

Solo Synthesizer Guide



T R I N I T Y
MUSIC WORKSTATION DRS
TRINITY / TRINITY plus / TRINITY pro / TRINITY proX



Advanced Control Combined Synthesis System



Multi Oscillator Synthesis System



KORG

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1. Program Play mode

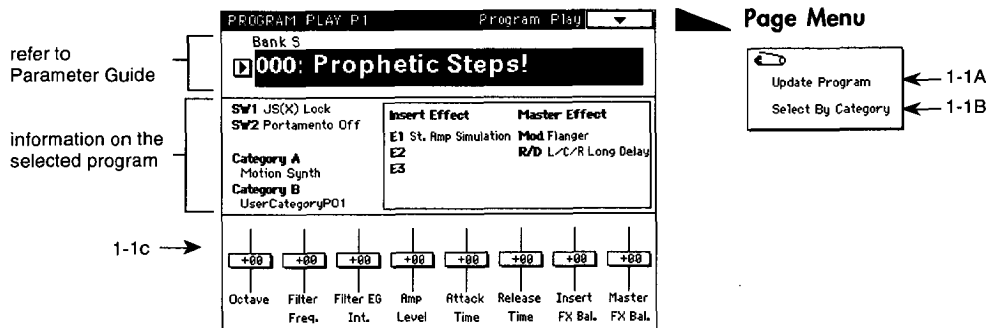
Program Play P1

1-1: Program Play

The center of the LCD screen will show settings for the currently selected program (the functions of SW1 and SW2, the sound category, etc.).

If you select "1-1c: Program Editor", the Performance Editor data will be displayed in the center.

MIDI All MIDI data in Program Play mode is transmitted and received on the Global MIDI channel specified in Global mode "1-1c: MIDI Channel/Local Control On/Note Receive."




1-1c: Performance Editor

The Performance Editor function allows you to edit major parameters without having to move to Edit Solo Program mode.

This lets you easily make rough changes in the sound, and even edit sounds in real time while you play. Use this function when you want to adjust the sound while you play, or to make rough settings when creating your own sounds.

These edits will affect the program parameter values in the edit buffer. If you select "1-1c: Performance Editor", the Performance Editor data will be displayed in the center right of the display, and you can see how the edited values change. If you wish to keep your edits, use the Program Write operation.

 The Performance Editor is used to re-adjust program parameters. It is not possible to use the Performance Editor to exceed the value range of the program parameters. Also, since these are rough adjustments, the balance between parameters may be affected.

MIDI If the Global mode "2-1a: Filter" setting Enable Exclusive is checked, MIDI exclusive Parameter Change messages will be transmitted each time you operate the Performance Editor. If a Trinity whose Enable Exclusive setting is checked receives these messages, it will execute the same performance edits on its own data.

Octave [-3...0...+3]
 A setting of +1 will raise the pitch 1 octave. However it is not possible to change the pitch above 4' or lower than 32'.

Filter Freq. (Filter Cutoff Frequency) [-10...0...+10]
 A setting of +1 will raise the cutoff frequency value by 5.

Filter EG Int. (Filter EG Intensity) [-10...0...+10]
 A setting of +1 will increase by 5 the depth of the parameters which adjust the effect that the filter EG has on cutoff frequency, causing the filter EG to have a greater effect on the cutoff frequency.
 The sign of the parameter value will not change. For example if the Performance Editor value is set to -2, the parameter value will decrease 10, but if the original value was +8 the resulting value will be not -2 but 0.

Amp Level [-10...0...+10]
 A setting of +1 will raise the amplitude value by 5, increasing the volume.

Attack Time [-10...0...+10]
 A setting of +1 will increase the amp EG's attack time by 5, slowing the attack.

Release Time [-10...0...+10]
 A setting of +1 will increase the amp EG's release time by 5, lengthening the decay.

Insert FX Bal. (Insert Effect Dry/FX Balance) [-10...0...+10]
 A setting of +1 will increase the FX value by 5, causing the insert effects to be applied more deeply.

Master FX Bal. (Master Effect Dry/FX Balance) [-10...0...+10]
 A setting of +1 will increase the FX value by 5, causing the master effects to be applied more deeply.

Octave	Octave of oscillator 1 and 2
Filter Freq.	Cutoff Frequency of filter 1 and 2
Filter EG Int.	Cutoff Freq Mod EG Intensity of filter 1 and 2
Amp Level	Amplitude of amp 1 and 2
Attack Time	Attack Time of the amp EG
Release Time	Release Time of the amp EG
Insert FX Bal.	Dry/FX Balance of the insert effects
Master FX Bal.	Dry/FX Balance of the master effects

▼ **Page Menu Command**

1-1A: Update Program

This writes the edited program into the currently selected program number.

Be sure to write important programs. If you turn the power off or select another program before writing the data, it cannot be recovered.

Refer to Basic Guide "9. Writing a Program or Combination".

1-1B: Select By Category

This allows you to select programs using the categories that were specified in Program Edit mode.

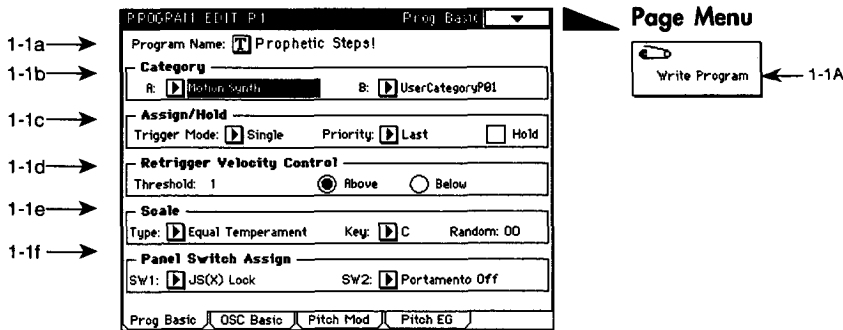
For details refer to Basic Guide "11. Selecting by category."

2. Edit Solo Program mode

Program Edit P1


Here you make basic settings for the program, and for the oscillators that will be used.

1-1: Prog Basic (Program Basic)



1-1a: Program Name

The program name of the currently selected program will be displayed. Press the text edit button, and a display will appear allowing you to rename the program.

 If you wish to write a renamed program, use the Write Program operation. If you select another program or turn the power off, the renamed program name will be lost.

1-1b: Category

You can assign two categories to each program. In Program Play mode, you can use these categories to search for programs.

A (Category A)

[Keyboard...Drums/Perc.]

The factory settings specify instrument names, but these can be changed in Global mode "4-1: Category Program A."

B (Category B)

[User Category P01...P16]

The factory preset category names can be changed in Global mode "4-2: Category Program B."

1-1c: Assign/Hold

Assign

Trigger Mode

[Multi/Single/Velocity]

This determines how the EG and LFO will operate at key-on.

MULTI (multi trigger): Each key-on will cause the EG to begin from the start level, and LFOs whose Key Sync is ON will be reset.

SINGLE (single trigger): When (and only when) a key-on occurs when all keys are off, EGs will return to the Start Level and LFOs (whose Key Sync is ON) will be reset.

VELOCITY (velocity): Multi trigger and Single trigger will be switched depending on the velocity.

Priority

[Low/High/Last]

This setting determines which note will sound when two or more keys are played simultaneously.

LOW: The lowest of the simultaneously played notes will sound.

HIGH: The highest of the simultaneously played notes will sound.

LAST: The last-played note will sound.

Hold

[On/Off]

If this is checked, Hold will be ON.

If this is un-checked, Hold will be OFF.

When Hold is ON, a note will continue to sound as though the key were still being held, even after the key is released. It will continue sounding unless the "4-2: Amp EG" Amp EG Sustain Level is set to 0.

1-1d: Retrigger Velocity Control

Threshold (Threshold Velocity)

[1...127]

When "Trigger Mode" is set to "VELOCITY", this sets the velocity at which multi-triggering and single-triggering will switch.

With a setting of Above, multi-triggering will apply above the Threshold.

With a setting of Below, multi-triggering will apply below the Threshold.

1-1e: Scale (Scale Type)

Type (Scale Type)

[Equal Temperament...All Range User Scale]

Select the basic scale. Settings for the user scale can be made in Global mode.

Equal Temperament: This is the most commonly used scale, in which each semitone interval is identical to all others.

Pure Major: In this scale, the principle major chords in the key selected by Scale Key will be perfectly in tune.

Pure Minor: In this scale, the principle minor chords in the key selected by Scale Key will be perfectly in tune.

Arabic: This scale used in Arabian music which includes quarter-tones

Pythagorean: This scale takes its name from the famous mathematician of ancient Greece, and is effective for melodic playing.

Werkmeister: This is an equal-temperament scale used in the later Baroque period.

Kirnberger: This is a scale created in the 18th century for the harpsichord.

Slendro: This is an Indonesian Gamelan scale in which octaves consist of five notes. When the Scale Key is C, the notes C, D, F, G, and A are used. (The other notes are set to equal temperament.)

Pelog: This is an Indonesian Gamelan scale in which octaves consist of seven notes. When the Scale Key is C, the white keys are used. (The black keys are set to equal temperament.)

Octave User Scale: This is a user-adjustable scale that allows you to specify the pitch of each note in the octave. The specified pitches are applied to each octave.

Stretch: This is a scale for acoustic pianos.

All Range User Scale: This is a user-adjustable scale that allows you to specify the pitch of each note in the entire range (C-1 to G9).

Key (Scale Key)

[C...B]

Specify the key (tonic) of the selected scale.

Random

[00...99]

Higher settings of this parameter will produce an increasing degree of randomness in the pitch of each note when it is played. Normally you will leave this set to 0.

This parameter is useful when you wish to simulate instruments whose pitch is inherently unpredictable, such as analog synthesizers or acoustic instruments.

1-1f: Panel Switch Assign

These settings assign the functions of the front panel switches SW1 and SW2.

SW1 **AMSource**

[JS(X) Lock...Modulation (CC #80)]

SW2 **AMSource**

[JS(X)Lock...Modulation (CC #81)]

The same functions are available for assignment to SW1 and SW2 (except for Modulation), as follows.

If you use one of these switches to Lock a controller such as the joystick, ribbon controller, or aftertouch, the selected controller will lock (LED lit) or unlock (LED unlit) each time you press SW1 (or SW2).

If you press SW1 (or SW2) while operating a controller, the controller value will be fixed at the current value, and will not change further. For example if you select JS(+Y) Lock, and press SW1 (or SW2) when the joystick has been moved away from you, the joystick (+Y) movement will be locked (held) at that position, so that modulation will continue to apply even after the joystick is returned to its normal position. By moving the joystick in the (-Y) direction you can then apply two types of modulation at once.

MIDI When a controller is locked, that controller will not transmit MIDI messages, but the corresponding MIDI message will still be received.

With a setting of **Octave Up**, the pitch will alternate between a pitch of one octave higher (LED lit) and the normal pitch (LED unlit) each time you press SW1 (or SW2).

With a setting of **Octave Down**, the pitch will alternate between a pitch of one octave lower (LED lit) and the normal pitch (LED unlit) each time you press SW1 (or SW2).

With a setting of **Portamento Off**, the portamento effect will alternate on (LED unlit) and off (LED lit) each time you press SW1 (or SW2).

This is available only for the Solo Synth.

MIDI CC#65 will be transmitted each time this is turned on/off (OFF value is 0, ON value is 127).

If **Modulation** is selected, the switch can be the source for Alternate Modulation or Effect Dynamic Modulation. This is the only function which differs between SW1 and SW2; SW1 is CC#80, and SW2 is CC#81.

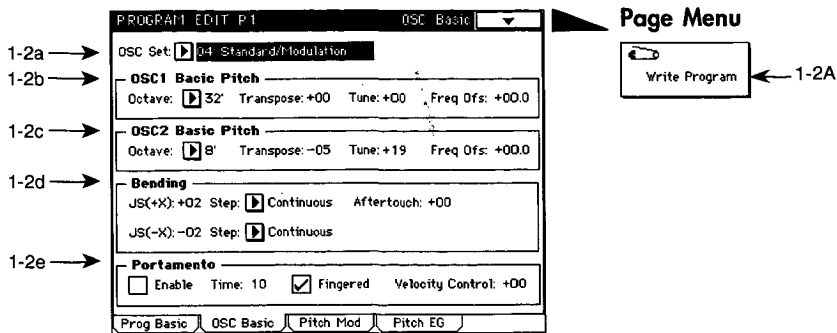
MIDI CC#80 (or CC#81) will be transmitted each time the switch is turned on/off (OFF value is 0, ON value is 127).

▼ Page Menu Command

1-1A: Write Program

This writes the edited program into the specified program number of the specified bank. Be sure to write important programs. If you turn the power off or select another program before writing the data, it cannot be recovered. Refer to Basic Guide "9. Writing a Program or Combination".

1-2: OSC Basic



1-2a: OSC Set (Oscillator Set)

[Standard/Standard...Pluck/-- --]

Select a combination to determine which oscillator type will be used for oscillator 1 and oscillator 2. Sets 1 ~ 9 use two oscillators (1 and 2). Sets 10 ~ 12 use only oscillator 1. (However since the pitch-related parameters for oscillator 2 will be still valid, they can be used to control the pitch of the sub oscillator.)

OSC Set	Oscillator 1	Oscillator 2
01	Standard OSC	Standard OSC
02	Standard OSC	Comb Filter OSC
03	Standard OSC	VPM OSC
04	Standard OSC	Modulation OSC
05	Comb Filter OSC	Comb Filter OSC
06	Comb Filter OSC	VPM OSC
07	Comb Filter OSC	Modulation OSC
08	VPM OSC	VPM OSC
09	VPM OSC	Modulation OSC
10	Brass OSC	no oscillator
11	Reed OSC	no oscillator
12	Pluck OSC	no oscillator

If you like, use the numeric keypad to make the desired selection, and press the ENTER key to execute.

For details on each oscillator type, refer to the following pages:

Standard Oscillator, p.17; Comb Filter Oscillator, p.20; VPM Oscillator, p.23; Brass Oscillator, p.26; Reed Oscillator, p.30; Pluck Oscillator, p.33; Modulation Oscillator, p.38

1-2b: OSC1 Basic Pitch

Specifies the basic pitch of oscillator 1.

Octave

[32'...4']

Specifies the basic pitch of oscillator 1 in units of an octave.

A setting of 32' is 2 octaves down, 16' is one octave down, 8' is standard pitch, and 4' is one octave up.

Transpose

[-12...+12]

Makes adjustments in semitone steps to the basic pitch specified in "Octave".

Tune (Fine Tune)

[-50...+50]

Makes fine adjustments to the basic pitch in steps of one cent.

Freq Ofs (Frequency Offset)

[-10.0...+10.0]

Makes fine adjustments to the basic pitch in 0.1 Hz steps.



For some physical model oscillator types, "Freq Ofs" settings can result in unstable oscillation.

1-2c: OSC2 Basic Pitch

For the operation and settings of these parameters, refer to "1-2b: OSC1 Basic Pitch."

1-2d: Bending

JS (+X)

JS (+X) (Pitch Bender Intensity (+X))

[-60...+12]

Sets the range of pitch change (in semitones) produced when the joystick is moved to the right. With positive (+) settings, the pitch will be raised. With negative (-) settings the pitch will be lowered. A setting of 12 produces a change of 1 octave.

Step (Pitch Bender Step (+X))

[Continuous, 1/8, 1/4, 1/2, 01...12]

Specifies the type of pitch change that will occur when the joystick is moved toward the right. For each setting of this parameter, the pitch will change as follows.

