTE TRIGGER	0:ANY, 1:AKR, 2:1ST, 3DYN	
	bit4	NOTE LATCH	0:OFF, 1:ON	
386	b0~~1	ENV 1 TRIGGER	0:ANY, 1:AKR, 2:1ST, 3DYN	
	b4~~6	ENV 1 LATCH	0:OFF, 1:SUS1, 2:REL1, 3:SUS2, 4:REL2	
387	b0~~1	ENV 2 TRIGGER	0:ANY, 1:AKR, 2:1ST, 3DYN	
	b4~~6	ENV 2 LATCH	0:OFF, 1:SUS1, 2:REL1, 3:SUS2, 4:REL2	
388	b0~~1	ENV 3 TRIGGER	0:ANY, 1:AKR, 2:1ST, 3DYN	
	b4~~6	ENV 3 LATCH	0:OFF, 1:SUS1, 2:REL1, 3:SUS2, 4:REL2	
389	bit0	TX. BEND	0:OFF, 1:ON	
	bit1	TX. CC-A	0:OFF, 1:ON	
	bit2	TX. CC-B	0:OFF, 1:ON	
	bit3	QUANTIZE TRIGGER	0:OFF, 1:ON	
	bit4	(TIMBZONE BYPASS)	0	0 FIXED

bit5		(TIMB THRU)		0	0 FIXED

bit6		THRU IN ZONE		0:OFF, 1:ON	
1D,17					
bit7		(RUN)		1	1 FIXED

bit0		RX. BEND		0:OFF, 1:ON	
1D,07					
bit1		RX. AFTER T		0:OFF, 1:ON	
1D,08					
390					
bit2		RX. DAMPER		0:OFF, 1:ON	
1D,09					
bit3		RX. JS+Y		0:OFF, 1:ON	
1D,0A					
bit4		RX. JS-Y		0:OFF, 1:ON	
1D,0B					
bit5		RX. OTHER CC		0:OFF, 1:ON	
1D,0C					
bit6		THRU OUT ZONE		0:OFF, 1:ON	
1D,18					
bit7		TX. ENV 1		0:OFF, 1:ON	
1D,10					
b0~~1		(RYTHM SEED)		0	0 FIXED

b2~~3		(DURATION SEED)		0	0 FIXED

391					
b4~~5		(INDEX SEED)		0	0 FIXED

b6~~7		(CLUSTER SEED)		0	0 FIXED

b0~~1		(VELOCITY SEED)		0	0 FIXED

b2~~3		(CC-A/B SEED)		0	0 FIXED

392	b4~~5 -----	(DRUM SEED)	0	0 FIXED
	bit6 1D,11	TX. ENV 2	0:OFF, 1:ON	
	bit7 1D,12	TX. ENV 3	0:OFF, 1:ON	
393	1D,37	TRANSCOPE IN ZONE	DC~~24 : -36~~36	
394	1D,38	TRANSCOPE OUT ZONE	DC~~24 : -36~~36	
395	-----	(Reserved)	0	0 FIXED
KARMA MODULE PARAMETERS GE PARAMETER 1				
396	1D,49	ASSIGN	**1-11	
397	1D,59	POLARITY	0:+, 1:-	
398		VALUE MSB		
			????	
399		VALUE LSB	1D,39	
400	1D,3A	KARMA MODULE PARAMETERS GE PARAMETER 2~~16		
	:	Same as KARMA GE PARAMETER 1 (396~~399)		
	:	(4 * 15 = 60 Bytes)		
459	1D,68			
KARMA MODULE PARAMETERS CC PARM 1				
460	1D,1D	TX.CC NUMBER	FF:OFF, 00~~5F : 0~~95	
461	1D,21	CC VALUE	00~~7F : 0~~127	
462	1D,1E	KARMA MODULE PARAMETERS CC PARM 2~~4		
	:	Same as KARMA CC PARM 1 (460~~461)		
	:	(2 * 3 = 6 Bytes)		
467	1D,24			
COMMON PARAMETERS				
	b0~~1 00,01	OSCILLATOR MODE	0:Single, 1:Double, 2:Drums	
	bit2 00,02	ASSIGN	0:Poly, 1:Mono	

468	bit3 00,03	LEGATO	0:OFF, 1:ON
	b4~~5 00,04	PRIORITY	0:Low, 1:High, 2:Last
	bit6 00,05	SINGLE TRIGGER	0:OFF, 1:ON
	bit7 00,06	HOLD	0:OFF, 1:ON
469	b0~~6 00,07	BUS SELECT	00:L/R,01~~05:IFX1~~5,06~~07:1~~2,0A:1/2,0C:Off
	bit7 00,08	USE DKIT SETTING	0:OFF, 1:ON
470	00,00	CATEGORY	00~~0F : 0~~15
471	00,09	SCALE TYPE	00~~1A : **1-1
472	00,0A	SCALE KEY	00~~0C : C~~B
473	00,0B	RANDOM INTENSITY	00~~07 : 0~~7
	b0~~5 00,0C	SW 1 ASSIGN TYPE	00~~0C : **1-2
474	bit6 00,10	SW1 TOGGLE/MOMENTARY	0:Toggle, 1:Momentary
	bit7 00,0F	SW 1 ON/OFF	0:OFF, 1:ON
	b0~~5 00,0D	SW 2 ASSIGN TYPE	00~~0C : **1-2
475	bit6 00,11	SW2 TOGGLE/MOMENTARY	0:Toggle, 1:Momentary
	bit7 00,0F	SW 2 ON/OFF	0:OFF, 1:ON
476	b0~~6 00,12	KNOB 1 ASSIGN TYPE	00~~7C : **1-3
	bit7 00,16	REALTIME CONTROLS	0:A, 1:B
477	00,13	KNOB 2 ASSIGN	00~~7C : **1-3

478 00,14	KNOB 3 ASSIGN	00~~7C :	**1-3	
479 00,15	KNOB 4 ASSIGN	00~~7C :	**1-3	
PITCH EG				
480 01,00	START LEVEL	9D~~63 :	-99~~99	
481 01,01	ATTACK TIME	00~~63 :	00~~99	
482 01,02	ATTACK LEVEL	9D~~63 :	-99~~99	
483 01,03	DECAY TIME	00~~63 :	00~~99	
484 01,04	RELEASE TIME	00~~63 :	00~~99	
485 01,05	RELEASE LEVEL	9D~~63 :	-99~~99	
486 01,08	A.M.SOURCE (LEVEL1)	00~~2A :	**1-4	Alternate Modulation
487 01,09	INT BY A.M.(LEVEL1)	9D~~63 :	-99~~99	
488 01,0A	A.M.SOURCE (LEVEL2)	00~~2A :	**1-4	Alternate Modulation
489 01,0B	INT BY A.M.(LEVEL2)	9D~~63 :	-99~~99	
490 01,06	A.M.SOURCE (TIME)	00~~2A :	**1-4	Alternate Modulation
491 01,07	INT BY A.M.(TIME)	9D~~63 :	-99~~99	
b0~~1 01,0E	START (A.M.LEVEL1)	FF:-, 0:OFF, 1:+		
b2~~3 01,0F 492	ATTACK (A.M.LEVEL1)	FF:-, 0:OFF, 1:+		
b4~~5 01,10	START (A.M.LEVEL2)	FF:-, 0:OFF, 1:+		
b6~~7 01,11	ATTACK (A.M.LEVEL2)	FF:-, 0:OFF, 1:+		
b0~~1 01,0C 493	ATTACK (A.M.TIME)	FF:-, 0:OFF, 1:+		
b2~~3	DECAY (A.M.TIME)	FF:-, 0:OFF, 1:+		

01,0D				
OSCILLATOR 1				
bit7 02,02	HI START OFFSET	0:OFF, 1:ON		
494 02,03	bit6 HI REVERSE	0:OFF, 1:ON		
b0~~5 02,01	HI SAMPLE NO.(MSB)	00~~03E7 : 00~~999		
495	HI SAMPLE NO.(LSB)			
496 option.	02,00 HI BANK	0:ROM, 1:RAM, ~~???	???	???
497 02,04	HI LEVEL	00~~7F : 00~~127		
bit7 02,07	LOW START OFFSET	0:OFF, 1:ON		
498 02,08	bit6 LOW REVERSE	0:OFF, 1:ON		
b0~~6 02,06	LOW SAMPLE NO.(MSB)	00~~03E7 : 00~~999		
499	LOW SAMPLE NO.(LSB)			
500 option.	02,05 LOW BANK	0:ROM, 1:RAM, ~~???	???	???
501 02,09	LOW LEVEL	00~~7F : 00~~127		
502 02,0A	DELAY START	00~~60,61 :	**1-5	
503 02,0B	VEL M.SAMPLE SW	01~~7F : 01~~127		(For Vel Split)
504 02,0C	VEL ZONE BOTTOM	01~~7F : 01~~127		
505 02,0D	VEL ZONE TOP	01~~7F : 01~~127		
OSCILLATOR 1 LFO 1				
b0~~4 03,00	WAVEFORM	0~~14 :	**1-6	
506				
bit7 03,01	KEY SYNC.	0:OFF, 1:ON		

507		FREQUENCY	00~~63 : 00~~99	
03,02				
508		OFFSET	9D~~63 : -99~~99	
03,03				
509		DELAY	00~~63 : 00~~99	
03,04				
510		FADE	00~~63 : 00~~99	
03,05				
	bit7	MIDI/TEMPO SYNC.	0:OFF, 1:ON	
03,0A				
511	b4~~6	SYNC BASE NOTE	0:16,1:8T,2:8,3:4T,4:4,5:2T,6:2,7:1	
03,0B				
	b0~~3	TIMES	00~~0F : 01~~16	
03,0C				
512		A.M.SOURCE (FREQ1)	00~~2A : **1-4	Alternate Modulation
03,06				
513		INT BY A.M.(FREQ1)	9D~~63 : -99~~99	
03,07				
514		A.M.SOURCE (FREQ2)	00~~2A : **1-4	Alternate Modulation
03,08				
515		INT BY A.M.(FREQ2)	9D~~63 : -99~~99	
03,09				
OSCILLATOR 1 LFO 2				
516				
04,00				
:		Same as OSCILLATOR 1 LFO 1 (506~~515)		
:				
525		(10 Bytes)		
04,0C				
OSCILLATOR 1 PITCH				
526		OCTAVE	FE~~01 : 32~~4 [']	
05,00				
527		TRANSPOSE	F4~~0C : -12~~12	
05,01				
528		TUNE (MSB)	FB50~~04B0 : -1200~~1200	
05,02				
529		TUNE (LSB)	[Cent]	
530		A.M.SOURCE (PITCH)	00~~2A : **1-4	Alternate Modulation
05,03				

531 05,04	INT BY A.M.(PITCH)	8D~~73 :	**1-7	
532 05,05	PITCH SLOPE	F6~~14 :	-1.0~~2.0	
533 05,06	INT BY PITCH EG	8D~~73 :	**1-7	
534 05,07	A.M.SOURCE (P.EG)	00~~2A :	**1-4	Alternate Modulation
535 05,08	INT BY A.M.(P.EG)	8D~~73 :	**1-7	
536 05,09	INT BY OSC-1 LFO 1	8D~~73 :	**1-7	
537 05,0A	INT BY OSC-1 LFO 2	8D~~73 :	**1-7	
bit0 05,0B 538	PORTAMENTO	0:DIS, 1:ENA		
bit1 05,0C	PORTAMENTO FINGERED	0:OFF, 1:ON		
539 05,0D	PORTAMENTO TIME	00~~7F :	00~~127	
540 05,0E	PITCH BY JS(+X)	C4~~0C :	-60~~12	
541 05,0F	PITCH BY JS(-X)	C4~~0C :	-60~~12	
542 05,10	PITCH BY RIBBON(X)	F4~~0C :	-12~~12	
543 ----	(RESERVED)			
544 05,11	LFO1 INT BY JS(+Y)	8D~~73 :	**1-7	
545 05,12	LFO2 INT BY JS(+Y)	8D~~73 :	**1-7	
546 05,13	A.M.SOURCE(LFO1INT)	00~~2A :	**1-4	Alternate Modulation
547 05,14	INT BY A.M.(LFO1INT)	8D~~73 :	**1-7	
548 05,15	A.M.SOURCE(LFO2INT)	00~~2A :	**1-4	Alternate Modulation
549 05,16	INT BY A.M.(LFO2INT)	8D~~73 :	**1-7	
OSCILLATOR 1 FILTER				

550 06,00	TYPE	0:LPF+RESO, 1:LPF+HPF	
551 06,01	TRIM	00~~63 : 00~~99	
552 06,02	RESONANCE	00~~63 : 00~~99	
553 06,03	A.M.SOURCE(RESO.)	00~~2A : **1-4	Alternate Modulation
554 06,04	INT BY A.M.(RESO.)	9D~~63 : -99~~99	
555 06,05	A.M.SOURCE(EG)	00~~2A : **1-4	Alternate Modulation
556 06,06	A.M.SOURCE(LFO1)	00~~2A : **1-4	Alternate Modulation
557 06,07	A.M.SOURCE(LFO2)	00~~2A : **1-4	Alternate Modulation
OSCILLATOR 1 FILTER A			
558 07,00	FREQUENCY	00~~63 : 00~~99	
559 07,01	KBD TRACK INTENSITY	9D~~63 : -99~~99	
560 07,02	A.M.SOURCE(MOD1)	00~~2A : **1-4	Alternate Modulation
561 07,03	INT BY A.M.(MOD1)	9D~~63 : -99~~99	
562 07,04	A.M.SOURCE(MOD2)	00~~2A : **1-4	Alternate Modulation
563 07,05	INT BY A.M.(MOD2)	9D~~63 : -99~~99	
564 07,06	EG INTENSITY	9D~~63 : -99~~99	
565 07,07	EG VELOCITY	9D~~63 : -99~~99	
566 07,08	INT BY LFO 1	9D~~63 : -99~~99	
567 07,09	INT BY LFO 2	9D~~63 : -99~~99	
568 07,0A	LFO 1 BY JS(-Y)	9D~~63 : -99~~99	
569 07,0B	LFO 2 BY JS(-Y)	9D~~63 : -99~~99	
570 07,0C	INT BY A.M.(EG)	9D~~63 : -99~~99	Alternate Modulation

571 07,0D	INT BY A.M.(LFO1)	9D~~63 : -99~~99	Alternate Modulation
572 07,0E	INT BY A.M.(LFO2)	9D~~63 : -99~~99	Alternate Modulation
OSCILLATOR 1 FILTER B			
573 08,00	: Same as OSCILLATOR 1 FILTER B (558~~572)		
587 08,0E			
OSCILLATOR 1 FILTER EG			
588 09,00	START LEVEL	9D~~63 : -99~~99	
589 09,01	ATTACK TIME	00~~63 : 00~~99	
590 09,02	ATTACK LEVEL	9D~~63 : -99~~99	
591 09,03	DECAY TIME	00~~63 : 00~~99	
592 09,04	BREAK POINT LEVEL	9D~~63 : -99~~99	
593 09,05	SLOPE TIME	00~~63 : 00~~99	
594 09,06	SUSTAIN LEVEL	9D~~63 : -99~~99	
595 09,07	RELEASE TIME	00~~63 : 00~~99	
596 09,08	RELEASE LEVEL	9D~~63 : -99~~99	
b7~~b6 09,12	RELEASE (A.M.TIME1)	FF:-, 0:OFF, 1:+	
b5~~b4 09,11	SLOPE (A.M.TIME1)	FF:-, 0:OFF, 1:+	
597			
b3~~b2 09,10	DECAY (A.M.TIME1)	FF:-, 0:OFF, 1:+	
b1~~b0 09,0F	ATTACK (A.M.TIME1)	FF:-, 0:OFF, 1:+	
b7~~b6 09,16	RELEASE (A.M.TIME2)	FF:-, 0:OFF, 1:+	
b5~~b4 09,15	SLOPE (A.M.TIME2)	FF:-, 0:OFF, 1:+	

598

b3~~b2 09,14	DECAY (A.M.TIME2)	FF:-, 0:OFF, 1:+
-----------------	-------------------	------------------

b1~~b0 09,13	ATTACK (A.M.TIME2)	FF:-, 0:OFF, 1:+
-----------------	--------------------	------------------

b5~~b4 09,19	BREAK (A.M.LEVEL)	FF:-, 0:OFF, 1:+
-----------------	-------------------	------------------

599 b3~~b2 09,18	ATTACK (A.M.LEVEL)	FF:-, 0:OFF, 1:+
---------------------	--------------------	------------------

b1~~b0 09,17	START (A.M.LEVEL)	FF:-, 0:OFF, 1:+
-----------------	-------------------	------------------

600 09,09	A.M.SOURCE(TIME1)	00~~2A :	**1-4	Alternate Modulation
--------------	-------------------	----------	-------	----------------------

601 09,0A	INT BY A.M.(TIME1)	9D~~63 :	-99~~99
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602 09,0B	A.M.SOURCE(TIME2)	00~~2A :	**1-4	Alternate Modulation
--------------	-------------------	----------	-------	----------------------

603 09,0C	INT BY A.M.(TIME2)	9D~~63 :	-99~~99
--------------	--------------------	----------	---------

604 09,0D	A.M.SOURCE(LEVEL)	00~~2A :	**1-4	Alternate Modulation
--------------	-------------------	----------	-------	----------------------

605 09,0E	INT BY A.M.(LEVEL)	9D~~63 :	-99~~99
--------------	--------------------	----------	---------

OSCILLATOR 1 FILTER KEYBOARD TRACK

606 0A,00	KEY LOW	00~~7F :	C-1~~G9
--------------	---------	----------	---------

607 0A,01	RAMP LOW	9D~~63 :	-99~~99
--------------	----------	----------	---------

608 0A,02	KEY HIGH	00~~7F :	C-1~~G9
--------------	----------	----------	---------

609 0A,03	RAMP HIGH	9D~~63 :	-99~~99
--------------	-----------	----------	---------

OSCILLATOR 1 AMPLIFIER

610 0B,00	LEVEL	00~~7F :	00~~127
--------------	-------	----------	---------

611 0B,01	INT BY VELOCITY	9D~~63 :	-99~~99
--------------	-----------------	----------	---------

612 0B,02	A.M.SOURCE	00~~2A :	**1-4	Alternate Modulation
--------------	------------	----------	-------	----------------------

613 0B,03	INT BY A.M.	9D~~63 : -99~~99	
614 0B,04	INT BY LFO 1	9D~~63 : -99~~99	
615 0B,05	INT BY LFO 2	9D~~63 : -99~~99	
616 0B,06	A.M.SOURCE(LFO1)	00~~2A : **1-4	Alternate Modulation
617 0B,07	INT BY A.M.(LFO1)	9D~~63 : -99~~99	
618 0B,08	A.M.SOURCE(LFO2)	00~~2A : **1-4	Alternate Modulation
619 0B,09	INT BY A.M.(LFO2)	9D~~63 : -99~~99	
OSCILLATOR 1 AMPLIFIER EG			
620 0C,00	START LEVEL	00~~63 : 00~~99	
621 0C,01	ATTACK TIME	00~~63 : 00~~99	
622 0C,02	ATTACK LEVEL	00~~63 : 00~~99	
623 0C,03	DECAY TIME	00~~63 : 00~~99	
624 0C,04	BREAK POINT LEVEL	00~~63 : 00~~99	
625 0C,05	SLOPE TIME	00~~63 : 00~~99	
626 0C,06	SUSTAIN LEVEL	00~~63 : 00~~99	
627 0C,07	RELEASE TIME	00~~63 : 00~~99	
628 0C,08	A.M.SOURCE(TIME1)	00~~2A : **1-4	Alternate Modulation
629 0C,09	INT BY A.M.(TIME1)	9D~~63 : -99~~99	
630 0C,0A	A.M.SOURCE(TIME2)	00~~2A : **1-4	Alternate Modulation
631 0C,0B	INT BY A.M.(TIME2)	9D~~63 : -99~~99	
632 0C,0C	A.M.SOURCE(LEVEL)	00~~2A : **1-4	Alternate Modulation

633 0C,0D	INT BY A.M.(LEVEL)	9D~~63 : -99~~99
b0~~1 0C,0E	ATTACK (A.M.TIME1)	FF:~, 0:OFF, 1:+
b2~~3 0C,0F 634	DECAY (A.M.TIME1)	FF:~, 0:OFF, 1:+
b4~~5 0C,10	SLOPE (A.M.TIME1)	FF:~, 0:OFF, 1:+
b6~~7 0C,11	RELEASE (A.M.TIME1)	FF:~, 0:OFF, 1:+
b0~~1 0C,12	ATTACK (A.M.TIME2)	FF:~, 0:OFF, 1:+
b2~~3 0C,13 635	DECAY (A.M.TIME2)	FF:~, 0:OFF, 1:+
b4~~5 0C,14	SLOPE (A.M.TIME2)	FF:~, 0:OFF, 1:+
b6~~7 0C,15	RELEASE (A.M.TIME2)	FF:~, 0:OFF, 1:+
b0~~1 0C,16	START (A.M.LEVEL)	FF:~, 0:OFF, 1:+
636 b2~~3 0C,17	ATTACK (A.M.LEVEL)	FF:~, 0:OFF, 1:+
b4~~5 0C,18	BREAK (A.M.LEVEL)	FF:~, 0:OFF, 1:+
637 ----	(RESERVED)	
OSCILLATOR 1 AMPLIFIER KEYBOARD TRACK		
638 0D,00	KEY LOW	00~~7F : C-1~~G9
639 0D,01	RAMP LOW	9D~~63 : -99~~99
640 0D,02	KEY HIGH	00~~7F : C-1~~G9
641 0D,03	RAMP HIGH	9D~~63 : -99~~99
OSCILLATOR 1 OUTPUT		
642 ----	(RESERVED)	

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-----+-----+-----+-----+
| 643 | PAN | 00:RND, 01~~7F : L001~~R127 |
| 0E,00 | | |
-----+-----+-----+
| 644 | A.M.SOURCE(PAN) | 00~~2A : **1-4 | Alternate Modulation |
| 0E,01 | | |
-----+-----+-----+
| 645 | INT BY A.M.(PAN) | 9D~~63 : -99~~99 |
| 0E,02 | | |
-----+-----+-----+
| 646 | SEND1 (TO MFX1) | 00~~7F: 00~~127 |
| 0E,03 | | |
-----+-----+-----+
| 647 | SEND2 (TO MFX2) | 00~~7F: 00~~127 |
| 0E,04 | | |
-----+-----+-----+
| OSCILLATOR 2 |
-----+-----+-----+
| 648 | | |
| 0F,00 | | |
| : | Same as OSCILLATOR 1 (494~~647) |
| : | |
| 801 | (154 Bytes) |
| 1B,0E | |
-----+-----+-----+
| 802 | | |
| : | ( RESERVED ) |
| ---- | |
| 803 | | |
-----+-----+-----+
**1-1 : 0 : Equal Temperament 1 : Pure Major 2 : Pure
Minor 3 : Arabic 4 : Pythagoras 5 :
Werkmeister 6 : Kirnberger 7 : Slendro 8 : Pelog
9 : Stretch A : User All Notes Scale
B~~1A : User Octave Scale 00 ~~15

**1-2 : 0 : OFF 1 : SW 1/2 Mod:CC#80/CC#81 2 : Porta SW
3 : Octave Down 4 : Octave Up 5 : JS X Lock 6 : JS+Y Lock
7 : JS-Y Lock 8 : Ribbon Lock 9 : JS X & Ribbon Lock A : JS+Y & Ribbon Lock
B : JS-Y & Ribbon Lock
C : After Touch Lock

**1-3 : 0 : Off 1 : Knob Mod.1:CC#17 2 : Knob
Mod.2:CC#19 3 : Knob Mod.3:CC#20
4 : Knob Mod.4:CC#21 5 : Master Volume 6 : Portamento
Time:CC#05 7 : Volume:CC#07
8 : Post IFX Pan:CC#08 9 : Pan:CC#10 A :
Expression:CC#11 B : FX Control 1:CC#12
C : FX Control 2:CC#13 D : LPF Cutoff:CC#74 E :
Resonance/HPF:CC#71 F : Filter EG Int.:CC#79
10 : F/A Attack:CC#73 11 : F/A Decay:CC#75 12 : F/A
Sustain:CC#70 13 : F/A Release:CC#72
14 : Pitch LFO1 Spd:CC#76 15 : Pitch LFO1 Dep:CC#77 16 : Pitch LFO1
Dly:CC#78 17 : SW 1 Mod.:CC#80
18 : SW 2 Mod.:CC#81 19 : Foot Switch:CC#82 1A : MIDI CC#83
1B : MFX Send 1:CC#93
1C : MFX Send 2:CC#91 1D~~7C : MIDI CC#00~~MIDI CC#95

**1-4 : 0 : Off 1 : Pitch EG 2 : Filter EG 3 : Amp EG

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4 : LFO 1          5 : LFO 2          6 : Flt KTrk +/+  7 : Flt KTrk
+/-
8 : Flt KTrk 0/+  9 : Flt KTrk +/-  A : Amp KTrk +/+  B : Amp KTrk
+/-
C : Amp KTrk 0/+  D : Amp KTrk +/-  E : Note Number   F : Velocity
10 : Poly After   11 : After Touch  12 : JS X          13 : JS+Y:CC#01
14 : JS-Y:CC#02  15 : JS+Y & AT/2  16 : JS-Y & AT/2  17 :
Pedal:CC#04
18 : Ribbon:CC#16 19 : Slider:CC#18 1A : KnobMod1:#17 1B :
KnobMod2:#19
1C : KnobMod3:#20 1D : KnobMod4:#21 1E : KnobMod1 [+] 1F : KnobMod2
[+]
20 : KnobMod3 [+] 21 : KnobMod4 [+] 22 : Damper:#64   23 :
Porta.SW:#65
24 : Sostenuto:#66 25 : Soft:CC#67   26 : SW 1:CC#80   27 : SW 2:CC#81
28 : Foot SW:#82   29 : MIDI:CC#83   2A : Tempo

```

```

**1-5 : Data      Time[mSec]      Step
00~~19 : 00~~ 50      (2mSec)
1A~~28 : 60~~ 200    (10mSec)
29~~38 : 250~~1000  (50mSec)
39~~60 : 1100~~5000 (100mSec)
61 : KeyOff

```

```

**1-6 : 0 : Triangle 0          1 : Triangle 90          2 : Triangle Random
3 : Saw 0
4 : Saw 180                    5 : Square               6 : Sine
7 : Guitar
8 : Exponential Triangle      9 : Exponential Saw Down A : Exponential Saw Up
B : Step Triangle-4
C : Step Triangle-6          D : Step Saw-4           E : Step Saw-6
F : Random1 (S/H)
10 : Random2 (S/H)           11 : Random3 (S/H)       12 : Random4 (Vector)
13 : Random5 (Vector)
14 : Random6 (Vector)

```