Continuous	→	smooth change
1/8	→	change in units of 1/8 chromatic step
1/4	→	change in units of 1/4 chromatic step
1/2	→	change in units of 1/2 chromatic step
1-12	→	change in units of the specified number of chromatic steps (maximum of 1 octave)



If the "Pitch Bender Step (+X)" pitch is greater than the pitch specified for "Pitch Bender Intensity (+X)", the pitch will not change.

JS (-X)**JS (-X) (Pitch Bender Intensity (-X))** **[-60...+12]**

Specifies the amount (in chromatic steps) and the direction of the pitch change that will occur when the joystick is moved toward the left. With positive (+) settings the pitch will rise, and with negative (-) the pitch will fall. A setting of 12 allows 1 octave of change.

Step (Pitch Bender Step (-X)) **[Continuous, 1/8, 1/4, 1/2, 01...12]**

Specifies the type of pitch change that will occur when the joystick is moved to the left. For each setting of this parameter, the pitch will change as explained in "Pitch Bender Step (+X)", above.



If the "Pitch Bender Step (-X)" pitch is greater than the pitch specified for "Pitch Bender Intensity (-X)", the pitch will not change.

Aftertouch (After Touch Bending) **[-12...+12]**

Specify the amount (in chromatic steps) and the direction of pitch bend that will occur in response to Aftertouch. With positive (+) settings aftertouch will raise the pitch, and with negative (-) settings it will lower the pitch.

1-2e: Portamento

Here you can make settings for the Portamento effect that creates a smooth pitch change between one key and the next.

Enable

If this is checked, portamento will be applied.

If this is un-checked, portamento will not be applied.

Time (Portamento Time) **[00...99]**

Specifies the portamento time. Higher settings will cause slower pitch change (30 seconds at the maximum value).

Velocity Control (Portamento Time Velocity Control) **[-99...+99]**

Specifies how velocity will affect the portamento time. With positive (+) settings, strongly played notes (high velocities) will lengthen the portamento time. With negative (-) settings, strongly played notes will shorten the portamento time.

Fingered

If this is un-checked, portamento will always be applied, regardless of the playing technique.

If this is checked, portamento will be applied only if the next key is pressed before releasing the previous key (i.e., legato).

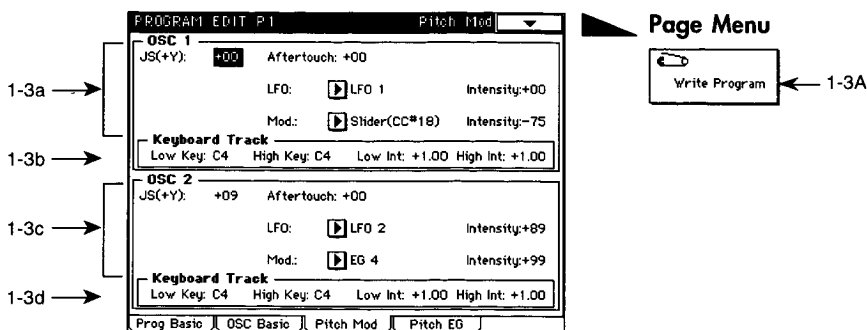
▼ Page Menu Command**1-2A: Write Program**

This writes the edited program into the specified program number of the specified bank.

Be sure to write important programs. If you turn the power off or select another program before writing the data, it cannot be recovered.

Refer to Basic Guide "9. Writing a Program or Combination".

1-3: Pitch Mod (Oscillator Pitch Modulation)



1-3a: OSC 1 (OSC 1 Pitch Modulation)

Makes settings for the LFO that controls the basic pitch of oscillator 1.

JS(+Y) (Intensity CC#1 Control) [-99...+99]

Adjusts the amount of control that control change #1 will have on the depth of the pitch modulation LFO.

Aftertouch (Intensity AT Control) [-99...+99]

Adjusts the amount of control that aftertouch will have on the depth of the pitch modulation LFO.

LFO (LFO Select) [LFO 1...4]

Selects the LFO that will apply cyclic changes (vibrato) to the basic pitch.

Intensity (Pitch Mod. LFO Intensity) [-99...+99]

Adjusts the depth of the pitch change produced by the LFO selected in "LFO Select". Positive (+) settings will produce vibrato with the normal phase of the LFO waveform, and negative (-) settings will invert the phase of the LFO waveform.

Mod. (Pitch Modulation Source) [OFF...Tempo]

Selects the modulation source that will control pitch.

Intensity (Pitch Mod. Intensity) [-99...+99]

Adjusts the depth and direction by which "Pitch Modulation Source" will affect the pitch.

1-3b: Keyboard Track (OSC1 Keyboard Track)

Makes settings determining how keyboard tracking (keyboard position) will affect the basic pitch of oscillator 1.

Low Key [C-1...G9]

Specifies the key at which Lower keyboard tracking will begin to apply.

High Key [C-1...G9]

Specifies the key at which Higher keyboard tracking will begin to apply.

Low Int (Lower Intensity)

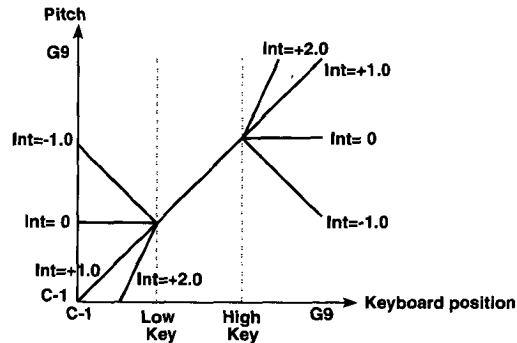
[-1.0...+2.0]

Specifies the depth and direction by which the pitch will change for keys below the Low Key.

High Int (Higher Intensity)

[-1.0...+2.0]

Specifies the depth and direction by which the pitch will change for keys above the High Key.



When “Higher Intensity” and “Lower Intensity” are set to values of +2.0, the pitch will rise two octaves as you play one octave above the area specified by High Key and Low Key. For a setting of -1.0, the pitch will fall one octave as you play one octave above the specified area. With a setting of 0.0, the pitch will remain constant outside the specified area. To play the keyboard with normal pitches, set this to +1.0. The area between “Low Key” and “High Key” will always sound with the normal pitches.

1-3c: OSC 2 (OSC 2 Pitch Modulation)

Makes settings for the basic pitch of oscillator 2 and the LFO that will control it. For the operation and settings of these parameters, refer to “1-3a: OSC 1”.

1-3d: Keyboard Track (OSC 2 Keyboard Track)

Makes settings to determine how keyboard tracking (keyboard position) will affect the basic pitch of oscillator 2.

For the operation and settings of these parameters, refer to “1-3b: Keyboard Track.”

▼ Page Menu Command**1-3A: Write Program**

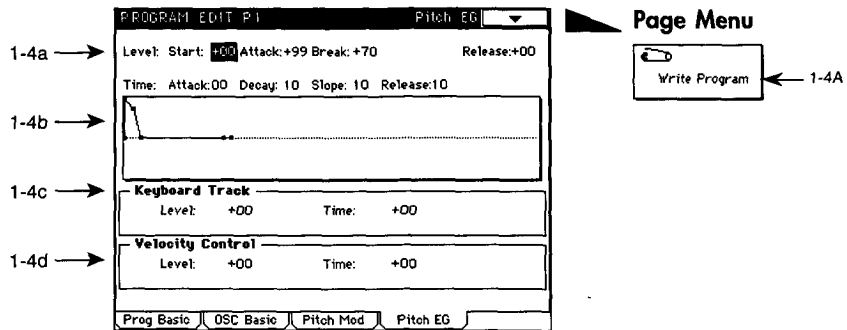
This writes the edited program into the specified program number of the specified bank.

Be sure to write important programs. If you turn the power off or select another program before writing the data, it cannot be recovered.

Refer to Basic Guide “9. Writing a Program or Combination”.

1-4: Pitch EG

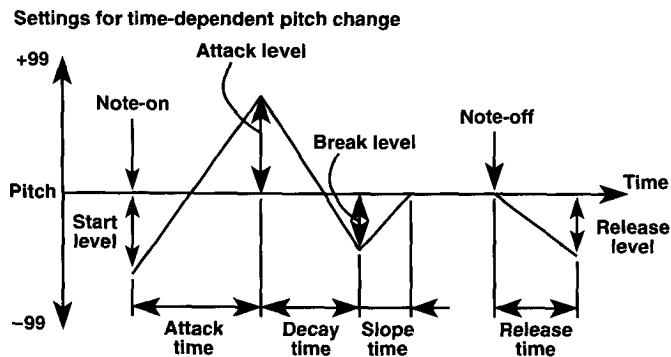
The Pitch EG controls the way in which the oscillator pitch changes over time. The Pitch EG of the Trinity can also be used as a general-purpose controller, meaning that it can provide time-varying control over a variety of other parameters in addition to the pitch.



1-4a: Level (Pitch EG Level)

These settings determine the amount of pitch change that occurs in response to pressing and releasing a key.

In order to use the Pitch EG to control the pitch, you need to make Pitch EG settings for "Pitch Modulation EG" in "1-4b: Time" and set the depth of the effect in "Pitch Mod. Intensity" ("1-3a: OSC 1"/"1-3c: OSC 2").



Start (Start Level) [-99...+99]

Specifies the pitch level when the note is pressed (note-on). Positive (+) settings will cause the pitch to be higher than the standard pitch, and negative (-) settings will cause the pitch to be lower than the standard pitch.

Attack (Attack Level) [-99...+99]

Specifies the pitch level that will be reached after the Attack Time. (Refer to the explanation for "Start Level".)

Break (Break Point) [-99...+99]

Specifies the pitch level that will be reached after the Decay Time has elapsed. (Refer to the explanation for "Start Level".)

Release (Release Level) **[-99...+99]**
 Specifies the pitch level that will be reached when the Release Time has elapsed after note-off.
 (Refer to the explanation for "Start Level".)

※ After the Slope Time has elapsed until you release the note (Note-off), the pitch will be at the standard pitch.

1-4b: Time (Pitch EG Time)

Specifies the time over which the pitch will change in response to a note being pressed and released.

Attack (Attack Time) **[00...99]**
 Specifies the time over which the pitch will change from note-on (pressing a key, etc.) until the pitch of the Attack Level is reached. With a setting of 0, the pitch will change instantly. With a setting of 99, the pitch will change slowly.

Decay (Decay Time) **[00...99]**
 Specifies the time over which the pitch will change from the Attack Level to the Break Point.
 (Refer to the explanation for "Attack Time".)

Slope (Slope Time) **[00...99]**
 Specifies the time over which the pitch will return from the Break Point to the standard pitch.
 (Refer to the explanation for "Attack Time".)

Release (Release Time) **[00...99]**
 Specifies the time over which the pitch will change after note-off (releasing a key, etc.) until the Release Level is reached. (Refer to the explanation for "Attack Time".)

1-4c: Keyboard Track (Pitch EG Keyboard Tracking)

These settings determine how keyboard tracking (note position on the keyboard) will affect the Pitch EG.

Level (Level Keyboard Tracking) **[-99...+99]**
 Specifies how keyboard tracking will affect the Pitch EG Levels.
 Positive (+) settings will result in increased Pitch EG Levels as you play above the C4 key, causing greater pitch changes. Negative (-) settings will result in decreased Pitch EG Levels as you play above the C4 key, causing less pitch change.

Time (Time Keyboard Tracking) **[-99...+99]**
 Specifies how keyboard tracking will affect the Pitch EG Times.
 Positive (+) settings will result in longer Pitch EG Times as you play above the C4 key, causing faster pitch changes. Negative (-) settings will result in shorter Pitch EG Times as you play above the C4 key.

1-4d: Velocity Control (Pitch EG Velocity Control)

Specifies how velocity (the force with which you play a note) will affect the Pitch EG.

Level (Level Velocity Control)

[-99...+99]

Specifies how velocity will affect the Pitch EG Levels.

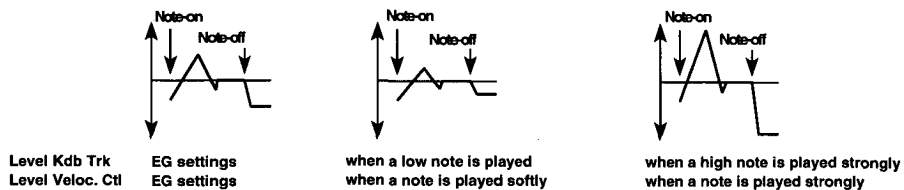
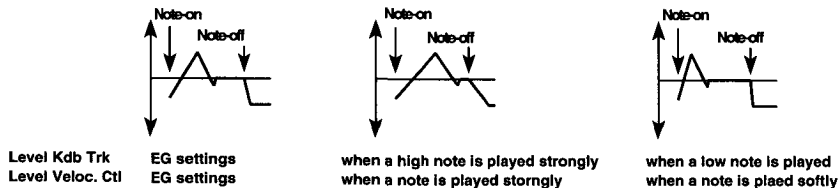
With positive (+) settings, Pitch EG Levels will be increased as you play more strongly (i.e., the amount of pitch change will increase). With negative (-) settings, there will be less pitch change as you play more strongly.

Time (Time Velocity Control)

[-99...+99]

Specifies how velocity will affect the Pitch EG Times.

With positive (+) settings, pitch changes will occur more quickly as you play more strongly (i.e., Pitch EG Times will be shortened). With negative (-) settings, pitch changes will occur more slowly as you play more strongly.

Level changes (with positive (+) settings)**Time changes (with positive (+) settings)****▼ Page Menu Command****1-4A: Write Program**

This writes the edited program into the specified program number of the specified bank.

Be sure to write important programs. If you turn the power off or select another program before writing the data, it cannot be recovered.

Refer to Basic Guide "9. Writing a Program or Combination".

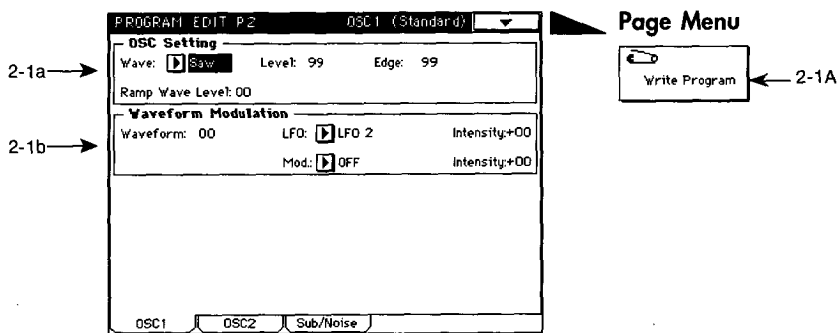
Program Edit P2

2-1: OSC 1

2-1-A: Standard OSC 1

These pages will appear if one of the following choices has been selected for "1-2a: OSC Set":

- 01: Standard/Standard
- 02: Standard/Comb Filter
- 03: Standard/VPM
- 04: Standard/Modulation



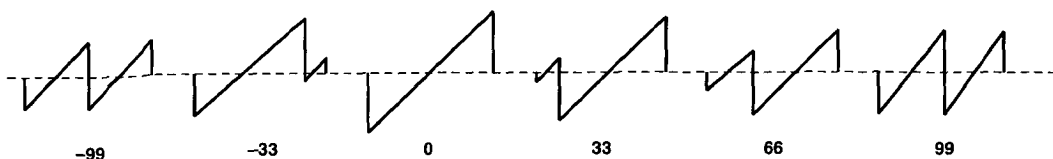
These oscillators produce the sawtooth, pulse, and ramp waveforms used by analog synthesizers. The various waveforms can be modified using waveform modulation. Either sawtooth or pulse wave will be selected as the main waveform, and ramp wave will be mixed with this for output. The levels of both can be adjusted independently.