```

**1-7 : 8D~~C3 : -12.00~~ -1.20      (0.20 Step)
C4~~CD : -1.00~~ -0.55      (0.05 Step)
CE~~32 : -0.50~~ +0.50      (0.01 Step)
33~~3C : +0.55~~ +1.00      (0.05 Step)
3D~~73 : +1.20~~+12.00      (0.20 Step)

```

```

**1-8 : 0 : OFF                1 : JS+Y #01            2 : JS-Y #02            3 : Pedal #04
4 : Damper#64
5 : Prta.SW#65                6 : FootSW#82          7 : MIDI CC#83          8 : Ribbon #16
9 : K.Knob1
A : K.Knob2                    B : K.Knob3            C : K.Knob4            D : K.Knob5
E : K.Knob6
F : K.Knob7                    10 : K.Knob8           11 : K.SW1             12 : K.SW2
13 : KARM OnOff
14 : AfterT                    15 : JS X              16 : Short Note        17 : Note
18 : Note In Z
19 : Note Out Z               1A : White Note        1B : Black Note        1C : Velocity
1D : Vel In Z
1E : Vel Out Z

```

```

**1-9 : 0 : OFF                1 : RTParm Ctrl        2 : Tempo               3 : Latch
4 : AutoTX SW
5 : AutoTX Rng                6 : Module Stop        7 : Mdl Pause           8 : Repeat Stop
9 : Chord Scan
A : Smart Scan                 B : Clock Adv.         C : Trig Nt&Env        D : Trig Notes
E : Trig Env1
F : Trig Env2                 10 : Trig Env3         11 : Direct Index      12 : DI &
MdlStop 13 : BufferLatch

```

```

**1-10 :
GROUP : MIX
1 : Transpose                 2 : Trnsp.Oct          3 : Trnsp.Oct/5

```

```

GROUP : CTRL
 0 : Quantize Trig      1 : Force Range      2 : Root Position    3 : ClkAdv Mode
4 : ClkAdv Size
 5 : ClkAdv Vel        6 : ClkAdv Chord
GROUP : TRIG
 0 : Dly Start        1 : Dly Start ms    2 : Trig by Mod      3 : Module %
4 : Note Trigger
 5 : Note Latch       6 : Env1 Trigger    7 : Env1 Latch      8 : Env2 Trigger
9 : Env2 Latch
 A : Env3 Trigger     B : Env3 Latch
GROUP : ZONE
 0 : Thru InZone      1 : Thru OutZone    2 : Key Zone Btm    3 : Key Zone Top
4 : Trnsp.InZ
 5 : Trnsp.OutZ       6 : Tr.Oct InZ      7 : Tr.Oct OutZ     8 : Tr.Oct/5 InZ
9 : Tr.Oct/5 OutZ

**1-11 : FF : OFF      00~~07 : KARMA KNOB 1~~8      08~~0F : KARMA
KNOB SW 1~~8,
      10~~11 : KARMA SW 1~~2      12~~15 : DYN1~~4

**1-12 : 0 : 1/64T      1 : 1/32T           2 : 1/32            3 : 1/16T
4 : 1/16
      5 : 1/16D         6 : 1/8T           7 : 1/8             8 : 1/8D
9 : 1/4T
      A : 1/4           B : Event

**1-13 : 0 : OFF        1 : FIXED           2 : 1/64T           3 : 1/64
4 : 1/64D
      5 : 1/32T         6 : 1/32           7 : 1/32D           8 : 1/16T
9 : 1/16
      A : 1/16D         B : 1/8T           C : 1/8              D : 1/8D
E : 1/4T
      F : 1/4           10 : 1/4D          11 : 1/2T           12 : 1/2
13 : 1/2D
      14 : 1/1T         15 : 1/1            16 : 1/1D           17 : 2/1
18 : 3/1
      19 : 4/1

```

[TABLE 2-1] MOSS PROGRAM PARAMETERS (for Optional EXB-MOSS)

No. : No. in the PROGRAM DUMP DATA.

PARA No. : Parameter ID & SUB ID [Hex] for PARAMETER CHANGE.

Left side of ',' is Parameter ID, and right side is SUB ID.

No. (bit) PARA No.	PARAMETER	DATA(Hex) : VALUE	DESCRIPTION
00	PROGRAM NAME (Head)		
----	:	20~~7F	
15	PROGRAM NAME (Tail)		
INSERT EFFECT PARAMETERS			
16			
1E,00			
:	FX1~~5 (24Bytes * 5)		
:	(120 Bytes)		
135			
4D,??			
MASTER EFFECT PARAMETERS			
136			

```

24,00 |
:     | | FX1~~2 ( 20Bytes * 2 )
:     | |
:     | | Return, Chain & EQ ( 16 bytes)
:     | |
191   | | (56 Bytes)
4E,?? |

```

KARMA PARAMETERS

```

192   |
4B,00 |
:     | | Same as PROGRAM [TABLE 1] KARMA (192~~467)
:     | |
467   | | (276 Bytes)
4C,24 |

```

COMMON PARAMETERS

```

b0~~1 | (OSCILLATOR MODE) | 3 | 3 Fixed ( Means MOSS )
-----|

```

```

b2~~3 | VOICE ASSIGN | 0:Mono Multi, 1:Mono Single, 2:Poly
28,03 |
468   |

```

```

b4~~5 | KEY PRIORITY | 0:Low, 1:High, 2:Last | Available when MONO
28,02 |

```

```

bit6 | (Ignore)
|

```

```

bit7 | HOLD | 0:OFF, 1:ON
28,01 |

```

```

469   | BUS SELECT | 00:L/R,01~~05:IFX1~~5,06~~07:1~~2,0A:1/2,0C:Off
28,09 |

```

```

470   | CATEGORY | 00~~0F : 01~~16
28,00 |

```

```

471   | SCALE TYPE | 00~~1A : **1-1
28,0A |

```

```

472   | SCALE KEY | 00~~0B : C ~~ B
28,0B |

```

```

473   | RANDOM INTENSITY | 00~~63 : 0~~99
28,0C |

```

```

474   | SW 1
|

```

```

b0~~5 | ASSIGN | 00~~0C : **1-2
28,0D |

```

```

bit6 | MODE | 0:Toggle, 1:Momentary
28,11 |

```

```

bit7 | SW | 0:OFF, 1:ON
28,0E |

```

475	SW 2	(Same as SW 1 (474))	
28,10~12			
b0~6	KNOB 1 ASSIGN TYPE	00~7C :	**1-3
28,13			
476			
bit7	REALTIME CONTROLS	0:A, 1:B	
28,17			
477	KNOB 2 ASSIGN	00~7C :	**1-3
28,14			
478	KNOB 3 ASSIGN	00~7C :	**1-3
28,15			
479	KNOB 4 ASSIGN	00~7C :	**1-3
28,16			
RETRIGGER CONTROL			
480	RETRIGGER CONTROLLER	00,0B~29 :	*2-1
28,04			
481	THRESHOLD VELOCITY	01~7F :	1~127
28,05			
UNISON			
b0~1	UNISON TYPE	0:OFF, 1:2voices, 2:3voices, 3:6voices	
28,06			
482	bit2 (UNISON SW)	1	1 Fixed (Means Enable)

bit3	UNISON MODE	0:Fixed, 1:Dynamic	
28,07			
483	UNISON DETUNE	00~63 :	0~99
28,08			
EG1			
484	START LEVEL	9D~63 :	-99~99
36,00			
485	ATTACK TIME	00~63 :	0~99
36,01			
486	ATTACK LEVEL	9D~63 :	-99~99
36,02			
487	DECAY TIME	00~63 :	0~99
36,03			
488	BREAK LEVEL	9D~63 :	-99~99
36,04			
489	SLOPE TIME	00~63 :	0~99
36,05			
490	SUSTAIN LEVEL	9D~63 :	-99~99
36,06			

491 36,07	RELEASE TIME	00~~63 : 0~~99	
492 36,08	RELEASE LEVEL	9D~~63 : -99~~99	
493 36,09	LEVEL AMS	00~~29 : *2-1	Alternate Modulation
494 36,0A	INTENSITY	9D~~63 : -99~~99	
495 36,0B	VELOCITY CONTROL	9D~~63 : -99~~99	
496 36,0C	TIME AMS 1	00~~29 : *2-1	Alternate Modulation
497 36,0D	INTENSITY	9D~~63 : -99~~99	
498 36,0E	TIME AMS 2	00~~29 : *2-1	Alternate Modulation
499 36,0F	ATTACK INTENSITY	9D~~63 : -99~~99	
500 36,10	DECAY INTENSITY	9D~~63 : -99~~99	
501 36,11	SLOPE INTENSITY	9D~~63 : -99~~99	
502 36,12	RELEASE INTENSITY	9D~~63 : -99~~99	
EG 2 ~~ 4			
503 See above 19 : parameters. 521 ParamID = 37	EG 2	(Same as EG 1 (484 ~~ 502))	(19 Bytes)
522 See above 19 : parameters. 540 ParamID = 38	EG 3	(Same as EG 1 (484 ~~ 502))	(19 Bytes)
541 See above 19 : parameters. 559 ParamID = 39	EG 4	(Same as EG 1 (484 ~~ 502))	(19 Bytes)
LFO 1			

3A,00	b0~~5	WAVEFORM	00:Triangle 0, 01:Triangle 90, 02:Triangle Random, 03:Sine, 04:Saw Up 0, 05:Saw Up 180, 06:Saw Down 0, 07:Saw Down 180, 08:Square, 09:Random-S/H, 0A:Random-Vector, 0B:Step Triangle-4, 0C:Step Triangle-6, 0D:Step Saw-4, 0E:Step Saw-6, 0F:Exponential Triangle, 10:Exponential Saw Up, 11:Exponential Saw Down	560
3A,01	b6~~7	KEY SYNC.	0:Off, 1:byTimbre, 2:byVoice	
3A,02	561	FREQUENCY	00~~C7 : 0~~199	
3A,03	562	FREQUENCY AMS 1	00~~29 : *2-1	Alternate Modulation
3A,04	563	INTENSITY	9D~~63 : -99~~99	
3A,05	564	FREQUENCY AMS 2	00~~29 : *2-1	Alternate Modulation
3A,06	565	INTENSITY	9D~~63 : -99~~99	
3A,07	566	FADE IN	00~~63 : 0~~99	
3A,08	567	AMPLITUDE AMS	00~~29 : *2-1	Alternate Modulation
3A,09	568	INTENSITY	9D~~63 : -99~~99	
3A,0A	569	OFFSET	CE~~32 : -50~~50	
3A,0D	b0~~3	MIDI/TEMPO SYNC. TIMES	00~~0F : 1~~16	
3A,0C	b4~~6	BASE NOTE	0:16,1:8T,2:8,3:4T,4:4,5:2T,6:2,7:1	
3A,0B	bit7	SYNC. SW	0:OFF, 1:ON	
	LFO 2	~~ 4		
571				

See above 14				
:		LFO 2	(Same as LFO 1 (560 ~ 570))	
parameters.				
581		(11 Bytes)		
ParamID = 3B				
+-----+				
582				
See above 14				
:		LFO 3	(Same as LFO 1 (560 ~ 570))	
parameters.				
592		(11 Bytes)		
ParamID = 3C				
+-----+				
593				
See above 14				
:		LFO 4	(Same as LFO 1 (560 ~ 570))	
parameters.				
603		(11 Bytes)		
ParamID = 3D				
+-----+				
OSC COMMON PITCH MODULATION				
+-----+				
604		JS(+X) INTENSITY	C4~~18 : -60~~24	
29,04				
+-----+				
605		JS(-X) INTENSITY	C4~~18 : -60~~24	
29,05				
+-----+				
		PITCH BEND STEP		
606		JS(+X)		
29,06				
			00:Continuous, 01:1/8, 02:1/4, 03:1/2, 05~~0F:01~~12	
		JS(-X)		
29,07				
+-----+				
607		COMMON PITCH AMS	00~~29 : *2-1	Alternate Modulation
29,02				
+-----+				
608		INTENSITY	9D~~63 : -99~~99	
29,03				
+-----+				
PORTAMENTO				
+-----+				
bit0		ENABLE SW	0:OFF, 1:ON	
29,08				
609				
+-----+				
bit1		FINGERED MODE SW	0:OFF, 1:ON	
29,09				
+-----+				
610		PORTAMENTO TIME	00~~63 : 0~~99	
29,0A				
+-----+				
611		TIME AMS	00~~29 : *2-1	Alternate Modulation
29,0B				
+-----+				
612		INTENSITY	9D~~63 : -99~~99	
29,0C				
+-----+				
OSC 1				
+-----+				

613 29,00	OSC TYPE	(Single Size) 00:Standard, 01:Comb Filter, 02:VPM, 03:Resonance, 04:Ring Mod, 05:Cross Mod, 06:Sync Mod, 07:Organ Model, 08:E.Piano Model, (Double Size) 09:Brass Model, 0A:Reed Model, 0B:Plucked String Model, 0C:Bowed String Model	
614 2A,00	OCTAVE	00:-2[32'], 01:-1[16'], 02:0[8'], 03:1[4']	
615 2A,01	TRANSPOSE	F4~~0C : -12~~12	
616 2A,02	TUNE	CE~~32 : -50~~50 [cent]	
617 2A,03	FREQUENCY OFFSET	9C~~64 : -10.0~~10.0 [Hz]	
618 2A,04	PITCH SLOPE CENTER KEY	00~~7F : C-1~~G9	
619 2A,05	RAMP LOW	CE~~64 : -1.00~~2.00	
620 2A,06	RAMP HIGH	CE~~64 : -1.00~~2.00	0.01 by step.
621 2A,07	PITCH AMS 1	00~~29 : *2-1	Alternate Modulation
622 2A,08	INTENSITY	9D~~63 : -99~~99	
623 2A,09	AMS 1 INTENSITY AMS	00~~29 : *2-1	Alternate Modulation
624 2A,0A	INTENSITY	9D~~63 : -99~~99	
625 2A,0B	PITCH AMS 2	00~~29 : *2-1	Alternate Modulation
626 2A,0C	INTENSITY	9D~~63 : -99~~99	
627 : 664	OSC SET 38 bytes (Parameters are determined by OSC TYPE. See [Table 2-2].)		
OSC 2			
665 29,01	OSC TYPE	(SingleSize Only) 00:Standard, 01:Comb Filter, 02:VPM,	

			03:Resonance, 04:Ring Mod, 05:Cross Mod, 06:Sync Mod,
			07:Organ Model, 08:E.Piano Model
666	OSC 2		
See above 51			
:	(Much the same as OSC 1 (614 ~ 664), except OSC TYPE.)		
parameters.			
716	(51 Bytes)		
ParamID = 2B			

SUB OSC			

717	OCTAVE	00:-2[32'], 01:-1[16'], 02:0[8'], 03:1[4']	
2C,00			

718	TRANSPOSE	F4~~0C : -12~~12	
2C,01			

719	TUNE	CE~~32 : -50~~50 [cent]	
2C,02			

720	FREQUENCY OFFSET	9C~~64 : -10.0~~10.0 [Hz]	
2C,03			

	PITCH SLOPE		
721	CENTER KEY	00~~7F : C-1~~G9	
2C,04			

722	RAMP LOW	CE~~64 : -1.00~~2.00	
2C,05			

0.01 by step.			
723	RAMP HIGH	CE~~64 : -1.00~~2.00	
2C,06			

724	PITCH AMS 1	00~~29 : *2-1	Alternate Modulation
2C,07			

725	INTENSITY	9D~~63 : -99~~99	
2C,08			

726	AMS 1 INTENSITY AMS	00~~29 : *2-1	Alternate Modulation
2C,09			

727	INTENSITY	9D~~63 : -99~~99	
2C,0A			

728	PITCH AMS 2	00~~29 : *2-1	Alternate Modulation
2C,0B			

729	INTENSITY	9D~~63 : -99~~99	
2C,0C			

730	WAVEFORM	0:Saw, 1:Square, 2:Triangle, 3:Sine	
2D,00			

NOISE GENERATOR			

731	NOISE FILTER TYPE	0:THRU, 1:LPF, 2:HPF, 3:BPF	
2D,01			

732 2D,02	FILTER INPUT TRIM	00~~63 : 00~~99	
733 2D,03	FILTER FREQUENCY	00~~63 : 00~~99	
734 2D,04	FREQUENCY AMS 1	00~~29 : *2-1	Alternate Modulation
735 2D,05	INTENSITY	9D~~63 : -99~~99	
736 2D,06	FREQUENCY AMS 2	00~~29 : *2-1	Alternate Modulation
737 2D,07	INTENSITY	9D~~63 : -99~~99	
738 2D,08	FILTER RESONANCE	00~~63 : 00~~99	
OSC MIXER			
739 2E,00	OSC 1 -> Mixer1 LEVEL	00~~63 : 00~~99	
740 2E,01	LEVEL AMS	00~~29 : *2-1	Alternate Modulation
741 2E,02	INTENSITY	9D~~63 : -99~~99	
742 above 3 : parameters. 744 ID = 03~~05	OSC 1 -> Mixer2	(Same as OSC 1 -> Mixer1 (739 ~~ 741))	See SUB
745 above 3 : parameters. 747 ID = 06~~08	OSC 2 -> Mixer1	(Same as OSC 1 -> Mixer1 (739 ~~ 741))	See SUB
748 above 3 : parameters. 750 ID = 09~~0B	OSC 2 -> Mixer2	(Same as OSC 1 -> Mixer1 (739 ~~ 741))	See SUB
751 above 3 : parameters. 753 ID = 0C~~0E	SUB OSC -> Mixer1	(Same as OSC 1 -> Mixer1 (739 ~~ 741))	See SUB
754			See

above 3					
:		SUB OSC -> Mixer2		(Same as OSC 1 -> Mixer1 (739 ~ 741))	
parameters.					
756					SUB
ID = 0F~~11					
+-----+					
757					See
above 3		Noise -> Mixer1		(Same as OSC 1 -> Mixer1 (739 ~ 741))	
:					
parameters.					
759					SUB
ID = 12~~14					
+-----+					
760					See
above 3		Noise -> Mixer2		(Same as OSC 1 -> Mixer1 (739 ~ 741))	
:					
parameters.					
762					SUB
ID = 15~~17					
+-----+					
763					See
above 3		Feedback -> Mixer1		(Same as OSC 1 -> Mixer1 (739 ~ 741))	
:					
parameters.					
765					SUB
ID = 18~~1A					
+-----+					
766					See
above 3		Feedback -> Mixer2		(Same as OSC 1 -> Mixer1 (739 ~ 741))	
:					
parameters.					
768					SUB
ID = 1B~~1D					
+-----+					
		(INPUT SW)			
bit0		OSC 1		1	1 Fixed (Means Enable)

+-----+					
bit1		OSC 2		1	1 Fixed (Means Enable)