Waveform Modulation

Analog synthesizers of the past etc. had a function called Pulse Width Modulation (PWM), which changed the pulse width of a pulse wave over time. However, Waveform Modulation is an extension of this which can modulate the waveform of not only pulse waves, but also sawtooth waves or ramp waves.

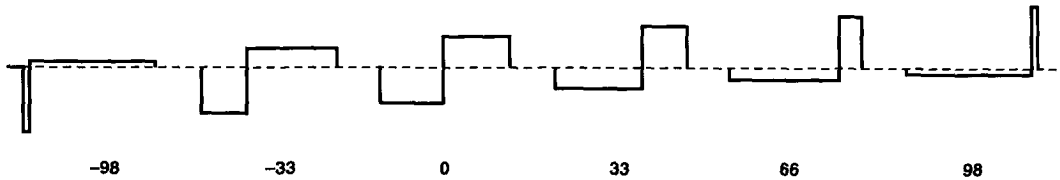
Sawtooth wave

Waveform Modulation can be applied to modify the waveform as shown below, creating changes in tone color over time. When modulation is at 0, the basic sawtooth wave is produced. When modulation is at 99, a sawtooth wave of double the frequency is produced. If the modulation value is negative, the waveform will be affected in the way opposite from positive values.



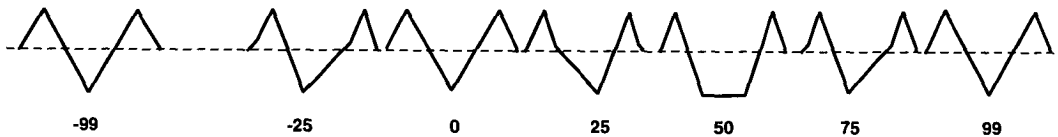
Pulse wave

Waveform (Pulsewidth) Modulation can be applied to modify the waveform, creating changes in tone color over time. When modulation is at 0, a square wave is produced. When modulation is at 99, the pulse width will be 0 and there will be no sound. If the modulation value is negative, the waveform will be affected in the way opposite from positive values.

**Ramp wave**

Waveform Modulation can be applied to modify the waveform as shown below, creating changes in tone color over time. When modulation is at 0, a triangle wave is produced. As the modulation value increases, the waveform becomes a ramp wave (a waveform with a two-stage broken slope). With a value of 50 a trapezoid waveform will result, and a value of 99 will once again produce a triangle waveform. If the modulation value is negative, the waveform will be affected in the way opposite from positive values.

Compared to sawtooth and square waves, ramp waves have fewer overtones and a stronger fundamental, making them especially suitable for bass sounds, etc.

**2-1a: OSC Setting**

These parameters let you select the main output waveform of the oscillator (SAW or PULSE), and mix in the output of the ramp wave.

Wave (Wave Select)**[Saw, Pulse]**

Select the main waveform; either Saw (sawtooth wave) or Pulse (pulse wave).

Level (Wave Level)**[00...99]**

Set the output level of the main waveform.

Edge (Wave Edge)**[00...99]**

Adjust the amount of high overtones for the main waveform. With lower settings of this parameter, the sound will be more mellow. For settings in the area of 0, the volume will also be decreased.

Ramp Wave Level**[00...99]**

Set the output level of the ramp waveform. This will be mixed with the main waveform for output.

2-1b: Waveform Modulation

These parameters set the waveform, and specify how the waveform will be affected by an LFO and by another source such as EG or Aftertouch.

Waveform [-99...+99]
Sets the waveform.

LFO (Waveform Modulation LFO) [LFO1...LFO4]
Selects the source LFO for waveform modulation.

Intensity (Waveform Mod. LFO Intensity) [-99...+99]
Sets the depth and direction of the waveform modulation that will be applied by the LFO that you selected in "Waveform Modulation LFO". Negative values will invert the polarity of the effect.

Mod (Waveform Modulation Source) [OFF...Tempo]
Selects the waveform modulation source.

Intensity (Waveform Mod. Intensity) [-99...+99]
Sets the depth and direction of the waveform modulation that will be applied from the modulation source you selected for "Waveform Modulation Source". Negative values will invert the polarity of the modulation source.

▼ Page Menu Command

2-1A: Write Program

This writes the edited program into the specified program number of the specified bank.

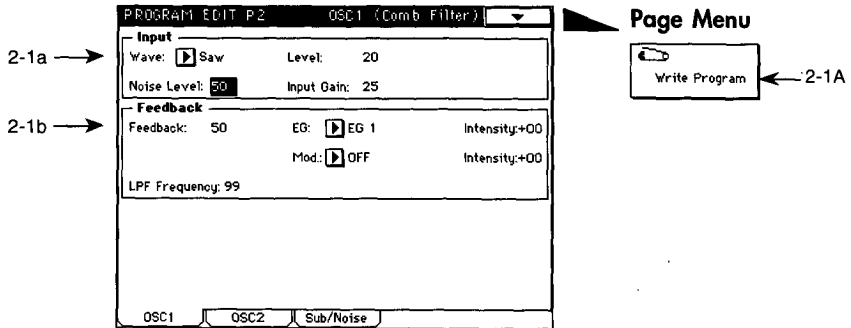
Be sure to write important programs. If you turn the power off or select another program before writing the data, it cannot be recovered.

Refer to Basic Guide "9. Writing a Program or Combination".

2-1-B: Comb Filter OSC 1

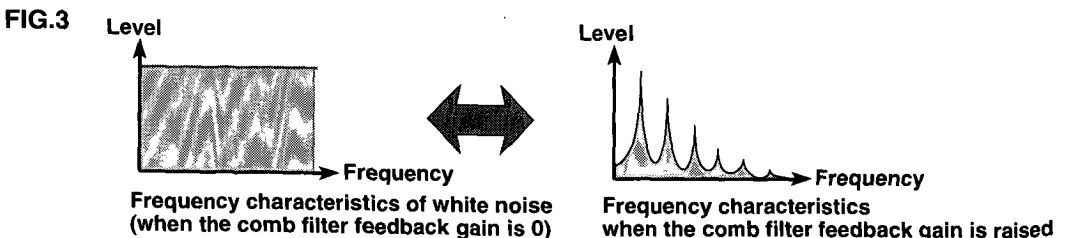
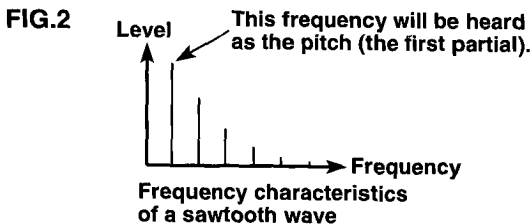
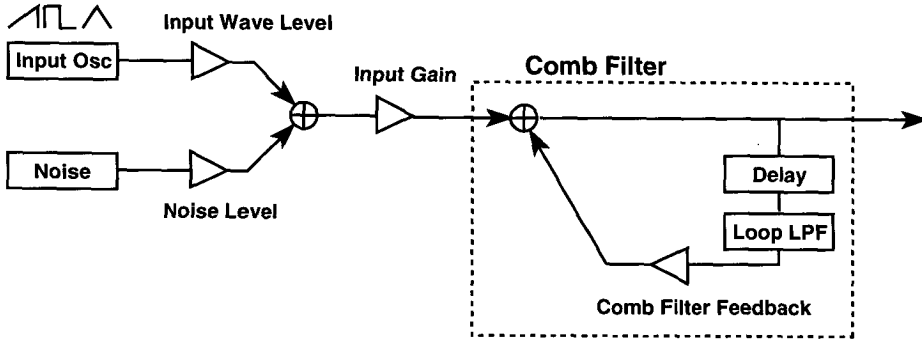
These pages will appear if one of the following choices has been selected for "1-2a: OSC Set":

- 05: Comb Filter/Comb Filter
- 06: Comb Filter/VPM
- 07: Comb Filter/Modulation



The Comb Filter Oscillator inputs noise and an oscillator waveform into a comb filter, and produces distinctive changes in sound when the feedback level of the filter is modified. When noise is input, increasing the feedback level of the comb filter will cause the sound to have a progressively clearer sense of pitch.

FIG.1 Comb Oscillator Block



2-1a: Input (COMB Input)

Wave (Input Waveform) [Saw, Square, Triangle]
 Selects the oscillator waveform that will be input into the comb filter.

Level (Input Wave Level) [00...99]
 Specifies the oscillator volume level that will be input into the comb filter.

Noise Level [00...99]
 Specifies the noise volume level that will be input into the comb filter.

Input Gain [00...99]
 Specifies the input level to the comb filter.



When “Comb Filter Feedback” is increased from 0 toward 99, the sound may become distorted as 99 is approached. If this occurs, set this parameter to limit the level beforehand to decrease the differences in output level from the comb filter.

2-1b: Feedback (COMB Feedback)

Feedback (Comb Filter Feedback) [00...99]
 Sets the feedback level of the comb filter. As this value is increased, the resonance of the comb filter will become higher, resulting in a more pitched sound. Conversely, with lower settings of this value, the input signal will be output without modification, and if the input signal is noise, the output signal will have no sense of pitch.

Feedback Mod. EG (Feedback Modulation EG) [EG1...4, Pitch EG, Amp EG]
 Selects the EG (envelope generator) that will create time-based changes in “Comb Filter Feedback”.

Intensity (Feedback Mod. EG Intensity) [-99...+99]
 Specifies the depth of the change produced by the EG that is selected in “Feedback Modulation EG”. With positive (+) settings, the standard polarity of the EG will be used. With negative (-) settings, the EG polarity will be inverted.

Mod. (Feedback Modulation Source) [OFF...Tempo]
 Selects the modulation source that will control “Comb Filter Feedback”.

Intensity (Feedback Modulation Intensity) [-99...+99]
 Specifies the depth and direction of the feedback produced by the modulation source selected in “Feedback Modulation Source”. Positive (+) settings will allow the Comb Filter Feedback value to be increased, and negative (-) settings will allow it to be decreased. However if “Feedback Modulation Source” is set to EG or LFO, positive (+) settings will cause the standard polarity of the EG or LFO to be used, and negative (-) settings will invert the polarity.

LPF Frequency (Comb Loop LPF Frequency)**[00...99]**

Specifies the cutoff frequency of the low pass filter located inside the comb filter. When this value is low, the high frequencies will be cut from the signal passing through the comb filter, resulting in a more mellow sound. Higher settings of this value will result in a more brilliant sound.



Depending on the settings of "Comb Filter Feedback" and this low pass filter cutoff frequency setting, the output of the oscillator may be distorted. Also, if the Feedback Level is high, changes you make to the low pass filter setting may exhibit a slight time lag before the filter reaches the setting value. This is due to the characteristics of the Comb Filter. If this occurs, lower the "Comb Filter Feedback" setting or this "Comb Loop LPF Frequency" setting.

▼ Page Menu Command**2-1A: Write Program**

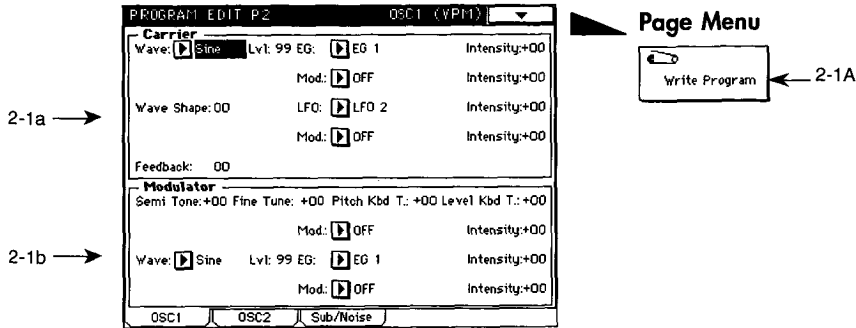
This writes the edited program into the specified program number of the specified bank. Be sure to write important programs. If you turn the power off or select another program before writing the data, it cannot be recovered. Refer to Basic Guide "9. Writing a Program or Combination".

2-1-C: VPM OSC 1

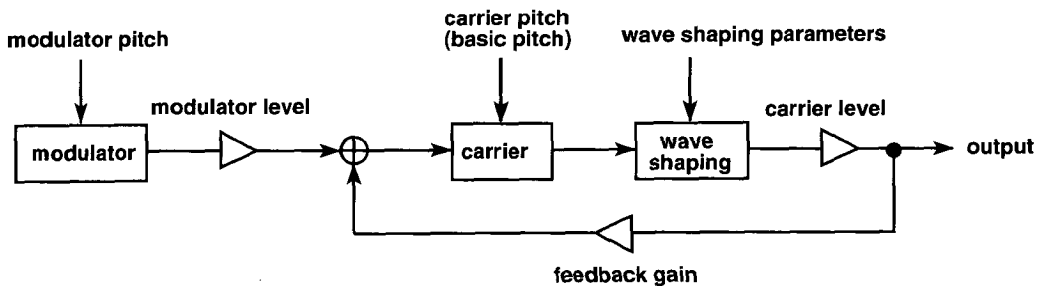
These pages will appear if one of the following choices has been selected for "1-2a: OSC Set":

08: VPM/VPM

09: VPM/Modulation



In this oscillator, the output of a carrier is phase-modulated by a modulator, passed through a wave shaping circuit to emphasize the high frequencies, and then output. By controlling the wave shaping parameters, you can create tonal changes that are different than those produced simply by phase modulation alone.



Carrier

This is the waveform that determines the basic pitch and volume. For the carrier you can select sine (SIN), sawtooth (SAW), triangle (TRI) or square (SQU) waveforms, and this waveform will be phase-modulated by the modulator.

Modulator

This is the waveform that modulates the carrier. VPM allows you to select from sine, sawtooth, triangle, or square wave oscillators to phase-modulate the carrier. Most commonly, an EG etc. is used to control the pitch of the modulator to create interesting changes in tone.

Wave Shaping

This section passes the value of the input waveform through a mathematical function and outputs the result. The VPM oscillator uses a sine wave function that emphasizes specific high frequencies. By adjusting the wave shaping parameters to control the frequency of this sine wave, you can modify the point at which the high frequencies will be emphasized.

2-1a: Carrier

- Wave (VPM Carrier Wave)** [Saw, Triangle, Square, Sine]
 This parameter selects the carrier waveform.
- Lvl (Carrier Level)** [00...99]
 Sets the output level of the carrier. This determines the output level of the VPM oscillator.
- EG (Carrier Level Modulation EG)** [EG1...4, Pitch EG, Amp EG]
 Selects the EG that will control the output level of the carrier.
- Intensity (Carrier Level Modulation EG Intensity)** [-99...+99]
 Specifies the depth and direction in which the EG selected for "Carrier Level Modulation EG" will control the carrier level. Negative values will invert the polarity of the EG.
- Mod. (Carrier Level Modulation Source)** [OFF...Tempo]
 Selects the modulation source such as LFO or aftertouch etc. that will modulate the output level of the carrier.
- Intensity (Carrier Level Modulation Intensity)** [-99...+99]
 Specifies the depth of control that the modulation source specified as the "Carrier Level Modulation Source" will have on the carrier level. Negative values will invert the polarity of the modulation source.
- Wave Shape** [00...99]
 Increases or decreases the number of cycles in the wave shaping function. Higher values will cause the emphasis to be applied at a higher frequency, and higher partials to be added.
- LFO (Wave Shape Modulation LFO)** [LFO1...4]
 Selects the modulation LFO for the Wave Shape function. This will produce an effect similar to wah or sync modulation.
- Intensity (Wave Shape Mod. LFO Intensity)** [-99...+99]
 Specifies the depth and direction of the modulation applied to "Wave Shape" by the selected "Wave Shape Modulation LFO".
- Mod. (Wave Shape Modulation Source)** [OFF...Tempo]
 Selects a source such as EG or Aftertouch that will modulate the Shape.
- Intensity (Wave Shape Mod. Intensity)** [-99...+99]
 Specifies the depth and direction of the modulation applied to "Wave Shape" by the selected "Wave Shape Modulation Source".
- Feedback (VPM Feedback Gain)** [00...99]
 Specifies the input level for the feedback that is returned from the carrier output to the carrier input. The overtone structure will change as this value is increased. Increasing the value beyond a certain amount will result in a noise-like sound.

2-1b: Modulator

- Semi Tone (Frequency Semi Tone)** [-12...+96]
 Sets the pitch of the modulator in semitone units. This setting is relative to the pitch of the carrier.

- Fine Tune (Frequency Fine Tune)** [-50...+50]
Makes fine adjustments to the modulator pitch. This setting is relative to the pitch of the carrier.
- Pitch Kbd Tr. (Modulator Pitch Keyboard Tracking)** [-99...+99]
Specifies how keyboard tracking will affect the modulator pitch. With positive (+) values, notes will be pitched progressively sharper (higher) than the normal pitch as you play above C4, and progressively flatter (lower) than the normal pitch as you play below C4. With negative (-) values, higher notes will be progressively flatter, and lower notes will be progressively sharper.
- Level Kbd Tr (Modulator Level EG Intensity Keyboard Tracking)** [-99...+99]
Specifies the depth and direction by which keyboard tracking will affect the control over modulator output level produced by "Modulator Level Modulation EG".
With positive (+) settings, the effect of the EG will increase as you play further above the C4 key, and decrease as you play further below the C4 key. With negative (-) settings, the effect of the EG will decrease above the C4 key, and increase below the C4 key.
- Mod. (Modulator Pitch Mod. Source)** [OFF...Tempo]
Selects the modulation source that will modulate the pitch of the modulator. Normally, an EG is used for this purpose.
- Intensity (Modulator Pitch Modulation Intensity)** [-99...+99]
Specifies the depth and direction of the pitch modulation that is applied to the modulator under the control of the modulation source selected in "Modulator Pitch Modulation Source".
With negative (-) values, the polarity of the modulation source will be inverted.
- Wave (Modulator Wave)** [Saw, Triangle, Square, Sine]
Selects the waveform that will be used as the modulator; sawtooth wave (Saw), triangle wave (Triangle), square wave (Square), or sine wave (Sine).
- Lvl (Modulator Level)** [00...99]
Sets the output level of the modulator. With a setting of 0, no modulation will be applied to the carrier. As the value is increased the modulation will become stronger.
- EG (Modulator Level Modulation EG)** [EG1..4, Pitch EG, Amp EG]
Selects the EG that will control the output level of the modulator.
- Intensity (Modulator Level Mod. EG Intensity)** [-99...+99]
Specifies the depth and direction by which the EG selected in "Modulator Level Modulation EG" will control the modulator output level.
- Mod. (Modulator Level Modulation Source)** [OFF...Tempo]
Specifies the modulation source that will affect the output level of the modulator.
- Intensity (Modulator Level Mod. Intensity)** [-99...+99]
Specifies the depth and direction by which the modulation source specified in Modulator Level Modulation Source will affect the modulator.
With negative (-) settings, the polarity of the modulation source will be inverted.

▼ Page Menu Command

2-1A: Write Program

This writes the edited program into the specified program number of the specified bank. Be sure to write important programs. If you turn the power off or select another program before writing the data, it cannot be recovered.
Refer to Basic Guide "9. Writing a Program or Combination".

2-1-D: Brass OSC1

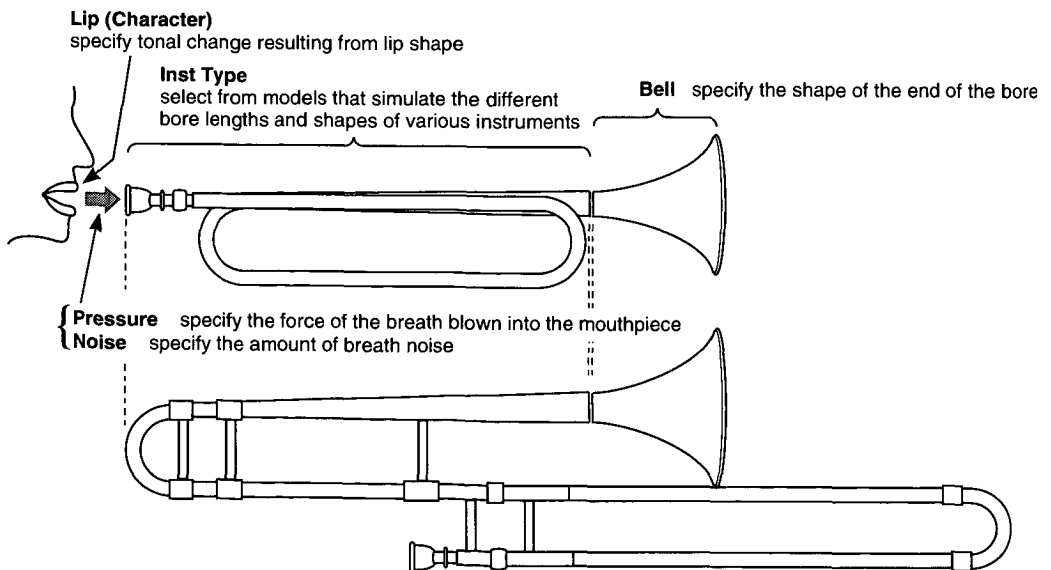
These pages will appear if the following choice has been selected for "1-2a: OSC Set":


10: Brass/---

This oscillator is a physical model that simulates a lip reed instrument such as a trumpet. By using controllers such as key velocity or the wheel to control Pressure (the force of breath applied to the mouthpiece), you can achieve performance expression similar to an actual lip reed instrument. By modulating the characteristics of the reed, you can create tonal changes like those produced by different playing techniques.

The parameters are divided into three groups: Pressure, which corresponds to the force of the breath that is blown into the mouthpiece; Lip, which creates tonal changes corresponding to the shape and tension of the musician's lips; and Bell, which adjusts the tonal characteristics dependent on the shape of the end of the instrument's bore.

This oscillator provides two types of pitch bending; Jump Bending which produces mode jumps as on a trumpet (when valves are used to change the length of the bore), and Smooth Bending as on a trombone (when the length of the bore is changed continuously).



 For some parameter settings, the resulting pitch may not match the pitches of the keyboard.

2-1a: Inst Type (Instrument Type)**[Trumpet 1/2, Trombone, Horn]**

Selects the instrument type. This selection determines modeling characteristics of the instrument such as bore length and mouthpiece shape.

2-1b: Smooth Bending**Controller (Smooth Bending Controller)****[OFF...Tempo]**

Selects the controller that will control the smooth bending effect, to create continuous changes in pitch.

Intensity (Smooth Bending Intensity)**[0...12]**

Sets the bend range of Smooth Bending up to a maximum of 1 octave.

Direction (Smooth Bending Direction)**[Up, Down, Both]**

Specifies the direction of the pitch bend controlled by the "Smooth Bending Controller". If this parameter is set to UP or DOWN, the resulting pitch bend will be zero when the selected "Smooth Bending Controller" is at zero (minimum) position, and will reach the maximum pitch bend specified by "Smooth Bending Intensity" when the controller is at 127 (maximum) position.

The pitch will rise with a setting of UP, and fall with a setting of DOWN. If you select BOTH, zero pitch bend will occur when the controller selected as the Smooth Bending Controller is at the center position; the pitch will rise for controller positions above center, and fall for controller positions below center.

For example if you have assigned Aftertouch to be the controller, applying aftertouch to the keyboard will raise the pitch if UP is selected, and will lower the pitch if DOWN is selected. If BOTH is selected, zero pitch bend (standard pitch) will be reached when the aftertouch value reaches the halfway point.

2-1c: Pressure**EG (Pressure EG)****[EG1...4, Pitch EG, Amp EG]**

Selects the EG that will control Pressure.

Intensity (Pressure EG Intensity)**[-99...+99]**

Specifies the depth of control that the EG selected as the "Pressure EG" will have on Pressure.

EG Int (Pressure EG Intensity Modulation Source)**[OFF...Tempo]**

Selects the modulation source that will control "Pressure EG Intensity". This will control the effect of the envelope, and by selecting LFO you can simulate the vibrato that a brass player produces by varying the pressure of his breath.

Intensity (Pressure EG Mod. Intensity)**[-99...+99]**

Specifies the amount and direction of the change produced by the modulation source selected for "Pressure EG Intensity Modulation Source". With positive (+) settings the "Pressure Intensity" values will be increased, and with negative (-) settings they will be decreased.

LFO (Pressure Modulation LFO)**[LFO1...4]**

Selects the LFO that will control Pressure. LFO settings are made in the LFO section. By using aftertouch etc. to control the selected LFO you can apply vibrato in a more natural manner.

Intensity (Pressure Modulation LFO Intensity)

[-99...+99]

Specifies the depth of the modulation (vibrato) that will be applied to Pressure by the LFO selected for "Pressure Modulation LFO".

Mod. (Pressure Modulation Source)

[OFF...Tempo]

Selects the modulation source that will control Pressure. If Aftertouch is selected here, breath pressure will increase when you press down on the keyboard. If Modulation Wheel is selected here, breath pressure will increase when you move the wheel in the positive (+) direction. In this case, you can set "Pressure EG Intensity" to 0, and use only the modulation wheel to control the breath pressure and produce sound.

Intensity (Pressure Modulation Intensity)

[-99...+99]

Specifies the depth and direction of the control applied to Pressure by the modulation source selected for "Pressure Modulation Source". With positive (+) settings, higher values of the "Pressure Modulation Source" will increase the Pressure. With negative (-) settings, lower values of the "Pressure Modulation Source" will increase the Pressure.

However if EG or LFO is selected as the Pressure Modulation Source, positive (+) settings will cause the original phase of the EG or LFO to be used, and negative (-) settings will invert the phase.

※ Selecting LFO as the "Pressure EG Intensity Modulation Source" is not the same thing as using the "Pressure Modulation LFO". The former simulates the effect of the "Pressure EG", and the LFO effect is proportionate to the value of the EG signal. This means that if the EG signal is 0, there will be no effect. The latter ("Pressure Modulation LFO") applies an LFO effect that is independent of the EG, so the Pressure value will still be modulated even if the EG signal is 0.

2-1d: Brass Lip

These parameters simulate how the lips vibrate, and specify how lip position and tension will be modulated to create changes in tone color.

Lip Character

[00...99]

Adjusts the difference in tone that results from lip tension or pressure. Higher settings will produce a harder (more strongly played) tone, and lower settings will produce a more mellow sound.

Mod. (Lip Character Modulation Source)

[OFF...Tempo]

Selects the modulation source that will control "Lip Character".

Intensity (Lip Character Mod. Intensity)

[-99...+99]

Specifies the depth and direction of the effect produced by the modulation source selected for "Lip Character Modulation Source". With positive (+) settings, higher values of the "Lip Character Modulation Source" will increase the Lip Character value. With negative (-) settings, higher values of the modulation source will decrease the Lip Character value.

However if EG or LFO is selected as the "Pressure Modulation Source", positive (+) settings will cause the original phase of the EG or LFO to be used, and negative (-) settings will invert the phase.

2-1e: Brass Bell

These parameters determine how the bell (bore end) of the brass instrument will affect the tone.

Bell Type

[Open, Mute]

Specifies the type of the bell. A setting of MUTE simulates the characteristic tone that occurs when a hand or a plastic mute is inserted into the bell to attenuate the acoustical output. A setting of OPEN is the normal state.

Tone (Bell Tone)

[00...99]

Adjusts the tone of the bell. As this value is increased, the lower frequency range will decrease, producing a thinner tone.

Resonance (Bell Resonance)

[00...99]

Adjusts the level of emphasis that is applied at the frequency region specified by the "Bell Tone" setting. As this value is increased the resonance effect will be emphasized.

2-1f: Noise Level

[00...99]

Sets the volume level of the breath noise. Since this uses the signal from the noise generator, you can use the low pass filter of the noise generator to adjust the tone of the noise.

▼ Page Menu Command

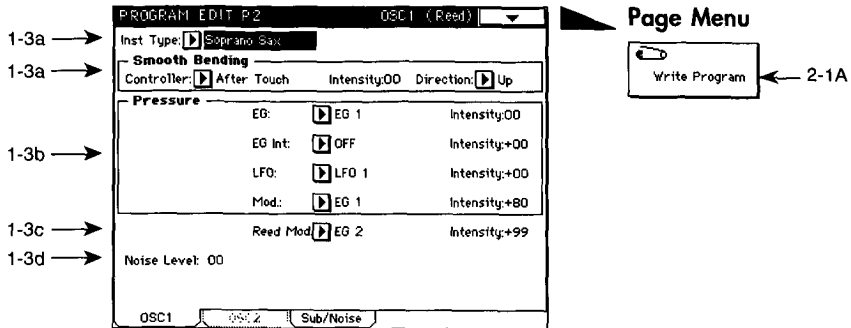
2-1A: Write Program

This writes the edited program into the specified program number of the specified bank. Be sure to write important programs. If you turn the power off or select another program before writing the data, it cannot be recovered. Refer to Basic Guide "9. Writing a Program or Combination".

2-1-E: Reed OSC 1

These pages will appear if the following choice has been selected for "1-2a: OSC Set":

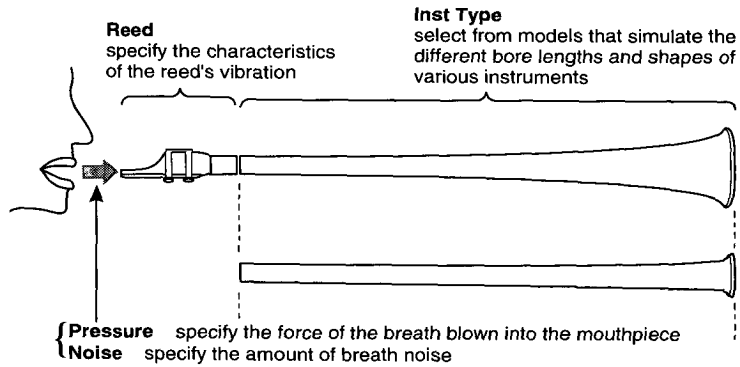
11: Reed/---



This oscillator is a physical model simulation of a reed instrument such as a saxophone or oboe, etc.

By using a controller such as key velocity or modulation wheel to control Pressure (the force of blowing), you can simulate the performance expression that is characteristic of a woodwind instrument.

By controlling the characteristics of the reed, you can produce the tonal changes that result from differences in blowing techniques.



Some parameter settings may cause the pitch to deviate from the normal pitch of the keyboard.

2-1a: Inst Type (Instrument Type)

[Soprano Sax...Monster]

Selects the instrument type. This selection determines the shape of the bore and the characteristics of the reed. Thirteen types are available: Soprano Sax, Alto Sax 1, Alto Sax 2, Tenor Sax 1, Tenor Sax 2, Baritone Sax, Flute, Single Reed, Double Reed, Recorder, Bottle, Glass Bottle, and Monster.

2-1b: Smooth Bending

- Controller** [OFF...Tempo]
 Selects the controller that will control the smooth bending effect, to produce unbroken changes in pitch.
- Intensity (Smooth Bending Intensity)** [00...12]
 Specifies the range of Smooth Bending (up to one octave).
- Direction (Smooth Bending Direction)** [Up, Down, Both]
 Specifies the direction of the pitch bend controlled by the "Smooth Bending Controller". If this parameter is set to Up or Down, the resulting pitch bend will be zero when the selected Smooth Bending Controller is at zero (minimum) position, and will reach the maximum pitch bend specified by the "Smooth Bending Intensity" setting when the controller is at 127 (maximum) position.