769					
+-----+					
bit2		SUB OSC		1	1 Fixed (Means Enable)

+-----+					
bit3		Noise		1	1 Fixed (Means Enable)

+-----+					
FILTER ROUTING					
+-----+					
b0~~1		ROUTING		0:Serial 1, 1:Serial 2, 2:Parallel	
2F,00					
770					
+-----+					
bit2		LINK SW		0:OFF, 1:ON	
2F,01					
+-----+					
FILTER 1					
+-----+					
771		FILTER TYPE		0:LPF(A), 1:HPF(A), 2:BPF(A), 3:BRF(A),	
4:DualBP(A/B)		30,00			
+-----+					
772		INPUT TRIM		00~~63 : 00~~99	
+-----+					

30,01				
773 30,02	FILTER FREQUENCY	00~~63 : 00~~99		
	FREQUENCY KBD TRACK			
774 30,03	KEY LOW	00~~7F : C-1~~G9		
775 30,04	KEY HIGH	00~~7F : C-1~~G9		
776 30,05	RAMP LOW	9D~~63 : -99~~99		
777 30,06	RAMP HIGH	9D~~63 : -99~~99		
778 30,07	FREQUENCY MOD.EG	00~~04 : EG1~~4, AmpEG	Alternate Modulation	
779 30,08	INTENSITY	9D~~63 : -99~~99		
780 30,09	FILTER AMS 1	00~~29 : *2-1	Alternate Modulation	
781 30,0A	INTENSITY	9D~~63 : -99~~99		
782 30,0B	FILTER AMS 2	00~~29 : *2-1	Alternate Modulation	
783 30,0C	INTENSITY	9D~~63 : -99~~99		
784 30,0D	FILTER RESONANCE	00~~63 : 00~~99		
785 30,0E	RESONANCE AMS	00~~29 : *2-1	Alternate Modulation	
786 30,0F	INTENSITY	9D~~63 : -99~~99		
787 32,00	B:INPUT TRIM	00~~63 : 00~~99		
788 32,01	B:FILTER FREQUENCY	00~~63 : 00~~99		
	B:FREQ. KBD TRACK			
789 32,02	KEY LOW	00~~7F : C-1~~G9		
790 32,03	KEY HIGH	00~~7F : C-1~~G9		
791 32,04	RAMP LOW	9D~~63 : -99~~99		
792	RAMP HIGH	9D~~63 : -99~~99		

32,05				
793 32,06	B:FREQ. EG INTENSITY	9D~~63 : -99~~99		Alternate Modulation
794 32,07	B:FREQ. AMS 1 INT.	9D~~63 : -99~~99		Alternate Modulation
795 32,08	B:FREQ. AMS 2 INT.	9D~~63 : -99~~99		Alternate Modulation
796 32,09	B:FILTER RESONANCE	00~~63 : 00~~99		
797 32,0A	B:RESONANCE INT.	9D~~63 : -99~~99		Alternate Modulation
798 parameters.				See above 27
:	FILTER 2	(Same as FILTER 1 (771 ~~ 797))		
824 or (B:) 33	(27 Bytes)			ParamID = 31
	AMPLIFIER 1			
825 34,00	AMP LEVEL	00~~63 : 00~~99		
	KEYBOARD TRACK			
826 34,01	KEY LOW	00~~7F : C-1~~G9		
827 34,02	KEY HIGH	00~~7F : C-1~~G9		
828 34,03	RAMP LOW	9D~~63 : -99~~99		
829 34,04	RAMP HIGH	9D~~63 : -99~~99		
830 34,05	MOD.EG	00~~04 : EG1~~4, AmpEG		
831 -----	(Reserved)	99		99 Fixed
832 34,06	AMS	00~~29 : *2-1		Alternate Modulation
833 34,07	INTENSITY	9D~~63 : -99~~99		
834 parameters.				See above 8
:	AMPLIFIER 2	(Same as AMPLIFIER 1 (825 ~~ 833))		
842 :34,08~~34,0F	(9 Bytes)			PARA No.
	AMP EG			
843	(Reserved)	0		0 Fixed

844 35,00	ATTACK TIME	00~~63 : 0~~99	
845 35,01	ATTACK LEVEL	00~~63 : 0~~99	
846 35,02	DECAY TIME	00~~63 : 0~~99	
847 35,03	BREAK LEVEL	00~~63 : 0~~99	
848 35,04	SLOPE TIME	00~~63 : 0~~99	
849 35,05	SUSTAIN LEVEL	00~~63 : 0~~99	
850 35,06	RELEASE TIME	00~~63 : 0~~99	
851 -----	(Reserved)	0	0 Fixed
852 35,07	LEVEL AMS	00~~29 : *2-1	Alternate Modulation
853 35,08	INTENSITY	9D~~63 : -99~~99	
854 35,09	VELOCITY CONTROL	9D~~63 : -99~~99	
855 35,0A	TIME AMS 1	00~~29 : *2-1	Alternate Modulation
856 35,0B	INTENSITY	9D~~63 : -99~~99	
857 35,0C	TIME AMS 2	00~~29 : *2-1	Alternate Modulation
858 35,0D	ATTACK INTENSITY	9D~~63 : -99~~99	
859 35,0E	DECAY INTENSITY	9D~~63 : -99~~99	
860 35,0F	SLOPE INTENSITY	9D~~63 : -99~~99	
861 35,10	RELEASE INTENSITY	9D~~63 : -99~~99	
OUTPUT LEVEL/PAN			
862 34,10	PAN	00~~7F : L000~~R127	

863 34,11	PAN AMS	00~~29 : *2-1	Alternate Modulation
864 34,12	INTENSITY	9D~~63 : -99~~99	
865 34,13	OUTPUT LEVEL	00~~7F : 0~~127	
866 34,14	SEND 1	00~~7F : 0~~127	
867 34,15	SEND 2	00~~7F : 0~~127	

[TABLE 2-2] MULTI OSCILLATOR PARAMETERS (for Optional EXB-MOSS)

No. : No. in the OSC SET (38 bytes).

SUB ID : Right side of '/' is SUB ID for OSC 2.

No. (bit) SUB ID	PARAMETER	DATA(Hex) : VALUE	DESCRIPTION
MULTI OSCILLATOR PARAMETERS 38 Bytes			
0:Standard ParamID = 3E			
	WAVE		
00 00/16	WAVE	0:Saw, 1:Pulse	
01 01/17	WAVE EDGE	00~~63 : 0~~99	
02 02/18	LEVEL	00~~63 : 0~~99	
03 03/19	TRIANGLE LEVEL	00~~63 : 0~~99	
04 04/1A	SINE LEVEL	00~~63 : 0~~99	
05 05/1B	PHASE SHIFT	9D~~63 : -99~~99	
	WAVEFORM		
06 06/1C	WAVEFORM	9D~~63 : -99~~99	
07 07/1D	MOD. LFO	00~~03 : LFO 1 ~~ 4	Alternate Modulation
08 08/1E	INTENSITY	9D~~63 : -99~~99	
09 09/1F	AMS	00~~29 : *2-1	Alternate Modulation

10 0A/20	INTENSITY	9D~~63 : -99~~99	
11 0B/21	WAVE SHAPE INPUT LEVEL	00~~63 : 0~~99	
12 0C/22	INPUT LEVEL AMS	00~~29 : *2-1	Alternate Modulation
13 0D/23	INTENSITY	9D~~63 : -99~~99	
14 0E/24	OFFSET	9D~~63 : -99~~99	
15 0F/25	TYPE	0:Clip, 1:Reso	
16 10/26	SHAPE	00~~63 : 0~~99	
17 11/27	SHAPE AMS	00~~29 : *2-1	Alternate Modulation
18 12/28	INTENSITY	9D~~63 : -99~~99	
19 13/29	BALANCE	00~~63 : 0~~99	
20 14/2A	BALANCE AMS	00~~29 : *2-1	Alternate Modulation
21 15/2B	INTENSITY	9D~~63 : -99~~99	
22~~37 -----	(Reserved)	0	0 Fixed
1:Comb Filter			
ParamID = 3F			
00 00/0E	INPUT INPUT WAVE	0:OSC2(1)+Noise, 1:Sub OSC+Noise, 2:Filter1+Noise, 3:Filter2+Noise, 4:Pulse Noise, 5:Impulse	
01 01/0F	INPUT WAVE LEVEL	00~~63 : 0~~99	
02 02/10	NOISE LEVEL	00~~63 : 0~~99	
03 03/11	PULSE WIDTH	00~~63 : 0~~99	
04 04/12	INPUT LEVEL AMS	00~~29 : *2-1	Alternate Modulation

05 05/13	INTENSITY	9D~~63 : -99~~99	
	FEEDBACK		
06 06/14	FEEDBACK	00~~63 : 0~~99	
07 07/15	AMS 1	00~~29 : *2-1	Alternate Modulation
08 08/16	INTENSITY	9D~~63 : -99~~99	
09 09/17	AMS 2	00~~29 : *2-1	Alternate Modulation
10 0A/18	INTENSITY	9D~~63 : -99~~99	
	HIGH DAMP		
11 0B/19	HIGH DAMP	00~~63 : 0~~99	
12 0C/1A	AMS	00~~29 : *2-1	Alternate Modulation
13 0D/1B	INTENSITY	9D~~63 : -99~~99	
14~~37 -----	(Reserved)	0	0 Fixed
2:VPM ParamID = 40			
	CARRIER		
00 00/19	WAVE	0:Saw, 1:Square, 2:Triangle, 3:Sine	
01 01/1A	WAVE LEVEL	00~~63 : 0~~99	
02 02/1B	LEVEL AMS 1	00~~29 : *2-1	Alternate Modulation
03 03/1C	INTENSITY	9D~~63 : -99~~99	
04 04/1D	LEVEL AMS 2	00~~29 : *2-1	Alternate Modulation
05 05/1E	INTENSITY	9D~~63 : -99~~99	
06 06/1F	WAVE SHAPE	00~~63 : 0~~99	
07 07/20	SHAPE AMS 1	00~~29 : *2-1	Alternate Modulation

08 08/21	INTENSITY	9D~~63 : -99~~99	
09 09/22	SHAPE AMS 2	00~~29 : *2-1	Alternate Modulation
10 0A/23	INTENSITY	9D~~63 : -99~~99	
11 0B/24	WAVE SHAPE TYPE	00~~01 : 1~~2	
12 0C/25	FEEDBACK	00~~63 : 0~~99	
	MODULATOR		
13 0D/26	FREQUENCY COARSE	00~~10 : 0.5~~16	
14 0E/27	FREQUENCY FINE	CE~~32 : -50~~50	
15 0F/28	FREQUENCY AMS 1	00~~29 : *2-1	Alternate Modulation
16 10/29	INTENSITY	9D~~63 : -99~~99	
17 11/2A	FREQUENCY AMS 2	00~~29 : *2-1	Alternate Modulation
18 12/2B	INTENSITY	9D~~63 : -99~~99	
19 13/2C	WAVE	0:Saw, 1:Square, 2:Triangle, 3:Sine 4:OSC2(1), 5:Sub OSC, 6:Filter1, 7:Filter2	
20 14/2D	WAVE LEVEL	00~~63 : 0~~99	
21 15/2E	LEVEL AMS 1	00~~29 : *2-1	Alternate Modulation
22 16/2F	INTENSITY	9D~~63 : -99~~99	
23 17/30	LEVEL AMS 2	00~~29 : *2-1	Alternate Modulation
24 18/31	INTENSITY	9D~~63 : -99~~99	
25~~37 -----	(Reserved)	0	0 Fixed
3:Resonance ParamID = 41			
	INPUT		

00 00/20	INPUT WAVE	0:OSC2(1), 1:Sub OSC, 2:Noise, 3:Filter1, 4:Filter2	
01 01/21	INPUT WAVE LEVEL	00~~63 : 0~~99	
02 02/22	LEVEL AMS 1	00~~29 : *2-1	Alternate Modulation
03 03/23	INTENSITY	9D~~63 : -99~~99	
04 04/24	LEVEL AMS 2	00~~29 : *2-1	Alternate Modulation
05 05/25	INTENSITY	9D~~63 : -99~~99	
06 06/26	BPF 1 RESONANCE	00~~63 : 0~~99	
07 07/27	FREQUENCY COARSE	00~~0F : 01~~16	
08 08/28	FREQUENCY AMS	00~~29 : *2-1	Alternate Modulation
09 09/29	INTENSITY	F1~~0F : -15~~15	
10 0A/2A	FREQUENCY FINE	9D~~63 : -99~~99	
11 0B/2B	LEVEL	00~~63 : 0~~99	
12 0C/2C	BPF 2 RESONANCE	00~~63 : 0~~99	
13 0D/2D	FREQUENCY COARSE	00~~0F : 01~~16	
14 0E/2E	FREQUENCY AMS	00~~29 : *2-1	Alternate Modulation
15 0F/2F	INTENSITY	F1~~0F : -15~~15	
16 10/30	FREQUENCY FINE	9D~~63 : -99~~99	
17 11/31	LEVEL	00~~63 : 0~~99	
18 12/32	BPF 3 RESONANCE	00~~63 : 0~~99	

19 13/33	FREQUENCY COARSE	00~~0F : 01~~16	
20 14/34	FREQUENCY AMS	00~~29 : *2-1	Alternate Modulation
21 15/35	INTENSITY	F1~~0F : -15~~15	
22 16/36	FREQUENCY FINE	9D~~63 : -99~~99	
23 17/37	LEVEL	00~~63 : 0~~99	
	BPF 4		
24 18/38	RESONANCE	00~~63 : 0~~99	
25 19/39	FREQUENCY COARSE	00~~0F : 01~~16	
26 1A/3A	FREQUENCY AMS	00~~29 : *2-1	Alternate Modulation
27 1B/3B	INTENSITY	F1~~0F : -15~~15	
28 1C/3C	FREQUENCY FINE	9D~~63 : -99~~99	
29 1D/3D	LEVEL	00~~63 : 0~~99	
	RESONANCE MODULATION		
30 1E/3E	AMS	00~~29 : *2-1	Alternate Modulation
31 1F/3F	INTENSITY	9D~~63 : -99~~99	
32~~37 -----	(Reserved)	0	0 Fixed
4:Ring Modulation			
ParamID = 42			
	WAVE		
00 00/09	INPUT WAVE	0:OSC2(1), 1:Sub OSC, 2:Noise, 3:Filter1, 4:Filter2	
01 01/0A	CARRIER WAVE	0:Saw, 1:Square, 2:Triangle, 3:Sine	
	MODULATION DEPTH		
02 02/0B	DEPTH	00~~63 : 0~~99	
03 03/0C	DEPTH AMS 1	00~~29 : *2-1	Alternate Modulation

04 04/0D	INTENSITY	9D~~63 : -99~~99	
05 05/0E	DEPTH AMS 2	00~~29 : *2-1	Alternate Modulation