2-1c: Pressure

- EG (Pressure EG)** [EG1...4, Pitch EG, Amp EG]
 Selects the EG that will control Pressure.
- Intensity (Pressure EG Intensity)** [00...99]
 Sets the depth of the effect that the EG selected for "Pressure EG" will have on Pressure.
- EG Int (Pressure EG Intensity Modulation Source)** [OFF...Tempo]
 Selects the modulation source that will control "Pressure EG Intensity". The selected modulation source will control the effect that the envelope has on Pressure. If you select LFO as the modulation source, you can simulate the vibrato or growl effects produced on a wind instrument by varying breath pressure.
- Intensity (Pressure EG Intensity Modulation Intensity)** [-99...+99]
 Specifies the depth and direction of the effect produced by the modulation source selected as the "Pressure EG Intensity Modulation Source". With positive (+) settings, higher values of the modulation source will increase the Pressure EG Intensity value. With negative (-) settings, higher values of the modulation source will decrease the Pressure EG Intensity value.
- LFO (Pressure Modulation LFO)** [LFO1...4]
 Selects the LFO that will control Pressure. Make settings for these LFOs in the LFO section. By using Aftertouch etc. to control this LFO, you can create more natural vibrato or growl effects.
- Intensity (Pressure Modulation LFO Intensity)** [-99...+99]
 Specifies the depth of the modulation (vibrato) effect that the LFO selected as the "Pressure Modulation LFO" will apply to Pressure.
- Mod. (Pressure Modulation Source)** [OFF...Tempo]
 Selects the modulation source that will control Pressure. This allows you to increase Pressure (the force of breath) by pressing down on the keyboard (if Aftertouch is selected here) or by moving a modulation wheel in the (+) direction (if the Wheel controller is selected). In this case, "Pressure EG Intensity" can be set to 0, and breath pressure can be controlled to sound the instrument using just the wheel.

Intensity (Pressure Modulation Intensity)**[00...99]**

Specifies the depth and direction of the effect that the selected "Pressure Modulation Source" will have on Pressure. With positive (+) settings, higher values of the "Pressure Modulation Source" will increase the Pressure value. With negative (-) settings, lower values of the "Pressure Modulation Source" will increase the Pressure value.

However if EG or LFO has been selected as the "Pressure Modulation Source", positive (+) settings will cause the original phase of the EG or LFO to be used, and negative (-) settings will invert the phase.

※ Selecting an LFO as the "Pressure Modulation Source" is not the same as using the "Pressure Modulation LFO". The former simulates the effect of the "Pressure EG", and the effect of the LFO will depend on the value of the EG signal. This means that if the EG signal is 0, there will be no effect. The latter ("Pressure Modulation LFO") applies an LFO effect that is independent of the EG, so the Pressure value will still be modulated even if the EG signal is 0.

2-1d: Reed Mod

These parameters let you make settings for reed resonance and the modulation source that will control it.

Reed Mod. (Reed Modulation Source)**[OFF...Tempo]**

Selects a modulation source that will modulate the changes in the reed.

Intensity (Reed Mod. Intensity)**[-99...+99]**

Sets the depth of the effect that the selected "Reed Modulation Source" will have on the reed.

2-1e: Noise Level**[00...99]**

Sets the volume level of the breath noise. Since this uses the signal from the noise generator, you can use the low pass filter of the noise generator to adjust the tone of the noise.

▼ Page Menu Command**2-1A: Write Program**

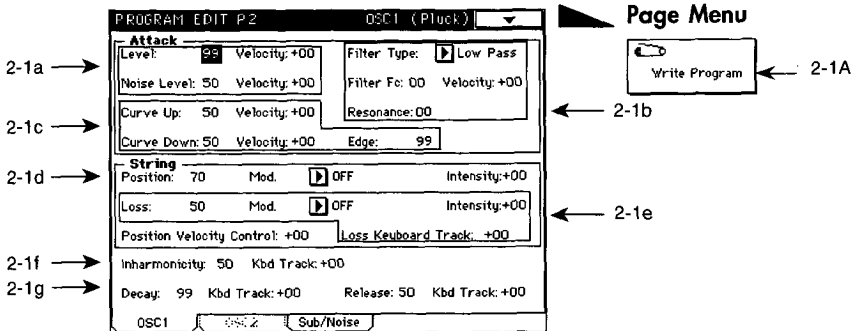
This writes the edited program into the specified program number of the specified bank.

Be sure to write important programs. If you turn the power off or select another program before writing the data, it cannot be recovered.

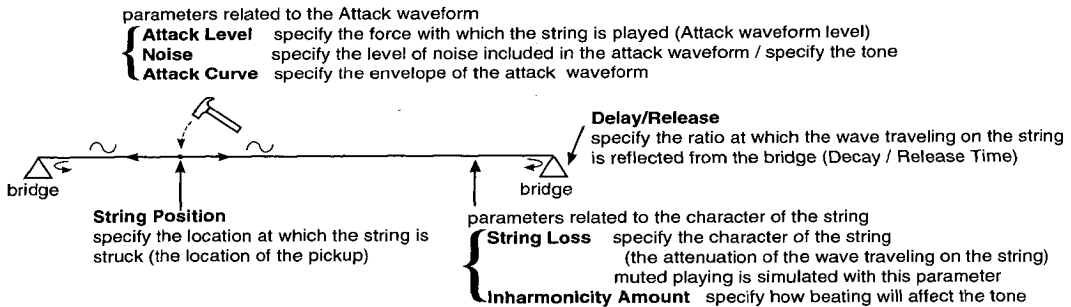
Refer to Basic Guide "9. Writing a Program or Combination".

2-1-F: Pluck OSC1

These pages will appear if the following choice has been selected for "1-2a: OSC Set":
 12: Pluck/---



This oscillator is mainly for creating electric bass or guitar sounds. You can adjust the attack waveform that occurs when the string is plucked by pick or finger, and make settings affecting the condition of the string and the position of the string at which it is plucked.



2-1a: Pluck Attack

These parameters control the force with which the string is plucked, the way that velocity will affect it, and the Attack Noise settings that determine the amount and tone color of the noise component that is added to the attack sound by the characteristics of the pick or finger that plucks the string.

Level (Attack Level) [00...99]

Sets the force at which the string is plucked.

Velocity (Attack Level Velocity Control) [-99...+99]

Sets the depth and direction of the effect that velocity will have on "Attack Level".

Noise Level (Attack Noise Level) [00...99]

Adjusts the balance of the noise component included in the attack sound. As this value is increased, there will be proportionally more noise in the attack, and the sound will be more brilliant with more overtones.

Velocity (Attack Noise Level Velocity Control)

[-99...+99]

Specifies the depth and direction of the effect that velocity will have on the level of noise that is included in the attack.

2-1b: Pluck Noise Filter

These parameters determine the tone color of the noise component included in the attack, simulating the characteristics of the pick or finger that plucks the string.

Filter Type (Attack Noise Filter Type)

[Low Pass, High Pass, Band Pass]

Selects the type of filter that will process the attack noise; Low Pass filter, High Pass filter, or Band Pass filter.

Filter Fc (Attack Noise Filter Fc)

[00...99]

Sets the cutoff frequency at which the filter will process the attack noise.

Velocity (Attack Noise Filter Fc Velocity Control)

[-99...+99]

Sets the depth and direction with which velocity will affect the "Attack Noise Filter Fc" (frequency).

Resonance (Attack Noise Filter Resonance)

[00...99]

Sets the degree to which the frequency range in the area of the "Attack Noise Filter Fc" setting will be emphasized.

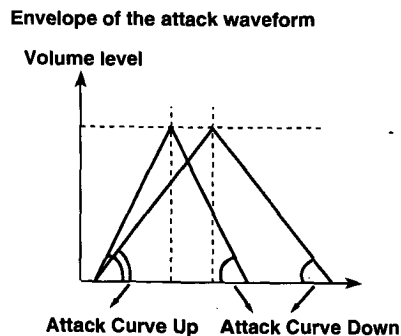
2-1c: Pluck Attack Curve

These parameters determine the envelope of the attack sound. By using velocity to control these settings you can achieve more lifelike changes in tone.

Curve Up (Attack Curve Up)

[00...99]

Sets the steepness of the rising edge of the attack waveform. As this value is increased the rising edge will become steeper, making it easier to produce hard sounds.

**Velocity (Attack Curve Up Velocity Control)**

[-99...+99]

Specifies the depth and direction of the effect that velocity will have on "Attack Curve Up". With positive (+) settings, the ascending edge will become steeper as you play more strongly. With negative (-) settings, the ascending edge will become less steep as you play more strongly.

Curve Down (Attack Curve Down)

[00...99]

Sets the steepness of the falling edge of the attack waveform. As this value is increased, the falling edge will become steeper.

- Velocity (Attack Curve Down Velocity Control)** [-99...+99]
 Specifies the depth and direction of the effect that velocity will have on Attack Curve Down. With positive (+) settings, the descending edge will become steeper as you play more strongly. With negative (-) settings, the descending edge will become less steep as you play more strongly.
- Edge (Attack Edge)** [00...99]
 Sets the overall hardness of the sound of the attack waveform. As this value is increased, the sound will become harder.

2-1d: Pluck String Position

These parameters set the position at which the string is plucked.

- Position (String Position)** [00...99]
 Sets the location at which the string is plucked and the location of the pickup. Increasing this value will simulate a pluck closer to the bridge.
- Mod. (String Position Modulation Source)** [OFF...Tempo]
 Selects the modulation source that will control "String Position".
- Intensity (String Position Modulation Intensity)** [-99...+99]
 Sets the depth and direction of the effect that the selected "String Position Modulation Source" will have on String Position. With positive (+) settings, higher values of the modulation source will increase the "String Position" value. With negative (-) settings, lower values of the modulation source will increase the "String Position" value.
 However if EG or LFO has been selected as the String Position Modulation Source, positive (+) settings will cause the original phase of the EG or LFO to be used, and negative (-) settings will invert the phase.
- Position Velocity Control (String Position Velocity Control)** [-99...+99]
 Sets the depth and direction of the effect that velocity will have on "String Position".

2-1e: Pluck String Loss

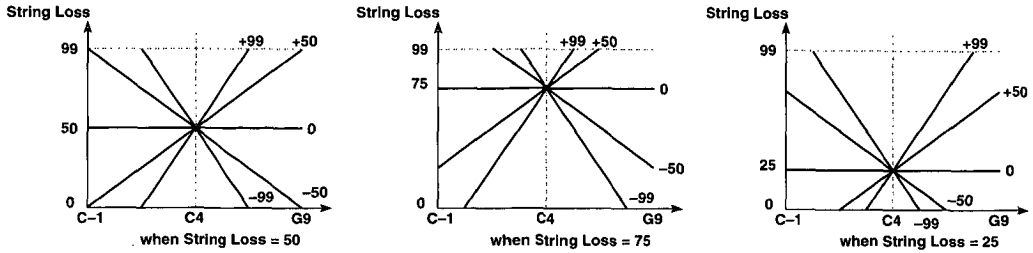
These parameters affect the way in which the string vibrates.

- Loss (String Loss)** [00...99]
 The setting of this parameter determines how vibration will pass through the string, and how high frequency components will be attenuated by the bridge and finger (pressing the string), etc. As this value is increased, the high frequencies will be attenuated more heavily, making the tone darker. Conversely, as this value is lowered, there will be less attenuation of the high frequency components, producing a brighter tone.
- Mod. (String Loss Modulation Source)** [OFF...Tempo]
 Selects the modulation source that will control "String Loss".
- Intensity (String Loss Modulation Intensity)** [-99...+99]
 Specifies the depth and direction of the effect that the selected "String Loss Modulation Source" will have. With positive (+) settings, higher values of the modulation source will increase the String Loss value. With negative (-) settings, lower values of the modulation source will increase the String Loss value.
 If EG or LFO has been selected as the String Loss Modulation Source, positive (+) settings will cause the original phase of the EG or LFO to be used, and negative (-) settings will invert the phase.

Loss Keyboard Track (String Loss Keyboard Tracking)

[−99...+99]

Specifies how keyboard position will affect “String Loss”. With positive (+) settings, playing above the C4 key will progressively increase the String Loss. With negative (−) settings, playing above the C4 key will progressively decrease the String Loss.



2-1f: Inharmonicity (Pluck Inharmonicity)

These parameters affect the beating of the string.

Inharmonicity (Inharmonicity Amount)

[00...99]

Specifies the amount of inharmonicity. As this value is increased, the string will beat more deeply.

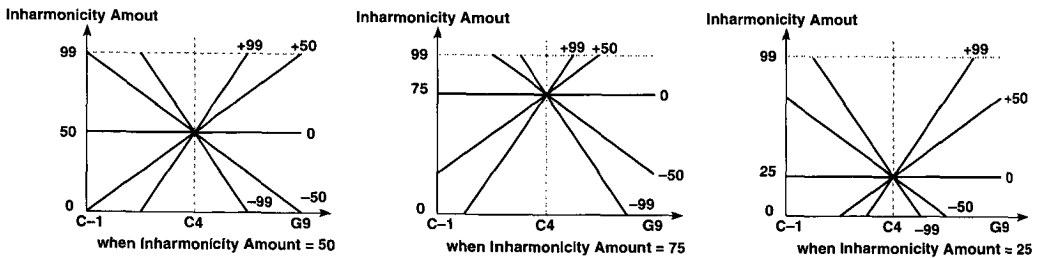


Some “String Loss” (“2-1e:”) and “Inharmonicity Amount” settings may cause the pitch to deviate from the standard pitch. In such cases, use the respective keyboard tracking parameters to compensate for the pitch deviation.

Kbd Track (Inharmonicity Keyboard Tracking)

[−99...+99]

Specifies how “Inharmonicity Amount” will be adjusted according to the keyboard position of the note. For positive (+) settings, the “Inharmonicity Amount” will be increased for notes above C4. For negative (−) settings, it will be decreased for notes above C4.



2-1g: Pluck Decay & Release

These parameters determine the Decay Time over which the sound decays while you continue holding a note, and the Release Time over which the sound will disappear when you release a note. You can also specify how keyboard position will affect these parameters.

Decay**[00...99]**

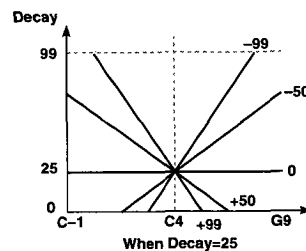
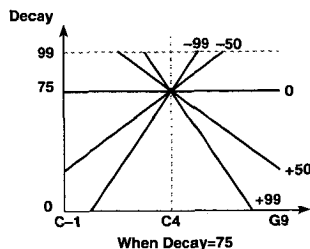
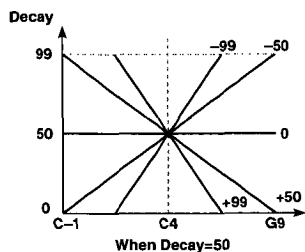
Specifies the Decay Time over which the sound will decay while you continue holding a note. Higher settings will produce a longer decay time.



Depending on the settings of the Amplitude Modulation EG, it may be difficult to notice the results of the settings you make here. If the Break Point and Sustain Level of the EG are raised, the effect of this setting will be easier to hear.

Kbd Track (Decay Keyboard Tracking)**[-99...+99]**

Specifies how keyboard position will affect "Decay". Positive (+) settings of this parameter will shorten the decay time as you play above the C4 key, and negative (-) settings will lengthen the decay time.

**Release****[00...99]**

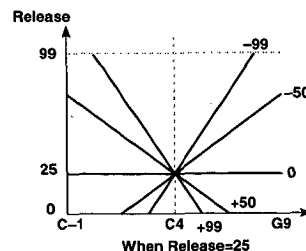
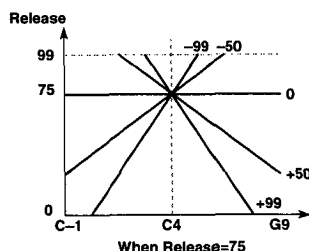
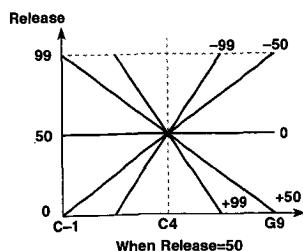
Specifies the Release Time over which the sound will disappear when you release a note. Higher settings will produce longer release times.



Depending on the settings of the Amplitude Modulation EG, this Release setting may have no effect. Setting the EG Release Time to a longer value will allow the effect of this Release setting to be more apparent.

Kbd Track (Release Keyboard Tracking)**[-99...+99]**

Specifies how keyboard position will affect the Release. Positive (+) settings will shorten the release time as you play above the C4 key, and negative (-) settings will lengthen it.



▼ Page Menu Command
2-1A: Write Program

This writes the edited program into the specified program number of the specified bank.

Be sure to write important programs. If you turn the power off or select another program before writing the data, it cannot be recovered.

Refer to Basic Guide "9. Writing a Program or Combination".

2-2: OSC2

2-2-A: Standard OSC2

These pages will be displayed if "1-2a: OSC Set" is set to the following choice:

01: Standard/Standard

For details refer to "2-1-A: Standard OSC1".

2-2-B: Comb Filter

These pages will be displayed if "1-2a: OSC Set" is set to one of the following choices:

02: Standard/Comb Filter

05: Comb Filter/Comb Filter

For details refer to "2-1-B: Comb Filter OSC1".

2-2-C: VPM OSC2

These pages will be displayed if "1-2a: OSC Set" is set to one of the following choices:

03: Standard/VPM

06: Comb Filter/VPM

08: VPM/VPM

For details refer to "2-1-C: VPM OSC1".

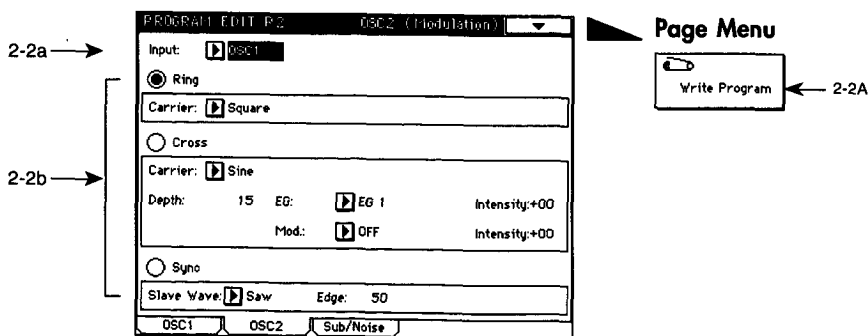
2-2-D: Modulation OSC2

These pages will be displayed if "1-2a: OSC Set" is set to one of the following choices:

04: Standard/Modulation

07: Comb Filter/Modulation

09: VPM/Modulation



This oscillator allows you to select one of three types of modulation commonly used in analog synthesizers: ring, cross, and sync modulation.

The modulation oscillator contains a carrier oscillator. This carrier waveform will be modulated. For the modulator waveform, you can select an output such as OSC1 as the modulation input. The modulation oscillator is fixed at OSC2.

Carrier

This is the waveform whose frequency and/or amplitude is modulated by a modulator. All waveforms built into the Modulation Oscillator are used as carriers.

Modulator

In general, "modulator" refers to a waveform which modulates the frequency and/or amplitude of a carrier. The Modulator Oscillator does not contain a modulator; it must be supplied from an external source through the modulation input.

Modulation input

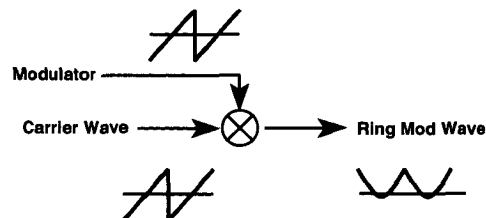
This selects the source of the modulator waveform. Select a modulator from the following three choices:

1. The output waveform of OSC1 (This will depend on the oscillator that is selected for OSC1.)
2. Noise
3. Feedback (This is the waveform that passes through the filter and amp and is output from the instrument, and will vary widely depending on the settings.)

RING MODULATION

The output signal will consist of the product of the modulator and carrier. One of the following 3 waveforms can be selected as the carrier: sawtooth, sine, and square wave. Since ring modulation produces a metallic sound with little pitch content, it is suitable for special effects. Changes in tone are created by the differences in frequency between the carrier and modulator.

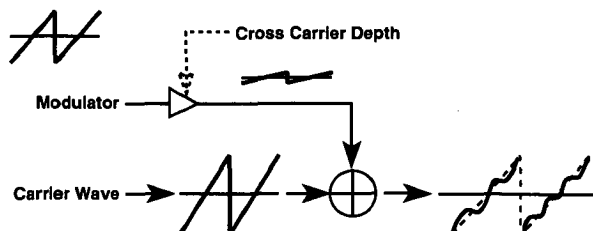
Ring Modulation



CROSS MODULATION

The modulator applies frequency modulation to the carrier. One of the following 3 waveforms can be selected as the carrier: sawtooth, sine, and square wave. This is usually used with a pitch envelope applied to the modulator.

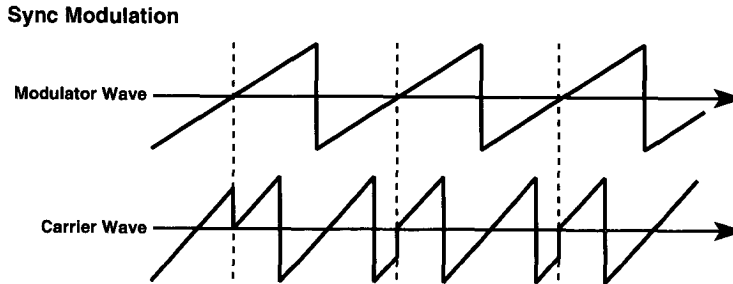
Cross Modulation



SYNC MODULATION

The modulator will be the master waveform, and the carrier will be the slave waveform which will synchronize to the master.

When the master waveform begins a new cycle (i.e., the moment it crosses the zero value line going from positive to negative), the phase of the slave waveform will be reset to 0 and it will begin a new cycle. Either sawtooth or triangle can be selected as the slave waveform. This is usually used with a pitch envelope etc. applied to the master waveform.

**2-2a: Input (Input Select)****[OSC1, Feedback, Noise]**

Selects the modulator used for modulation.

OSC1: The output waveform of OSC1 (This will depend on the oscillator that is selected for OSC1.)

Feedback: Feedback is the waveform that passes through the filter and amp and is output from the solo synthesizer, and will vary widely depending on the settings.

Noise: Noise

2-2b: Modulation Type

Selects the type of modulation: Ring (ring modulation), Cross (cross modulation), or Sync (sync modulation).

Ring Carrier (Ring Carrier Select)**[Sine, Saw, Square]**

Selects the waveform of the carrier (the modulation oscillator of the two waveforms that are multiplied) used for ring modulation: Sine (sine wave), Saw (sawtooth wave), or Square (square wave).

Cross Carrier (Cross Carrier Select)**[Sine, Saw, Square]**

Selects the waveform of the carrier for cross modulation: Sine (sine wave), Saw (sawtooth wave) or Square (square wave).

Depth (Cross Modulation Depth)**[00...99]**


Adjusts the depth at which the modulator will apply frequency modulation to the carrier. Higher values will produce heavier modulation.

EG (Cross Modulation Depth Modulation EG)**[EG1...4, Pitch EG, Amp EG]**

Selects the EG that will control the depth of cross modulation.

Intensity (Cross Modulation EG Intensity)**[-99...+99]**

Adjusts the depth at which the EG will control the amount of cross modulation.

-
- Mod. (Cross Modulation Depth Modulation Source)** [OFF...Tempo]
 Selects a modulation source that will control the depth of cross modulation.
- Intensity (Depth Modulation Intensity)** [-99...+99]
 Specifies the depth and direction in which the modulation source specified for "Cross Modulation Depth Modulation Source" will affect cross modulation depth.
- Sync Slave Wave (Sync Carrier Select)** [Saw, Triangle]
 Selects the carrier (slave) waveform used for sync modulation: Saw (sawtooth wave) or Triangle (triangle wave).
- Edge (Modulator Edge)** [00...99]
 This parameter controls the amount of overtones in the slave waveform. In cases such as when a pitch envelope etc. raises the slave waveform to a high pitch, set this parameter to a low value to prevent unpleasant overtones from being produced.
-  As this parameter is adjusted toward 0 the volume will decrease, and at 0 there will be silence. The effect of this parameter is most noticeable for high pitches of the slave waveform, and at low pitches it will have less effect.

▼ Page Menu Command

2-2A: Write Program

This writes the edited program into the specified program number of the specified bank.

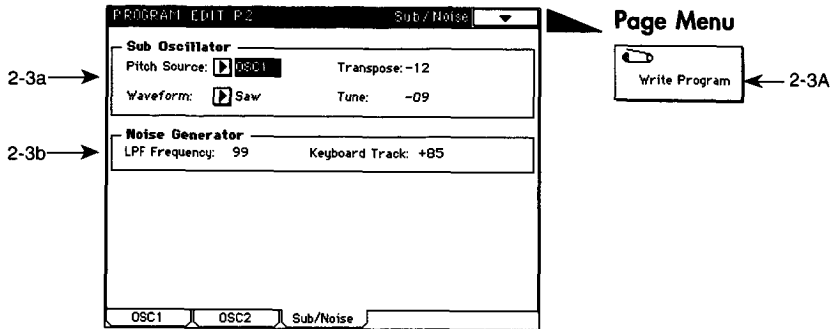
Be sure to write important programs. If you turn the power off or select another program before writing the data, it cannot be recovered.

Refer to Basic Guide "9. Writing a Program or Combination".

2-3: Sub/Noise (Sub Oscillator/Noise Generator)

The sub oscillator allows you to choose one of four basic waveforms, and make it track the pitch of either oscillator 1 or 2 at an interval that you specify in semitone steps and cents. This means that the sub oscillator will share the same pitch modulation effects as the selected oscillator.

In the Mixer section, the signal from the sub oscillator is mixed with the signals of oscillators 1 and 2.



The noise generator generates white noise. This noise can be mixed with the signals of oscillators 1 and 2 in the Mixer section, in the same way as for the Sub oscillator.

2-3a: Sub Oscillator

These parameters select the waveform of the sub oscillator, and set its pitch.

Pitch Source [OSC1, OSC2]

Specifies either OSC1 or 2 as the basis for the pitch of the sub oscillator.

Waveform [Sine, Saw, Square, Triangle]

Selects the waveform of the sub oscillator.

Transpose [-24...+24]

Specifies a pitch interval in semitones between the sub oscillator and the selected Pitch Source oscillator. For example with a setting of +12, the sub oscillator will produce a pitch one octave above the selected Pitch Source oscillator.

Tune [-50...+50]

Specifies a fine adjustment to the pitch interval of the oscillator specified as the Pitch Source, in steps of 1/100 semitone (1 cent).

2-3b: Noise Generator

These parameters set the cutoff frequency of the noise generator and specify how keyboard position will affect the noise.

LPF Frequency (Noise LPF Frequency)

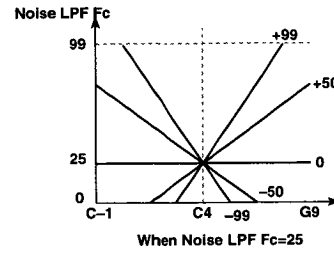
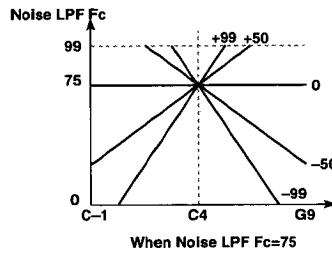
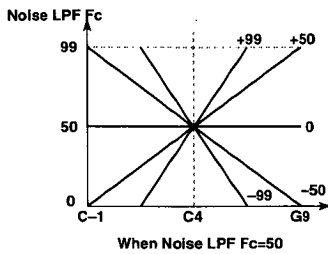
[00...99]

Sets the cutoff frequency of the low pass filter which is applied to the output of the noise generator. With low settings of this parameter, the high frequencies of the noise will be cut, producing a darker sound.

Keyboard Track (Noise LPF Frequency Keyboard Tracking)

[-99...+99]

Specifies how keyboard position will affect the Noise LPF Frequency.



▼ Page Menu Command

2-3A: Write Program

This writes the edited program into the specified program number of the specified bank.

Be sure to write important programs. If you turn the power off or select another program before writing the data, it cannot be recovered.

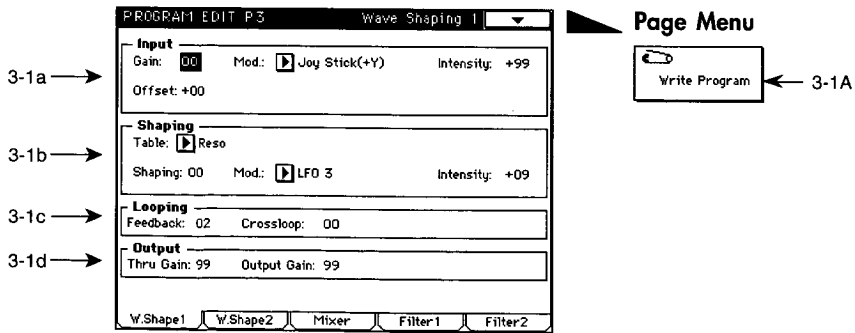
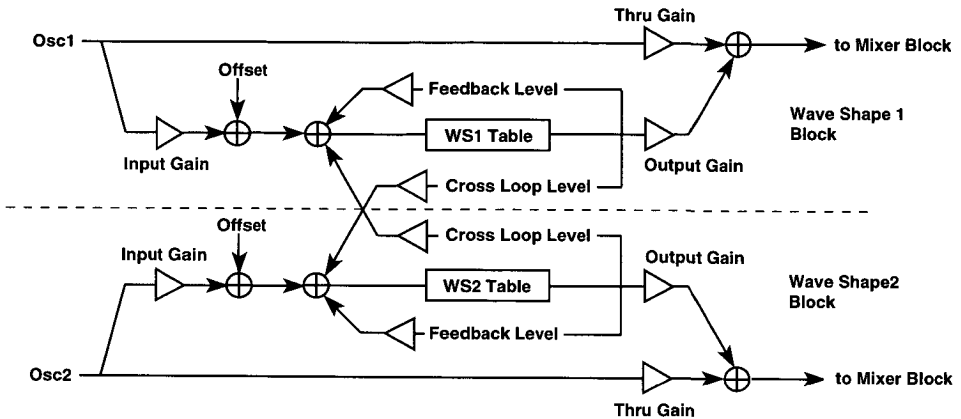
Refer to Basic Guide "9. Writing a Program or Combination".

Program Edit P3

3-1: Wave Shaping 1

Two independent wave shaping tables are provided, one for each oscillator 1 and 2. These modify the waveform to create elements not originally present, such as resonant or distorted sounds.

The following diagram shows the signal flow in the wave shaping section.



3-1a: Input

These parameters set the level of the signal from OSC1 that is input to the Wave Shape section, and specify the modulation source etc. that will control the input gain.