06 06/0F	INTENSITY	9D~~63 : -99~~99	
07 07/10	TYPE	00~~01 : 1~~2	
08 08/11	WAVE EDGE	00~~63 : 0~~99	
09~~37 -----	(Reserved)	0	0 Fixed
5:Cross Modulation ParamID = 43			
00 00/08	WAVE INPUT WAVE	0:OSC2(1), 1:Sub OSC, 2:Noise, 3:Filter1, 4:Filter2	
01 01/09	CARRIER WAVE	0:Saw, 1:Square, 2:Triangle, 3:Sine	
02 02/0A	MODULATION DEPTH DEPTH	00~~63 : 0~~99	
03 03/0B	DEPTH AMS 1	00~~29 : *2-1	Alternate Modulation
04 04/0C	INTENSITY	9D~~63 : -99~~99	
05 05/0D	DEPTH AMS 2	00~~29 : *2-1	Alternate Modulation
06 06/0E	INTENSITY	9D~~63 : -99~~99	
07 07/0F	WAVE EDGE	00~~63 : 0~~99	
08~~37 -----	(Reserved)	0	0 Fixed
6:Sync Modulation ParamID = 44			
00 00/03	WAVE INPUT WAVE	0:OSC2(1), 1:Sub OSC, 2:Noise, 3:Filter1, 4:Filter2	
01 01/04	SLAVE WAVE	0:Saw, 1:Square, 2:Triangle, 3:Sine	
02	WAVE EDGE	00~~63 : 0~~99	

02/05				
03~~37	(Reserved)	0		0 Fixed

7:Organ Model				
ParamID = 45				

	DRAWBAR 1			
00	WAVE	0:Sine1, 1:Sine2, 2:Sine3, 3:Triangle		
00/19				

01	HARMONICS COARSE	00~~0F: 1('16)~~16('1)		
01/1A				

02	HARMONICS FINE	9D~~63 : -99~~99		
02/1B				

03	LEVEL	00~~63 : 0~~99		
03/1C				

04	LEVEL AMS	00~~29 : *2-1		Alternate Modulation
04/1D				

05	INTENSITY	9D~~63 : -99~~99		
05/1E				

06	PERCUSSION LEVEL	00~~63 : 0~~99		
06/1F				

	DRAWBAR 2			
07	WAVE	0:Sine1, 1:Sine2, 2:Sine3, 3:Triangle		
07/20				

08	HARMONICS COARSE	00~~0F: 1('16)~~16('1)		
08/21				

09	HARMONICS FINE	9D~~63 : -99~~99		
09/22				

10	LEVEL	00~~63 : 0~~99		
0A/23				

11	LEVEL AMS	00~~29 : *2-1		Alternate Modulation
0B/24				

12	INTENSITY	9D~~63 : -99~~99		
0C/25				

13	PERCUSSION LEVEL	00~~63 : 0~~99		
0D/26				

	DRAWBAR 3			
14	WAVE	0:Sine1, 1:Sine2, 2:Sine3, 3:Triangle		
0E/27				

15	HARMONICS COARSE	00~~0F: 1('16)~~16('1)		
0F/28				

16	HARMONICS FINE	9D~~63 : -99~~99		
10/29				

17	LEVEL	00~~63 : 0~~99		

11/2A				
18 12/2B	LEVEL AMS	00~~29 : *2-1	Alternate Modulation	
19 13/2C	INTENSITY	9D~~63 : -99~~99		
20 14/2D	PERCUSSION LEVEL	00~~63 : 0~~99		
21 15/2E	PERCUSSION GENERATOR TRIGGER MODE	0:Single, 1:Multi		
22 16/2F	DECAY	00~~63 : 0~~99		
23 17/30	LEVEL AMS	00~~29 : *2-1	Alternate Modulation	
24 18/31	INTENSITY	9D~~63 : -99~~99		
25~~37 -----	(Reserved)	0	0 Fixed	
8:E.Piano Model				
ParamID = 46				
00 00/0E	HAMMER FORCE	00~~63 : 0~~99		
01 01/0F	VELOCITY CURVE	FF:Off, 0~~63 : 0~~99		
02 02/10	WIDTH	00~~63 : 0~~99		
03 03/11	CLICK NOISE LEVEL	00~~63 : 0~~99		
04 04/12	TONE GENERATOR DECAY	00~~63 : 0~~99		
05 05/13	RELEASE	00~~63 : 0~~99		
06 06/14	OVERTONE LEVEL	00~~63 : 0~~99		
07 07/15	FREQUENCY	00~~63 : 0~~99		
08 08/16	DECAY	00~~63 : 0~~99		
	PICKUP			

09 09/17		LOCATION	00~~63 : 0~~99	
10 0A/18		LOCATION AMS	00~~29 : *2-1	Alternate Modulation
11 0B/19		INTENSITY	9D~~63 : -99~~99	
12 0C/1A		LOW EQ		
		FREQUENCY	00~~31 : 0~~49	
13 0D/1B		GAIN	EE~~12 : -18~~18 [dB]	
14~~37 -----		(Reserved)	0	0 Fixed
9:Brass Model ParamID = 47				
00 00		INSTRUMENT TYPE	00~~02:Brass1~~3, 03~~04:Horn1~~2, 05:Reed Brass	
01 01	bit0	JUMP BEND SW JS(+X)	0:OFF, 1:ON	
02	bit1	JS(-X)	0:OFF, 1:ON	
02 03		BREATH PRESSURE MOD. EG	00~~04 : EG 1~~4, AmpEG	Alternate Modulation
03 04		INTENSITY	9D~~63 : -99~~99	
04 05		AMS 1	00~~29 : *2-1	Alternate Modulation
05 06		INTENSITY	9D~~63 : -99~~99	
06 07		AMS 2	00~~29 : *2-1	Alternate Modulation
07 08		INTENSITY	9D~~63 : -99~~99	
08 -----		(Reserved)	0	0 Fixed
09 09		LIP CHARACTER LIP	00~~63 : 0~~99	
10		AMS	00~~29 : *2-1	Alternate Modulation

0A				
11 0B		INTENSITY	9D~~63 : -99~~99	
12~~14 -----		(Reserved)		
15 0C		BELL CHARACTER TONE	00~~63 : 0~~99	
16 0D		RESONANCE	00~~63 : 0~~99	
17 0E		BREATH NOISE	00~~63 : 0~~99	
18~~27 -----		(Reserved)		
28 0F		PEAKING EQ FREQUENCY	00~~31 : 0~~49	
29 10		Q	00~~1D : 0~~29	
30 11		GAIN	EE~~12 : -18~~18 [dB]	
31 12		STRENGTH	00~~63 : 0~~99	
32~~37 -----		(Reserved)		
10:Reed Model				
ParamID = 48				
00 00		INSTRUMENT TYPE	00~~02:Hard Sax 1~~3, 03~~04:Soft Sax 1~~2, 05~~06:Double Reed 1~~2, 07:Bassoon, 08:Clarinet, 09~~0A:Flute 1~~2, 0B:Pan Flute, 0C:Ocarina, 0D:Shakuhachi, 0E~~0F:Harmonica 1~~2, 10:Reed Synth	
01 01	bit0	JUMP BEND SW JS(+X)	0:OFF, 1:ON	
02	bit1	JS(-X)	0:OFF, 1:ON	
02 03		BREATH PRESSURE MOD. EG	00~~04 : EG 1~~4, AmpEG	Alternate Modulation
03		INTENSITY	9D~~63 : -99~~99	

04			
04 05	AMS 1	00~~29 : *2-1	Alternate Modulation
05 06	INTENSITY	9D~~63 : -99~~99	
06 07	AMS 2	00~~29 : *2-1	Alternate Modulation
07 08	INTENSITY	9D~~63 : -99~~99	
08~~12 -----	(Reserved)		
13 09	BREATH NOISE	00~~63 : 0~~99	
14~~25 -----	(Reserved)		
26 0A	AMS	00~~29 : *2-1	Alternate Modulation
27 0B	INTENSITY	9D~~63 : -99~~99	
28 0C	TONE	00~~63 : 0~~99	
29 0D	RESONANCE	00~~63 : 0~~99	
30 0E	PEAKING EQ FREQUENCY	00~~31 : 0~~49	
31 0F	Q	00~~1D : 0~~29	
32 10	GAIN	EE~~12 : -18~~18 [dB]	
33 -----	(Reserved)		
34 11	WAVE SHAPE OFFSET	9D~~63 : -99~~99	
13 35	b0~~6 SHAPE	00~~63 : 0~~99	
12	bit7 TYPE	0:Clip, 1:Reso	

36 14	SHAPE AMS	00~~29 : *2-1	Alternate Modulation
37 15	INTENSITY	9D~~63 : -99~~99	
11:Plucked String Model ParamID = 49			
00 00	ATTACK LEVEL	00~~63 : 0~~99	
01 01	VELOCITY CTRL	9D~~63 : -99~~99	
02 02	CURVE UP	00~~63 : 0~~99	
03 03	VELOCITY CTRL	9D~~63 : -99~~99	
04 04	CURVE DOWN	00~~63 : 0~~99	
05 05	VELOCITY CTRL	9D~~63 : -99~~99	
06 06	NOISE LEVEL	00~~63 : 0~~99	
07 07	VELOCITY CTRL	9D~~63 : -99~~99	
08 08	STRING PICKING POINT	00~~63 : 0~~99	
09 09	POINT AMS	00~~29 : *2-1	Alternate Modulation
10 0A	INTENSITY	9D~~63 : -99~~99	
11 0B	DISPERSION	00~~63 : 0~~99	
12 0C	DISPERSION AMS	00~~29 : *2-1	Alternate Modulation
13 0D	INTENSITY	9D~~63 : -99~~99	
14 0E	DAMP	00~~63 : 0~~99	
15 0F	DAMP KBD TRACK	9D~~63 : -99~~99	
16 10	DAMP AMS	00~~29 : *2-1	Alternate Modulation

17 11		INTENSITY	9D~~63 : -99~~99	
18 12		DECAY	00~~63 : 0~~99	
19 13		DECAY KBD TRACK	9D~~63 : -99~~99	
20 14		RELEASE	00~~63 : 0~~99	
21 15		HARMONICS HARMONICS POINT	00~~63 : 0~~99	
22 16		HARMONICS CTRL	00~~29 : *2-1	
23 17		INTENSITY	9D~~63 : -99~~99	
24 18		PICKUP SW	0:OFF, 1:ON	
25 19		LOCATION	00~~63 : 0~~99	
26 1A		LOCATION AMS	00~~29 : *2-1	Alternate Modulation
27 1B		INTENSITY	9D~~63 : -99~~99	
28 1C		LOW EQ FREQUENCY	00~~31 : 0~~49	
29 1D		GAIN	EE~~12 : -18~~18 [dB]	
30 1E		LOW BOOST	00~~63 : 0~~99	
31~~37 -----		(Reserved)	0	0 Fixed
12:Bowed String Model ParamID = 4A				
00 00		BOW SPEED MOD. EG	00~~04 : EG 1~~4, AmpEG	Alternate Modulation
01 01		INTENSITY	9D~~63 : -99~~99	
02 02		AMS 1	00~~29 : *2-1	Alternate Modulation

03 03		INTENSITY	9D~~63 : -99~~99	
04 04		AMS 2	00~~29 : *2-1	Alternate Modulation
05 05		INTENSITY	9D~~63 : -99~~99	
06 06		DIFFERENTIAL	0:OFF, 1:ON	
07 07		BOW PRESSURE MOD. EG	00~~04 : EG 1~~4, AmpEG	Alternate Modulation
08 08		INTENSITY	9D~~63 : -99~~99	
09 09		AMS	00~~29 : *2-1	Alternate Modulation
10 0A		INTENSITY	9D~~63 : -99~~99	
11 0B		ROSIN	00~~63 : 0~~99	
12 0C		STRING BOWING POINT	00~~63 : 0~~99	
13 0D		POINT AMS	00~~29 : *2-1	Alternate Modulation
14 0E		INTENSITY	9D~~63 : -99~~99	
15 0F		DAMP	00~~63 : 0~~99	
16 10		DAMP KBD TRACK KEY	00~~7F : C-1~~G9	
17 11		RAMP LOW	9D~~63 : -99~~99	
18 12		RAMP HIGH	9D~~63 : -99~~99	
19 13		DAMP AMS	00~~29 : *2-1	Alternate Modulation
20 14		INTENSITY	9D~~63 : -99~~99	
21 15		DISPERSION	00~~63 : 0~~99	

22 16	DISPERSION AMS	00~~29 : *2-1	Alternate Modulation
23 17	INTENSITY	9D~~63 : -99~~99	
24 18	REFLECTION	00~~63 : 0~~99	
25 19	REFLECTION AMS	00~~29 : *2-1	Alternate Modulation
26 1A	INTENSITY	9D~~63 : -99~~99	
27 1B	PEAKING EQ FREQUENCY	00~~31 : 0~~49	
28 1C	Q	00~~1D : 0~~29	
29 1D	GAIN	EE~~12 : -18~~18 [dB]	
30~~37 -----	(Reserved)		

- *2-1 : Alternate Modulation Source for MOSS
- 00 : Off, 01 : EG 1, 02 : EG 2, 03 : EG 3,
 - 04 : EG 4, 05 : Amp EG, 06 : LFO 1, 07 : LFO 2,
 - 08 : LFO 3, 09 : LFO 4, 0A : Portamento, 0B : Note No.
- Linear,
- 0C : Note No. Exp., 0D : Note Split High, 0E : Note Split Low, 0F : Velocity Soft,
 - 10 : Velocity Med., 11 : Velocity Hard, 12 : After Touch, 13 : JS X,
 - 14 : JS +Y:CC#01, 15 : JS -Y:CC#02, 16 : JS +Y & AT/2, 17 : JS -Y & AT/2,
 - 18 : Pedal:CC#04, 19 : Ribbon:CC#16, 1A : Ribbon +X, 1B : Ribbon -X,
 - 1C : Slider:CC#18, 1D : KnobMod1:#17, 1E : KnobMod2:#19, 1F : KnobMod3:#20,
 - 20 : KnobMod4:#21, 21 : KnobMod1 [+], 22 : KnobMod2 [+], 23 : KnobMod3 [+],
 - 24 : KnobMod4 [+], 25 : Damper:#64, 26 : SW 1:CC#80, 27 : SW 2:CC#81,
 - 28 : Foot SW:#82, 29 : MIDI:CC#83

[TABLE 3] 1 COMBINATION PARAMETERS
 PARA No. : Parameter ID & SUB ID [HEX] for PARAMETER CHANGE. n : Timbre
 No.(1~~8:T1~~T8)

No. (bit) PARA No.	PARAMETER	DATA(Hex) : VALUE	DESCRIPTION
00	COMBI. NAME (Head)		
:	:	20~~7F	