Gain (Input Gain) [00...99]

Sets the level of the signal that is input from OSC1 to the Wave Shape section.

Mod. (Input Gain Modulation Source) [OFF...Tempo]

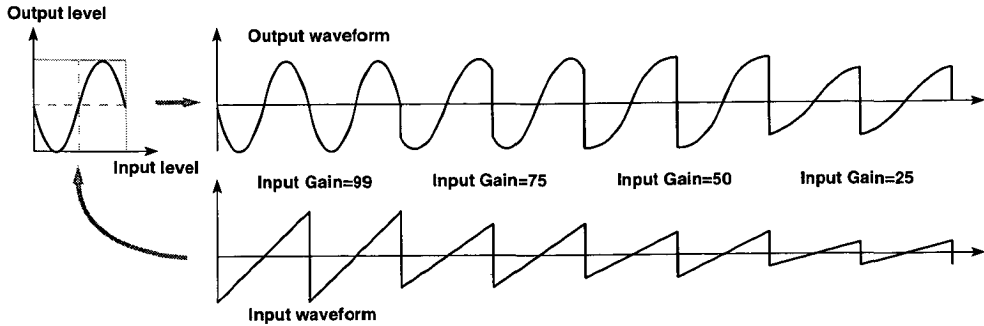
Selects the modulation source that will control the Input Gain.

Intensity (Input Gain Mod. Intensity)

[-99...+99]

Sets the depth and direction in which the selected "Input Gain Modulation Source" will affect the Input Gain. With positive (+) settings, higher values of the modulation source will increase the Input Gain. With negative (-) settings, lower values of the modulation source will increase the Input Gain. If EG or LFO has been selected as the "Input Gain Modulation Source", positive (+) settings will cause the original phase of the EG or LFO to be used, and negative (-) settings will invert the phase.

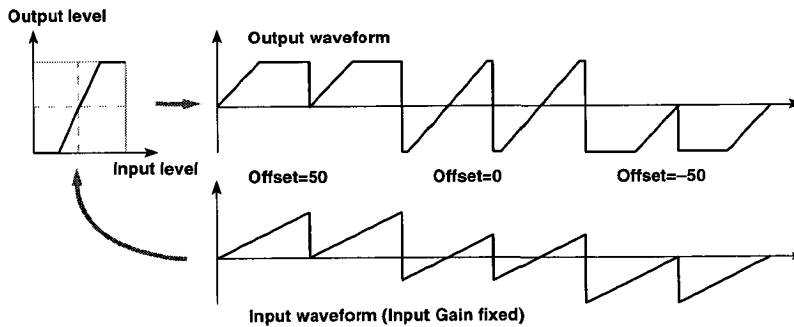
An example of changing the Input Gain (Table Type : Reso)

**Offset (Input Offset)**

[-99...+99]

Specifies the offset amount that will be added to the signal specified by Input Gain.

An example of changing the Offset (Table Type: Clip)



By using "Input Gain" to reduce the input signal level and adding an Input Offset, you can bias the wave shaping table.

3-1b: Shaping (Wave Shape)

Selects the wave shaping table that will modify the input waveform, and specify a modulation source that will control the characteristics of the table.

Table (Shape Table Type)

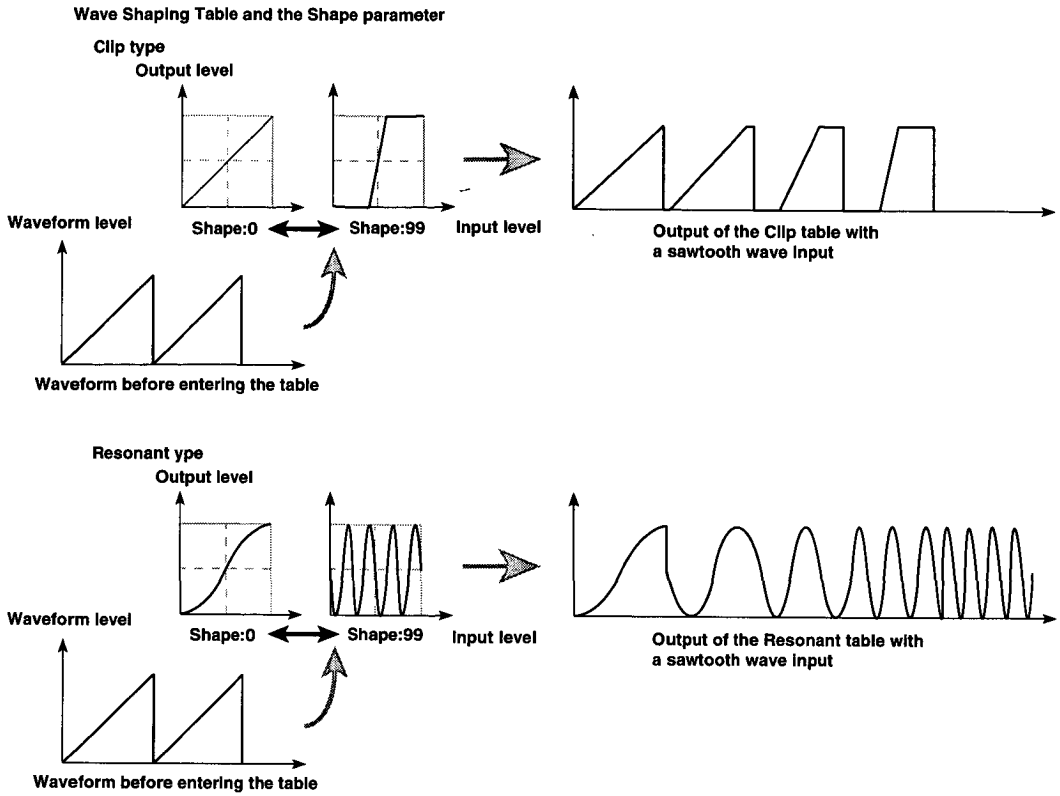
[Clip, Reso]

Selects the wave shaping table that will modify the input waveform. The two table types Clip (Clip type) and Reso (Resonant type) will produce the effects shown in the diagrams below.

Shaping

[00...99]

Sets the characteristics of the table that modifies the input waveform. The diagrams below show how this parameter modifies the table.



Mod. (Shape Modulation Source)

[OFF...Tempo]

Selects the modulation source that will control Shape.

Intensity (Shape Mod.Intensity)

[-99...+99]

Sets the depth and direction in which the selected Shape Modulation Source will affect the Shape. With positive (+) settings, higher values of the modulation source will increase the Shape value. With negative (-) settings, lower values of the modulation source will increase the Shape value. If EG or LFO has been selected as the Shape Modulation Source, positive (+) settings will cause the original phase of the EG or LFO to be used, and negative (-) settings will invert the phase.

3-1c: Looping

These parameters determine the amount of the wave shaping 1 output that is fed back, and the amount of the wave shaping 2 output that is added to the input of wave shape 1.

Feedback (Feedback Level)

[00...99]

Sets the amount of waveshape 1 output that is fed back.

Cross Loop (Cross Loop Level)

[00...99]

Sets the amount of the wave shape 2 output that is added to the input of wave shape 1.



Some settings of "Feedback Level" and "Cross Loop Level" may produce a distorted sound or no sound at all. In such cases, reduce the levels.

3-1d: Output

These parameters adjust the output levels of the sound that passes through Wave Shaping 1 and the direct sound from OSC1.

Thru Gain

[00...99]

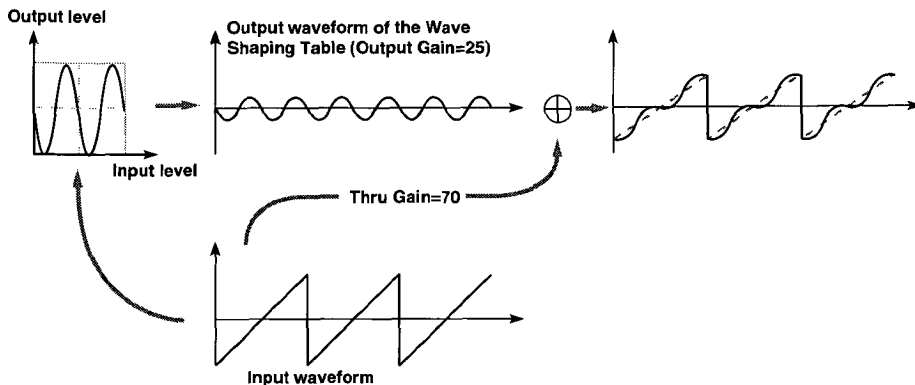
Sets the level of the direct signal from OSC1.

Output Gain

[00...99]

Sets the level of the output signal from Wave Shaping 1.

An example of using Thru Gain/Output Gain (Table Type : Reso)



▼ Page Menu Command

3-1A: Write Program

This writes the edited program into the specified program number of the specified bank.

Be sure to write important programs. If you turn the power off or select another program before writing the data, it cannot be recovered.

Refer to Basic Guide "9. Writing a Program or Combination".

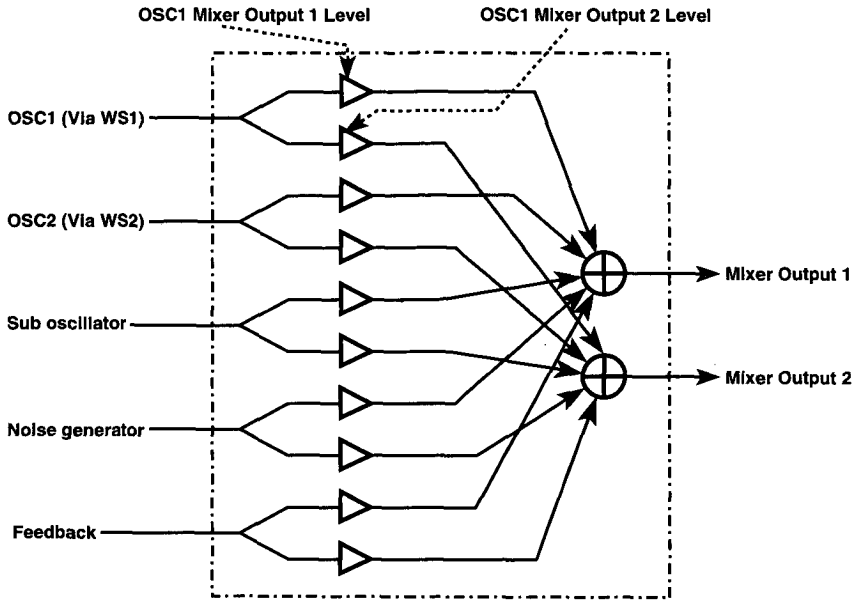
3-2: Wave Shaping 2

The Wave Shaping 2 parameters are organized in the same way as the Wave Shaping 1 parameters.

For details on parameter operations and settings, refer to "3-1: Wave Shaping".

3-3: Mixer

The mixer section allows you to set the levels at which the five signals (WS1 Out, WS2 Out, Noise Generator, Feedback, Sub OSC) will be combined into the two mixer outputs. You can also select a modulation source to control each level, and specify its intensity.



	PROGRAM EDIT P.3	Mixer	
3-3a	OSC1 → Out1: 99	Mod: Joy Stick(-Y)	Intensity: -99
3-3b	OSC1 → Out2: 00	Mod: Joy Stick(+Y)	Intensity: +99
3-3c	OSC2 → Out1: 99	Mod: Joy Stick(+Y)	Intensity: -99
3-3d	OSC2 → Out2: 99	Mod: Joy Stick(+Y)	Intensity: -99
3-3e	Sub → Out1: 99	Mod: Joy Stick(-Y)	Intensity: -99
3-3f	Sub → Out2: 99	Mod: Joy Stick(-Y)	Intensity: -99
3-3g	Noise → Out1: 00	Mod: OFF	Intensity: +00
3-3h	Noise → Out2: 00	Mod: OFF	Intensity: +00
3-3i	Feedback → Out1: 00	Mod: OFF	Intensity: +00
3-3j	Feedback → Out2: 00	Mod: OFF	Intensity: +00

Page Menu

Write Program ← 3-3A

3-3a: OSC1 → OUT1

These parameters adjust the level at which the oscillator 1 signal passing through wave shaping 1 is output from mixer output 1, and specify a modulation source that will control this level.

Output Level

[00...99]

Sets the level that will be output to mixer output 1.

Mod. (Level Modulation Source)

[OFF...Tempo]

Selects a modulation source that will control the above output level.

Intensity (Level Mod. Intensity)

[-99...+99]

Sets the depth and direction in which the selected "Level Modulation Source" will affect the level. With positive (+) settings, higher values of the modulation source will increase the level. With negative (-) settings, lower values of the modulation source will increase the level. If EG or LFO has been selected as the "Level Modulation Source", positive (+) settings will cause the original phase of the EG or LFO to be used, and negative (-) settings will invert the phase.

3-3b: OSC1 → OUT2

These parameters adjust the level at which the oscillator 1 signal passing through wave shaping 1 is output from mixer output 2, and specify a modulation source that will control this level.

Refer to the above explanation of "3-3a: OSC1 → OUT1".

3-3c: OSC2 → OUT1

These parameters adjust the level at which the oscillator 2 signal passing through wave shaping 2 is output from mixer output 1, and specify a modulation source that will control this level.

Refer to the above explanation of "3-3a: OSC1 → OUT1".

3-3d: OSC2 → OUT2

These parameters adjust the level at which the oscillator 2 signal passing through wave shaping 2 is output from mixer output 2, and specify a modulation source that will control this level.

Refer to the above explanation of "3-3a: OSC1 → OUT1".

3-3e: SUBOSC → OUT1

These parameters adjust the level at which the sub oscillator signal output is output from mixer output 1, and specify a modulation source that will control this level.

Refer to the above explanation of "3-3a: OSC1 → OUT1".

3-3f: SUBOSC → OUT2

These parameters adjust the level at which the sub oscillator signal output is output from mixer output 2, and specify a modulation source that will control this level.

Refer to the above explanation of "3-3a: OSC1 → OUT1".

3-3g: NOISE → OUT1

These parameters adjust the level at which the output of the noise generator is output from mixer output 1, and specify a modulation source that will control this level.

Refer to the above explanation of "3-3a: OSC1 → OUT1".

3-3h: NOISE → OUT2

These parameters adjust the level at which the output of the noise generator is output from mixer output 2, and specify a modulation source that will control this level.

Refer to the above explanation of "3-3a: OSC1 → OUT1".

3-3i: Feedback → OUT1

These parameters adjust the level at which the feedback from the amp section is output from mixer output 1, and specify a modulation source that will control this level.

Refer to the above explanation of "3-3a: OSC1 → OUT1".

3-3j: Feedback → OUT2

These parameters adjust the level at which the feedback from the amp section is output from mixer output 2, and specify a modulation source that will control this level.

Refer to the above explanation of "3-3a: OSC1 → OUT1".



Raising the Feedback level excessively may cause the sound to distort.

▼ Page Menu Command

3-3A: Write Program

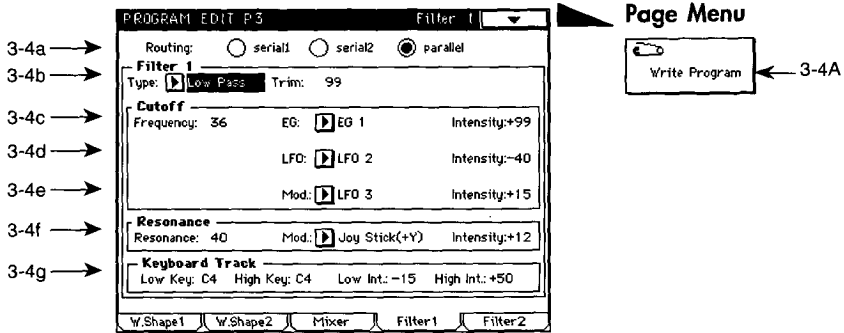
This writes the edited program into the specified program number of the specified bank.