15	COMBI. NAME (Tail)		

INSERT EFFECT PARAMETERS

16 0C,00			
:	FX1~~5 (24Bytes * 5)		
:			
135	(120 Bytes)		

11,??			
MASTER EFFECT PARAMETERS			
136			
12,00			
:		FX1~~2 (20Bytes * 2)	
:			
:		Return, Chain & EQ (16 Bytes)	
:			
191		(56 Bytes)	
15,??			
KARMA COMMON PARAMETERS			
192	TEMPO	28~~F0 : 40~~240	
09,00			
bit0	SW1 (for Scenel)	0:OFF, 1:ON	
09,01			
bit1	SW2 (for Scenel)	0:OFF, 1:ON	
09,02			
193			
bit2	SW1 (for Scene2)	0:OFF, 1:ON	
09,03			
bit3	SW2 (for Scene2)	0:OFF, 1:ON	
09,04			
bit5	SCENE	0:1, 1:2	
09,05			
bit6	LATCH	0:OFF, 1:ON	
09,06			
bit7	ON/OFF	0:OFF, 1:ON	
09,07			
194	SW1 NAME ID MSB		
		0~~197: 0~~407	
		09,08	
195	SW1 NAME ID LSB		
196	SW2 NAME ID MSB		
		0~~197: 0~~407	
		09,09	
197	SW2 NAME ID LSB		
198	KNOB1 NAME ID MSB		
		0~~197: 0~~407	
		09,0A	
199	KNOB1 NAME ID LSB		

200 09,0B		KNOB 2~~8 NAME ID	
:		Same as KNOB 1 NAME ID (198~~199)	
213 09,11		(2 * 7 = 14 Bytes)	

214 09,12		KNOB 1 (for Scene1)	00~~7F : 0~~127

215 09,13		KNOB 2~~8 (for Scene1)	
:		Same as KNOB 1 (for Scene1) (214)	
221 09,19		(7 Bytes)	

222 09,1A		KNOB 1 (for Scene2)	00~~7F : 0~~127

223 09,1B		KNOB 2~~8 (for Scene2)	
:		Same as KNOB 1 (for Scene2) (222)	
229 09,21		(7 Bytes)	

KARMA COMMON PARAMETERS DYNAMIC MIDI 1			

b0~~2 09,22 230		INPUT MODULE	0~~3 : A~~D

b3~~4 09,23		POLARITY	0:+, 1:-, 2:+/-, 3:-/+

231 09,24		SOURCE	**1-8

232 09,25		DESTINATION	**1-9

bit0 09,26		MODULE A	0:OFF, 1:ON

bit1 09,27		MODULE B	0:OFF, 1:ON

bit2 09,28 233		MODULE C	0:OFF, 1:ON

bit3 09,29		MODULE D	0:OFF, 1:ON

bit4 09,2A		LAST TRIGED	0:OFF, 1:ON

b5~~6 09,2B		SRC ACTION	0:M, 1:T, 2:C

234 09,2C		TOP	00~~7F : 0~~127

235 09,2D	BOTTOM	00~~7F : 0~~127
236 09,2F	DYNAMIC MIDI 2~~4	
:	Same as DYNAMIC MIDI 1 (230~~235)	
253 09,51	(6 * 3 Bytes)	
KARMA COMMON PARAMETERS RTPARMS 1		
254 09,52	GROUP	0:OFF, 1:MIX, 2:CTRL, 3:TRIG, 4:ZONE
255 09,53	PARAMETER	**1-10
bit0 09,54	MODULE A	0:OFF, 1:ON
bit1 09,55	MODULE B	0:OFF, 1:ON
256		
bit2 09,56	MODULE C	0:OFF, 1:ON
bit3 09,57	MODULE D	0:OFF, 1:ON
257 09,58	ASSIGN	**1-11
258	MIN MSB	
		000~~1388 : 0~~5000
259	MIN LSB	09,59
260	MAX MSB	
		000~~1388 : 0~~5000
261	MAX LSB	09,5A
262	VALUE MSB	
		000~~1388 : 0~~5000
263	VALUE LSB	09,5B
264 09,5C	RTPARMS 2~~8	
:	Same as RTPARMS 1 (254~~263)	
333 09,A1	(10 * 7 = 70 Bytes)	
KARMA COMMON PARAMETERS CHORD TRIGGER 1		

334		CHORD TRIGGER 1	
:		NOTE 1~~8	00~~7F : C-1~~G9
341		(8 Bytes)	
342		CHORD TRIGGER 2~~4	
:		Same as CHORD TRIGGER 1 (334~~341)	
365		(3 * 8 = 24 Bytes)	
366		CHORD MEMORY 1~~4	
:		VELOCITY	00~~7F : 0~~127
369		(4 Bytes)	
KARMA MODULE PARAMETERS A			
370		GE SELECT MSB	
			0~~???: 0~~???
371		GE SELECT LSB	0A,00
372	0A,03	INPUT CHANNEL	0~~F : 1~~15, 10:G
373	0A,04	OUTPUT CHANNEL	0~~F : 1~~15, 10:G
374	0A,13	TRANSPOSE	DC~~24 : -36~~36
375	0A,05	KEY ZONE TOP	00~~7F : C-1~~G9
376	0A,06	KEY ZONE BOTTOM	00~~7F : C-1~~G9
	bit0	ROOT POSITION	0:OFF, 1:ON
377	b3~~5	FORCE RANGE	0:OFF, 1:LOWEST, 2:HIGHEST, 3:C3-B3[1], 4:C3^B3[2]
	0A,14		
	b6~~7	CLK ADV. MODE	0:AUTO, 1:DYN, 2:AUTO+DYN1, 3:AUTO+DYN2
	0A,2D		
	b0~~2	CHORD MODE	0:OFF, 1:1ST, 2:CHRD1, 3:CHRD2, 4:CHRD3
378	0A,2F		
	b6~~7	CLK ADV. SIZE	**1-12
	0A,2E		
379	0A,30	CLOCK ADV. VEL	01~~7F : 1~~127

380	DELAY START FIXED MSB	
+-----+-----+ 000~~1388 : 0~~5000		
381	DELAY START FIXED LSB	0A,15
382	DELAY START	**1-13
0A,16		
b0~~3	TRIGGER BY MODULE	0:OFF, 1~~4:A~~D
0A,31		
383		
bit4	CUTOFF MODULE A	0:OFF, 1:ON
0A,33		
bit5	CUTOFF MODULE B	0:OFF, 1:ON
0A,34		
bit6	CUTOFF MODULE C	0:OFF, 1:ON
0A,35		
bit7	CUTOFF MODULE D	0:OFF, 1:ON
0A,36		
384	MODULE %	0~~64:0~~100
0A,32		
b0~~1	NOTE TRIGGER	0:ANY, 1:AKR, 2:1ST, 3DYN
0A,25		
385		
bit4	NOTE LATCH	0:OFF, 1:ON
0A,29		
b0~~1	ENV 1 TRIGGER	0:ANY, 1:AKR, 2:1ST, 3DYN
0A,26		
386		
b4~~6	ENV 1 LATCH	0:OFF, 1:SUS1, 2:REL1, 3:SUS2, 4:REL2
0A,2A		
b0~~1	ENV 2 TRIGGER	0:ANY, 1:AKR, 2:1ST, 3DYN
0A,27		
387		
b4~~6	ENV 2 LATCH	0:OFF, 1:SUS1, 2:REL1, 3:SUS2, 4:REL2
0A,2B		
b0~~1	ENV 3 TRIGGER	0:ANY, 1:AKR, 2:1ST, 3DYN
0A,28		
388		
b4~~6	ENV 3 LATCH	0:OFF, 1:SUS1, 2:REL1, 3:SUS2, 4:REL2
0A,2C		
bit0	TX. BEND	0:OFF, 1:ON
0A,0D		
bit1	TX. CC-A	0:OFF, 1:ON
0A,0E		
389		

bit2 0A,0F	TX. CC-B	0:OFF, 1:ON
bit3 0A,19	QUANTIZE TRIGGER	0:OFF, 1:ON
bit4 0A,1B	TIMBZONE BYPASS	0:OFF, 1:ON
bit5 0A,1A	TIMB THRU	0:OFF, 1:ON
bit6 0A,17	THRU IN ZONE	0:OFF, 1:ON
bit7 0A,02	RUN	0:OFF, 1:ON
bit0 0A,07	RX. BEND	0:OFF, 1:ON
bit1 0A,08 390	RX. AFTER T	0:OFF, 1:ON
bit2 0A,09	RX. DAMPER	0:OFF, 1:ON
bit3 0A,0A	RX. JS+Y	0:OFF, 1:ON
bit4 0A,0B	RX. JS-Y	0:OFF, 1:ON
bit5 0A,0C	RX. OTHER CC	0:OFF, 1:ON
bit6 0A,18	THRU OUT ZONE	0:OFF, 1:ON
bit7 0A,10	TX. ENV 1	0:OFF, 1:ON
b0~~1 0A,69	RYTHM SEED	0~~3 : 1~~4
b2~~3 0A,6A 391	DURATION SEED	0~~3 : 1~~4
b4~~5 0A,6B	INDEX SEED	0~~3 : 1~~4
b6~~7 0A,6C	CLUSTER SEED	0~~3 : 1~~4

0A,6D	b0~~1	VELOCITY SEED	0~~3 : 1~~4	
0A,6E	b2~~3	CC-A/B SEED	0~~3 : 1~~4	
392 0A,6F	b4~~5	DRUM SEED	0~~3 : 1~~4	
0A,11	bit6	TX. ENV 2	0:OFF, 1:ON	
0A,12	bit7	TX. ENV 3	0:OFF, 1:ON	
393 0A,37		TRANSDPOSE IN ZONE	DC~~24 : -36~~36	
394 0A,38		TRANSDPOSE OUT ZONE	DC~~24 : -36~~36	
395 -----		(Reserved)	0	0 FIXED
KARMA MODULE PARAMETERS GE PARAMETER 1				
396 0A,49		ASSIGN	**1-11	
397 0A,59		POLARITY	0:+, 1:-	
398		VALUE MSB		
399		VALUE LSB	???? 0A,39	
400 0A,3A : : 459 0A,68		KARMA MODULE PARAMETERS GE PARAMETER 2~~16 Same as KARMA GE PARAMETER 1 (396~~399) (4 * 15 = 60 Bytes)		
KARMA MODULE PARAMETERS CC PARM 1				
460 0A,1D		TX.CC NUMBER	FF:OFF, 00~~5F : 0~~95	
461 0A,21		CC VALUE	00~~7F : 0~~127	
462 0A,1E : : 467 0A,24		KARMA MODULE PARAMETERS CC PARM 2~~4 Same as KARMA CC PARM 1 (460~~461) (2 * 3 = 6 Bytes)		

468		KARMA MODULE PARAMETERS B~D	
0B,1E			
:		Same as KARMA MODULE PARAMETERS A (370 - 467)	
:			
761		(98 * 3 = 294 Bytes)	
0D,24			

COMMON PARAMETERS

b0~~3	CATEGORY	00~~0F	0~~15
00,00			
762			

b4~~7	MOSS BUS SELECT	00~~07	TIMBRE1~~8
00,0F			

763	SCALE TYPE	00~~1A	**1-1
00,01			

764	SCALE KEY	00~~0B	C~~B
00,02			

765	RANDOM INTENSITY	00~~07	0~~7	Normal = 0
00,03				

b0~~5	SW 1 ASSIGN TYPE	00~~0C	**1-2
00,04			

766	bit6	SW1 TOGGLE/MOMENTARY	0:Toggle, 1:Momentary
00,08			

bit7	SW 1 ON/OFF	0:OFF, 1:ON
00,06		

b0~~5	SW 2 ASSIGN TYPE	00~~0C	**1-2
00,05			

767	bit6	SW2 TOGGLE/MOMENTARY	0:Toggle, 1:Momentary
00,09			

bit7	SW 2 ON/OFF	0:OFF, 1:ON
00,07		

b0~~6	KNOB 1 ASSIGN TYPE	00~~7C	**1-3
00,0A			
768			

bit7	REALTIME CONTROLS	0:A, 1:B
00,0E		

769	KNOB 2 ASSIGN TYPE	00~~7C	**1-3
00,0B			

770	KNOB 3 ASSIGN TYPE	00~~7C	**1-3
00,0C			

771	KNOB 4 ASSIGN TYPE	00~~7C	**1-3
00,0D			

TIMBRE 1 PARAMETER

772	PROGRAM NO.	00~~7F	00~~127
-----	-------------	--------	---------

n,00			
773 n,00	PROGRAM BANK	00~~10 : Bank A~~g(d)	
b0~~b4 n,04 774	MIDI CHANNEL	00~~0F : MIDI Channel 1~~16, 10:Global Channel	
b5~~b7 n,03	STATUS	0:INT, 1:Off, 2:EXT, 3:EX2	
775 n,05	BANK SELECT MSB	00~~7F : 00~~127	Available only
			when status is
EXT2. 776 n,06	BANK SELECT LSB	00~~7F : 00~~127	
777 n,02	VOLUME	00~~7F : 00~~127	
778 n,0C	PITCH BEND RANGE	E7:PROG, E8~~18 : -24~~24	
779 n,0A	TRANSPOSE	E8~~18 : -24~~24	
780	DETUNE MSB		
		FB50~~4B0:	
-1200~~1200 781	DETUNE LSB		n,0B
782 n,0D	DELAY START	00~~60,61 :	**1-5
783 n,01	PAN	00:RND, 01~~7F :	L001~~R127
784 n,29	SEND 1 LEVEL	00~~7F : 00~~127	
785 n,2A	SEND 2 LEVEL	00~~7F : 00~~127	
b1~~3 n,2E	DRUMKIT IFX4 Patch		
786 n,2F	b4~~6 DRUMKIT IFX5 Patch		
bit0 n,2B	DRUMKIT IFX3 Patch	0:IFX1, 1:IFX2, 2:IFX3, 3:IFX4, 4:IFX5, 5:L/R	
b6~~7 n,2D			
787 n,2B	b0~~2 DRUMKIT IFX1 Patch		
b3~~5	DRUMKIT IFX2 Patch		

n,2C			
788 n,28	BUS SELECT	0:DKit,1:L/R,2~~6:IFX1~~5,7~~8:1~~2,B:1/2,D:Off	
bit0 n,0F	PROGRAM CHANGE FILT	0:DIS, 1:ENA	
bit1 n,10	AFTER TOUCH FILTER	0:DIS, 1:ENA	
bit2 n,11	DAMPER FILTER	0:DIS, 1:ENA	
bit3 n,12	PORTAMENTO FILTER	0:DIS, 1:ENA	
789			
bit4 n,13	JS(X) AS AMS FILTER	0:DIS, 1:ENA	
bit5 n,14	JS(Y+) FILTER	0:DIS, 1:ENA	
bit6 n,15	JS(Y-) FILTER	0:DIS, 1:ENA	
bit7 n,16	RIBBON FILTER	0:DIS, 1:ENA	
bit0 n,17	ASSIGN KNOB 1 FILTER	0:DIS, 1:ENA	
bit1 n,18	ASSIGN KNOB 2 FILTER	0:DIS, 1:ENA	
bit2 n,19	ASSIGN KNOB 3 FILTER	0:DIS, 1:ENA	
bit3 n,1A	ASSIGN KNOB 4 FILTER	0:DIS, 1:ENA	
790			
bit4 n,1B	ASSIGN SW 1 FILTER	0:DIS, 1:ENA	
bit5 n,1C	ASSIGN SW 2 FILTER	0:DIS, 1:ENA	
bit6 n,1D	FOOT PEDAL/SW FILTER	0:DIS, 1:ENA	
bit7 n,1E	OTHER CONTROL FILTER	0:DIS, 1:ENA	
b0,1	FORCE OSC MODE	0:Program, 1:Poly, 2:Mono, 3:Mono Legate	

n,07		
b2,3	OSC SELECT	0:BOTH, 1:OSC1, 2:OSC2
n,08		
791		
b4,5	KARMA OSC ON/OFF	0:NORMAL, 1:BY OFF, 2:BY ON
n,27		
bit6	USE PROGRAM'S SCALE	0:DIS, 1:ENA
n,0E		
792	PORTAMENT TIME	FF:PRG, 00:Off, 01~~7F : 1~~127
n,09		
793	KEY Z TOP	00~~7F : C-1~~G9
n,1F		
794	KEY Z BOTTOM	00~~7F : C-1~~G9
n,22		
b0~~3	KEY Z TOP SLOPE	0~~F: **3-1
n,20		
795		
b4~~7	KEY Z BOTTOM SLOPE	0~~F: **3-1
n,21		
796	VEL Z TOP	01~~7F : 1~~127
n,23		
797	VEL Z BOTTOM	01~~7F : 1~~127
n,26		
b0~~3	VEL Z TOP SLOPE	
n,24		
798		0~~F : 0~~120 (Vel fade slope = Para value * 8)
b4~~7	VEL Z BOTTOM SLOPE	
n,25		
799	MOSS VOICE	00~~06: 0~~6
n,30		
TIMBRE 2~~8 PARAMETERS		
800		
n,00		
:	Same as TIMBRE 1 (224~~251)	
:		
995	(28 * 7 = 196 Bytes)	
n,30		

**3-1 : 0 : 0 1 : 1 (Semi tone) 2 : 2 3 : 3
 4 : 4 5 : 6 (0.5 Oct) 6 : 8 7 : 10
 8 : 12 (1 Oct) 9 : 18 (1.5 Oct) A : 24 (2 Oct) B : 30
 (2.5 Oct) C : 36 (3 Oct) D : 48 (4 Oct) E : 60 (5 Oct) F : 72 (6
 Oct)

[TABLE 4] GLOBAL PARAMETERS
 No. : No. in the GLOBAL DUMP DATA.

No. (bit)	PARAMETER	DATA(Hex) : VALUE	DESCRIPTION
GLOBAL PARAMETER			
00	MASTER TUNE	CE~~32 : -50~~50[Cent]	
01	KEY TRANSPOSE	F4~~0C : -12~~12	
02	VELOCITY CURVE	0~~7 : 1~~8	
03	AFTER TOUCH CURVE	0~~7 : 1~~8	
bit0	FOOT SW POLARITY	0:-, 1:+	
bit1	DAMPER POLARITY	0:-, 1:+	
04 bit2	CONVERT POSITION	0:PreMIDI, 1:PostMIDI	
bit3	PROG AUTO KARMA	0:OFF, 1:ON	
bit4	COMBI AUTO KARMA	0:OFF, 1:ON	
05	FOOT SW ASSIGN	00~~0B : **4-1	
06	FOOT PEDAL ASSIGN	00~~0B : **4-2	
07	(RESERVED)		
08	USER SCALE (Octave)	9D~~63 : -99~~99	
:		[Cent]	
199	(12*16 Bytes)		
200	USER SCALE	9D~~63 : -99~~99	
:	(All Notes)	[Cent]	
327	(128 Bytes)		
328	PROG CATEGORY NAME	20~~7F	
:		[ASCII CODE]	
583	(16*16 Bytes)		
584	COMBI CATEGORY NAME	20~~7F	

08,04			
SCENE		0:1, 1:2	
08,05			
LATCH		0:OFF, 1:ON	
08,06			
ON/OFF		0:OFF, 1:ON	
08,07			
KNOB 1 (for Scene1)		00~~7F : 0~~127	
08,12			
KNOB 2~~8 (for Scene1)			
08,13			
Same as KNOB 1 (for Scene1)			
:			
08,19			
KNOB 1 (for Scene2)		00~~7F : 0~~127	
08,1A			
KNOB 2~~8 (for Scene2)			
08,1B			
Same as KNOB 1 (for Scene2)			
:			
08,21			
KARMA MODULE PARAMETERS A			
GE SELECT		0~~???: 0~~???	
09,00			
SOLO		0:OFF, 1:ON	
09,01			
RUN		0:OFF, 1:ON	
09,02			
KARMA MODULE PARAMETERS B~~D			
0A,00			
Same as KARMA MODULE PARAMETERS A			
:			
0C,02			
SWITCH PARAMETER			
SW 1 ON/OFF		0:OFF, 1:ON	
0D,00			
SW 2 ON/OFF		0:OFF, 1:ON	
0D,01			
REALTIME CONTROLS		0:A, 1:B	
0D,02			

[TABLE 6] Parameter No. at PROGRAM PLAY mode

PARAMETER	DATA(Hex) : VALUE	DESCRIPTION
PARA No.		

PERFORMANCE EDITOR			
00,00	OCTAVE	FD~~03 : -3~~3	
00,01	PITCH STRETCH	F4~~0C : -12~~12	Only for PCM program
00,02	OSC BALANCE	F6~~0A : -10~~10	
00,03	AMP LEVEL	F6~~0A : -10~~10	
00,04	ATTACK TIME	F6~~0A : -10~~10	
00,05	DECAY TIME	F6~~0A : -10~~10	
00,06	IFX BALANCE	F6~~0A : -10~~10	
00,07	MFx BALANCE	F6~~0A : -10~~10	
KARMA COMMON PARAMETER Under Parameter's right side of '/' is Parameter ID of EXB-MOSS.			
01/03,00	TEMPO	28~~F0 : 40~~240	
01/03,01	SW1 (for Scene1)	0:OFF, 1:ON	
01/03,02	SW2 (for Scene1)	0:OFF, 1:ON	
01/03,03	SW1 (for Scene2)	0:OFF, 1:ON	
01/03,04	SW2 (for Scene2)	0:OFF, 1:ON	
01/03,05	SCENE	0:1, 1:2	
01/03,06	LATCH	0:OFF, 1:ON	
01/03,07	ON/OFF	0:OFF, 1:ON	
01/03,12	KNOB 1 (for Scene1)	00~~7F : 0~~127	
01/03,13	KNOB 2~~8 (for Scene1)		
:	Same as KNOB 1 (for Scene1)		
01/03,19			
01/03,1A	KNOB 1 (for Scene2)	00~~7F : 0~~127	

01/03,1B		KNOB 2~~8 (for Scene2)		
:		Same as KNOB 1 (for Scene2)		
01/03,21				
02/04,00		GE SELECT		0~~???: 0~~???

SWITCH PARAMETER Under Parameter's right side of '/' is Parameter ID of EXB-MOSS.				
05/06,00		SW 1 ON/OFF		0:OFF, 1:ON
05/06,01		SW 2 ON/OFF		0:OFF, 1:ON
05/06,02		REALTIME CONTROLS		0:A, 1:B

[TABLE 7] 1 DRUMKIT PARAMETERS
 No. : No. in the DRUMKIT DUMP DATA.

No. (bit) PARA No.	PARAMETER	DATA(Hex) : VALUE	DESCRIPTION
00	DRUMKIT NAME (Head)		
:	:	20~~7F	
15	DRUMKIT NAME (Tail)		

KEY=C-1 PARAMETERS			
16 option.	HIGHER BANK	0:ROM, 1:RAM, ~~???	??? is depend on PCM
00/0B			
bit0 02/0D 17	HIGHER START OFFSET	0:OFF, 1:ON	
bit1 03/0E	HIGHER REVERSE	0:OFF, 1:ON	
18	HIGH SAMPLE NO(MSB)		
01/0C		00~~19C : 00~~412	Higher Vel's Drumsample
19	HIGH SAMPLE NO(LSB)		
20 04/0F	HIGHER LEVEL	9D~~63 : -99~~99	
21 05/10	HIGHER TRANSPOSE	C0~~3F : -64~~63	
22 06/11	HIGHER TUNE	9D~~63 : -99~~99	
23 07/12	HIGHER ATTACK LEVEL	C0~~3F : -64~~63	

24 08/13	HIGHER DECAY LEVEL	C0~~3F : -64~~63	
25 09/14	HIGHER CUTOFF LEVEL	C0~~3F : -64~~63	
26 0A/15	HIGH RESONANCE LEVEL	C0~~3F : -64~~63	
27 ----	(RESERVED)		
28 : 39 of LOWER.)	LOWER Same as HIGHER (16~~27) (12 Bytes)	(Above Parameter's right side of '/' is PARA No.	
40 16	PAN	00:RND, 01~~7F : L001~~R127	
41 17	BUS SELECT	00:L/R,01~~05:IFX1~~5,06~~07:1~~2,0A:1/2,0C:Off	
42 18	SEND 1 LEVEL	00~~7F: 00~~127	
43 19	SEND 2 LEVEL	00~~7F: 00~~127	
44 1A	EXCLUSIVE GROUP	00:Off, 01~~7F : 001~~127	
bit0 1B	VOICE ASSIGN	0:OFF, 1:ON	
bit1 1C 45	SINGLE TRIGGER	0:OFF, 1:ON	
bit2 1D	RECEIVE NOTE ON	0:DIS, 1:ENA	
bit3 1E	RECEIVE NOTE OFF	0:DIS, 1:ENA	
46 Vel 1F	VEL SAMPLE SW	01~~7F : 01~~127	For DRUMSAMPLE SELECT by
47 ----	(RESERVED)		
KEY=C#-1~~G9 PARAMETERS			
48 00 : : 4111 1F	Same as KEY=C-1 (16~~47) (127 * 32 = 4064 Bytes)		

[TABLE 8]

SEQUENCE DATA PARAMETERS

00	EVENT DATA START ADDRESS(MSB)	
:	: (4 Bytes)	
03	EVENT DATA START ADDRESS(LSB)	

04	EVENT DATA FREE AREA START ADDRESS(MSB)	
:	: (4 Bytes)	
07	EVENT DATA FREE AREA START ADDRESS(LSB)	

08	SONG 00 EVENT DATA ADDRESS(MSB)	
:	: (4 Bytes)	
11	SONG 00 EVENT DATA ADDRESS(LSB)	

12	SONG 001~~199, EVENT DATA ADDRESS	
:	Same as SONG 00 EVENT (08~~11)	
807	(4 * 199 = 796 Bytes)	

808	CURRENT SONG NO.	00~~C7 : 00~~199

809	CURRENT PAT NO.	00~~95 : 00~~149

810	CURRENT FX SONG NO.	00~~C7 : 00~~199

811	VALID SONG	00~~C8 : 00~~200

812	VALID SONG NO.	00~~C7 : 00~~199
:		
1011	(200 Bytes)	

[TABLE 9] 1 CUE LIST DATA 2000.12.22

CUE LIST		

00	CUE LIST NAME (Head)	
:	:	20~~7F
15	CUE LIST NAME (Tail)	

16	TEMPO	28~~F0 : 40~~240

17	TEMPO MODE	0:AUTO, 1:MANUAL

18	(RESERVED)	

19	(RESERVED)	

STEP 01		

20	SONG NO.	0~~C7 : S000~~S199 FE : Continue to step01 FF : End

b0~~6	REPEAT	00~~3F:1~~64, 7F:FS
21	bit7	Load FX 0:OFF, 1:ON

STEP 02~~100		

22		
:	Same as STEP 01 (20~~21)	
219	(2 * 99 = 198 Bytes)	

[TABLE 10] 1 SONG SEQUENCE DATA

SONG		

00	SONG NAME (Head)	
:	:	20~~7F

15	SONG NAME (Tail)	

INSERT EFFECT PARAMETERS		

16 : 135	FX1~~5 (24Bytes * 5) (120 Bytes)	

MASTER EFFECT PARAMETERS		

136 : : 191	FX1~~2 (20Bytes * 2) Return, Chain & EQ (16 Bytes) (56 Bytes)	

KARMA PARAMETERS		

192 : 761	Same as COMBI.KARMA (192~~761) (570 Bytes)	

COMMON PARAMETERS		

762 : 771	Same as COMBI.COMMON PARAMETER (762~~771) (10 Bytes)	

TRACK 1~~16 PARAMETERS		

772 : 1219	Same as TIMBRE 1 (772~~799) (28 * 16 = 448 Bytes)	

SONG CONTROL DATA		

1220	RPPR ON/OFF	0:OFF, 1:ON

1221	TRACK SELECT	0~~F,10:TRK01~~15,MASTER

1222	(RESERVED)	

1223	(RESERVED)	

1224	METER	10~~3F : **12-1

1225	TEMPO	28~~F0 : 40~~240

1226	METRONOME LEVEL	00~~7F : 00~~127

1227	METRONOME BUS SELECT	0:L/R,1:L,2:R,3~~4:1~~2, 7:1/2

1228	METRONOME PRECOUNT	00~~02 : 0~~2

1229	TEMPO MODE	0:AUTO, 1:MANUAL, 2:REC

1230	TRACK9~~16 MODE	0:PLAY, 1:MUTE

1231	TRACK1~~8 MODE	0:PLAY, 1:MUTE

1232 : 1247	TRACK 1 NAME (Head) : TRACK 1 NAME (Tail)	20~~7F

1248 : 1487	TRACK 2~~16 NAME Same as TRACK 1 NAME (1232~~1247) (16 * 15 = 240 Bytes)	

1488	TR1 EVENT ADRS (MSB)	
:	: (4 Bytes)	
1491	TR1 EVENT ADRS (LSB)	

1492	TRACK 2~~16, MASTER TRACK EVENT ADDRESS	
:	Same as TRACK 1 EVENT (1488~~1491)	
1555	(4 * 16 = 64 Bytes)	

1556	(RESERVED)	
:	: (4 Bytes)	
1559	:	

PATTERN 0		

1560	NAME (Head)	20~~7F
:	:	
:	:	[ASCII CODE]
1575	NAME (Tail)	

1576	LENGTH	01~~63 : 00~~99

1577	METER	**12-1

1578	(RESERVED)	

1579	(RESERVED)	

1580	EVENT DATA ADRS(MSB)	
:	: (4 Bytes)	
1583	EVENT DATA ADRS(LSB)	

1584	PATTERN 1~~99	
:	Same as PATTERN 0 (1560~~1583)	
3959	(24 * 99 = 2376 Bytes)	

3960	TRACK1~~8 INT	0:OFF, 1:ON

3961	TRACK9~~16 INT	0:OFF, 1:ON

3962	TRACK1~~8 EXT	0:OFF, 1:ON

3963	TRACK9~~16 EXT	0:OFF, 1:ON

TRACK 1 PLAY LOOP		

bit7	ASSIGN	0:OFF, 1:ON
3964	b0~~6	
	START MEASURE (MSB)	01~~3E7 : 001~~999
3965	START MEASURE (LSB)	

3966	END MEASURE (MSB)	01~~3E7 : 001~~999
3967	END MEASURE (LSB)	

3968	TRACK 2~~16	
:	Same as TRACK 1 PLAY LOOP (3416~~3419)	
4027	(4 * 15 = 60 Bytes)	

KEY=C-1 RPPR		

4028	PATTERN	00~~63 : U00~~U99 00~~95 : P00~~P149

b0~~3	TRACK	00~~0F : 01~~16
4029	b4~~7	
	SYNC	0:Off, 1:Beat,

		2:Measure, 3:SEQ
b0~~3	MODE	0:Once, 1:Manual, 2:Endless
4030		
b4~~7	STATUS	0:NOTE,1:PAT,2:SHUTDOWN
4031	SHIFT NOTE	F4~~0C : -12~~12
4032	KEY=C#-1~~G9 RPPR	
:	Same as KEY=C-1 RPPR (4028~~4031)	
4539	(4 * 127 = 508 Bytes)	

**10-1 : 10~~1F : 1/4~~ 16/4
 20~~2F : 1/8~~ 16/8
 30~~3F : 1/16~~16/16

-Revision History-

1.0 Jan.30.'01 Initial Release.