Be sure to write important programs. If you turn the power off or select another program before writing the data, it cannot be recovered.

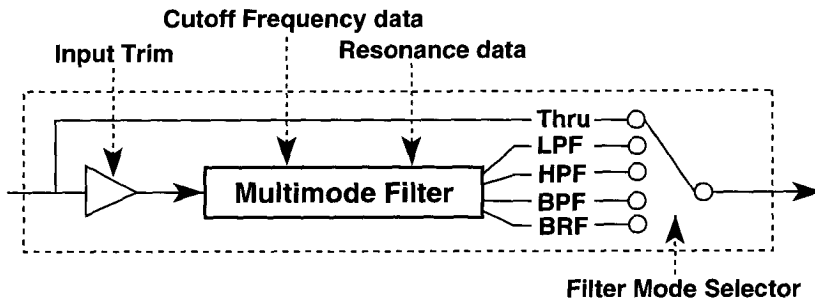
Refer to Basic Guide "9. Writing a Program or Combination".

3-4: Filter 1

The Prophecy contains two multi-mode filters. For each one, you can select one of four filter types: LPF, HPF, BPF, and BRF.



Filter Block

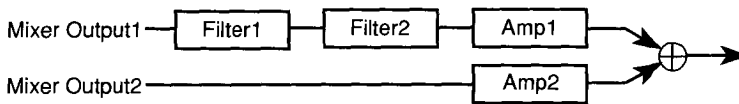


3-4a: Routing (Filter Routing)

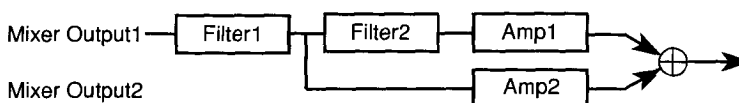
[serial1, serial2, parallel]

Select one of three types of routing to specify how the output from the mixer will pass through the filters to the amplitude blocks.

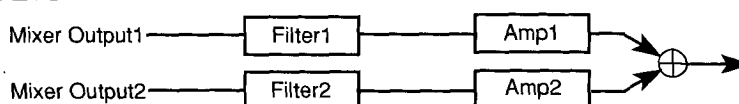
Serial1



Serial2



Parallel



If you wish to use band pass filters to create two peaks in the frequency response, select parallel.

If you wish to use band reject filters to create two valleys in the frequency response, select serial. In this case, setting filters 1 and 2 to the same settings will sharpen the slope of the cutoff.

3-4b: Type / Input

These parameters specify the filter type for filter 1, and set the level of the signal input from the mixer.

Type (Filter Type)

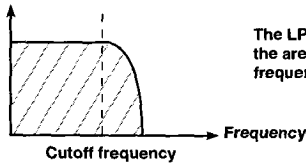
[Thru...Band Reject]

Selects the filter type for filter 1.

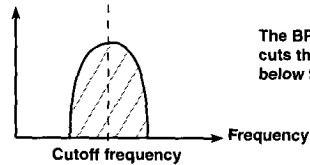
How Filter Type is related to Cutoff Frequency

With a setting of Thru, the filter will not apply.

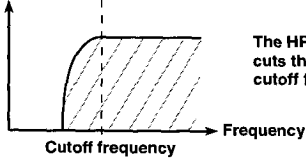
LPF



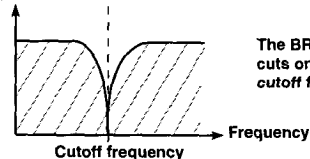
BPF



HPF



BRF



Trim (Input Trim)

[00...99]

Adjusts the level that is input to filter 1.



If this setting is increased, distortion may occur if the Resonance setting is high. To adjust the volume, make settings in the sections of 4-1a: AMP 1 and 4-1b: AMP 2 Amplitude.

3-4c: Cutoff (Cutoff Frequency)

These parameters determine the cutoff frequency for filter 1, and how an EG will affect the cutoff frequency over time, etc.

Frequency (Cutoff Frequency)

[00...99]

Sets the cutoff frequency for filter 1. Increasing this value will raise the cutoff frequency.

EG (Cutoff Frequency Modulation EG)

[EG 1...Amp EG]

Specifies the EG that will create time-varying changes in the cutoff frequency of filter 1.

Intensity (Cutoff Frequency Mod. EG Int.)

[-99...+99]

Specifies the depth and direction in which the "Cutoff Frequency Modulation EG" will affect the cutoff frequency. With positive (+) settings, the EG will move the "Cutoff Frequency" upward. (When the various EG levels are 0, the cutoff frequency will be at the value specified by the setting of the "Cutoff Frequency" parameter.) The sound will become brighter for positive (+) EG levels, and darker (more muted) for negative (-) EG levels.

Setting negative (-) values for this Mod.EG Intensity parameter will have the opposite effect of positive (+) settings.

3-4d: Fc Modulation LFO

These parameters select the LFO that will control the cutoff frequency of filter 1, and specify a modulation source that will control it.

LFO (Cutoff Frequency Modulation LFO)

[LFO1...4]

Selects the LFO that will control the cutoff frequency of filter 1.

Intensity (Cutoff Frequency Mod. LFO Int.)

[-99...+99]

Specifies the depth and direction in which the "Cutoff Frequency Modulation LFO" will affect the cutoff frequency. With positive (+) settings the original phase of the LFO will be used. Negative (-) settings will invert the phase of the LFO.

3-4e: Fc Modulation Source**Mod.Source (Cutoff Frequency Modulation Source)**

[OFF...Tempo]

Selects the modulation source that will control cutoff frequency.

Mod.Intensity (Cutoff Frequency Mod. Intensity)

[-99...+99]

Specifies the depth and direction in which the "Cutoff Modulation Source" will affect the cutoff frequency. With positive (+) settings the cutoff frequency will be raised, and with negative (-) settings it will be lowered. If EG is specified as the "Cutoff Frequency Modulation Source", it will take effect with its original phase for positive (+) settings, and with inverted phase for negative (-) settings. Setting "Cutoff Frequency Modulation Source" to LFO will have the same effect as "Cutoff Frequency Modulation LFO".

3-4f: Resonance

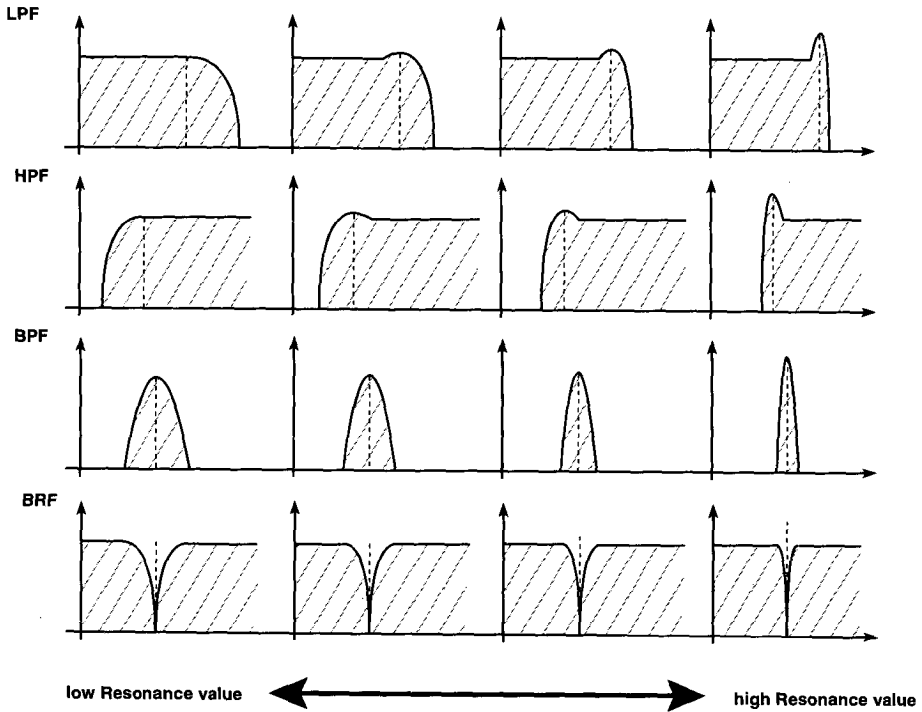
These parameters set the resonance of filter 1, and specify a modulation source which will control the resonance.

Resonance

[00...99]

Specifies the degree to which the frequencies in the region of the 3-4c: Cutoff will be emphasized. Higher values will produce a stronger effect. High settings of Resonance may cause the output signal of the filter to be distorted. In such cases, lower the 3-4b: Trim setting.

The effect of Resonance



Mod. (Resonance Modulation Source)

[OFF...Tempo]

Selects the modulation source that will control Resonance.

Intensity (Resonance Mod. Intensity)

[-99...+99]

Specifies the amount and direction by which the selected "Resonance Modulation Source" source will affect the "Resonance". With positive (+) settings the "Resonance" will be raised, and with negative (-) settings it will be lowered. If EG or LFO is selected as the "Resonance Modulation Source", they will take effect with their original phase for positive (+) settings, and with inverted phase for negative (-) settings.

3-4g: Keyboard (Cutoff Frequency Keyboard Track)

These parameters specify how keyboard tracking will affect the cutoff frequency of filter 1.

Low Key

[C-1...G9]

Specifies the key at which Lower keyboard tracking will begin.

High Key

[C-1...G9]

Specifies the key at which Higher keyboard tracking will begin.

Low Int. (Lower Intensity)

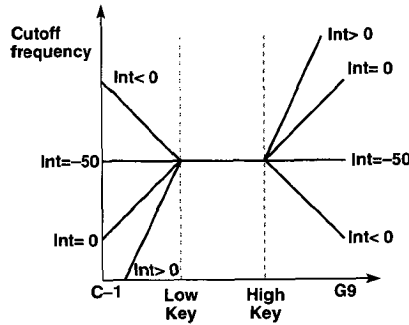
[-99...+99]

Specifies the depth and direction with which key position below the Low Key will affect the Cutoff Frequency. With a setting of -50, the change in Cutoff Frequency will be the same as the change in pitch.

High Int. (Higher Intensity)

[-99...+99]

Specifies the depth and direction with which key position above the High Key will affect the Cutoff Frequency. With a setting of -50, the change in Cutoff Frequency will be the same as the change in pitch.



With positive (+) settings, the sound will become brighter as you play further beyond the Low Key or High Key. Negative (-) settings will have the opposite effect. With a setting of 0, the cutoff frequency will remain the same regardless of the position of the note you play. The cutoff frequency value in the area between Low Key and High Key is fixed.

▼ Page Menu Command

3-4A: Write Program

This writes the edited program into the specified program number of the specified bank.

Be sure to write important programs. If you turn the power off or select another program before writing the data, it cannot be recovered.

Refer to Basic Guide "9. Writing a Program or Combination".

3-5: Filter 2

The parameters for Filter 2 have the same structure as for Filter 1.

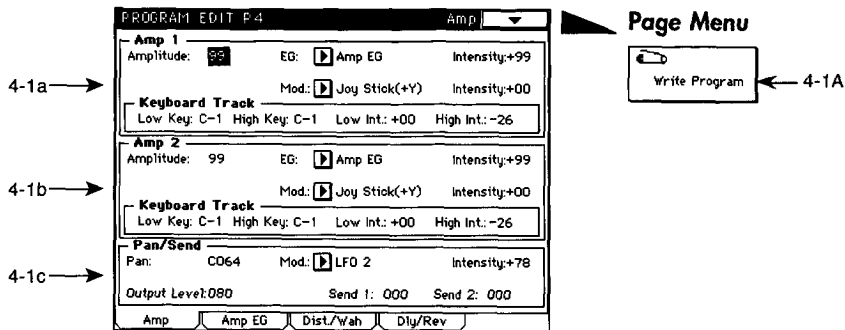
For details on parameter operation and settings, refer to the explanations for "3-4: Filter 1".

Program Edit P4

4-1: Amp (Amplifier Section)

The amplifier (AMP) section contains the volume-related settings.

There are two independent amplifiers; the signals which are input into the AMP section will depend on the 3-4a: Routing.



4-1a: AMP 1 (Amplitude 1)

These parameters set the volume level of Amplitude 1, and specify the depth and direction by which volume levels will be adjusted by keyboard tracking.

Amplitude

[00...99]

Sets the input levels of amp 1 from filter 1 and 2. Higher values will produce a higher volume level.

EG (Amplitude Modulation EG)

[Amp EG, Pitch EG, EG1...EG4]

Selects the EG that will apply time-variant changes to the Amplitude 1 volume level. For the settings of each EG, refer to p.111 for EG1~4, p.13 for the P.EG, and p.84 for the A.EG.

Intensity (Amplitude Mod. EG Intensity)

[-99...+99]

Specifies the depth and direction of the effect that the selected Amplitude Modulation EG will have on the volume.

Mod. (Amplitude Modulation Source)

[OFF...Tempo]

Selects a modulation source that will control the volume level of Amplitude 1.

Mod.Intensity (Amplitude Mod. Intensity)

[-99...+99]

Specifies the depth and direction of the effect that the Amplitude Modulation Source will have on the volume. If you have selected EG or LFO as the Amplitude Modulation Source, positive (+) values will use the original phase, and negative (-) values will invert the phase of the EG or LFO.

Keyboard Track

Low Key (Keyboard Tracking Low Key)

[C-1...G9]

Specifies the key at which Lower keyboard tracking will begin.

High Key (Keyboard Tracking High Key)

[C-1...G9]

Specifies the key at which Higher keyboard tracking will begin.

Lower Int. (Keyboard Tracking Lower Intensity)

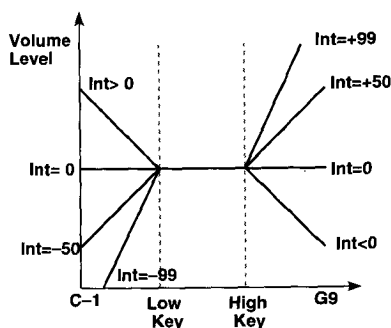
[-99...+99]

Specifies the depth and direction at which the volume level will be adjusted for notes lower than the Low key.

High Int. (Keyboard Tracking Higher Intensity)

[-99...+99]

Specifies the depth and direction at which the volume level will be adjusted for notes above the High key.



With positive (+) settings, the volume will be progressively increased for notes further away from the Keyboard Tracking Low/High Key. With negative (-) settings the opposite will occur. With a setting of 0, the volume will be constant regardless of the position of the note. Notes between the Low Key and High Key will sound at the same volume.

4-1b: AMP 2 (Amplitude 2)

For details on parameter operations and settings, refer to "4-1a: AMP 1". [AMP EG]

4-1c: Pan/Send**Pan (Panpots)**

[L000...C064...R127]

Specifies the levels to the insert effects' L and R inputs. If the insert effects are not used, this sets the L and R levels of the dry sound.

A setting of L000 is left, C064 is center, and R127 is right.

Mod. (Panpot Modulation Source)

[OFF...Tempo]

Selects the modulation source that will control panning.

Intensity (Panpot Modulation Intensity)

[-99...+99]

Specifies the depth and direction of the effect that "Panpot Modulation Source" will have on panning.

Output Level

[000...127]

Sets the overall level of the program. Normally this can be left at the maximum value (127).

Send 1/Send 2

[000...127]

Sets the input level to the master effects when insert effects are not used. If insert effects are used, the input levels to the master effects are set by Send 1 and 2 (see Parameter Guide "6-1b: Width/Send 1,2").

▼ **Page Menu Command**

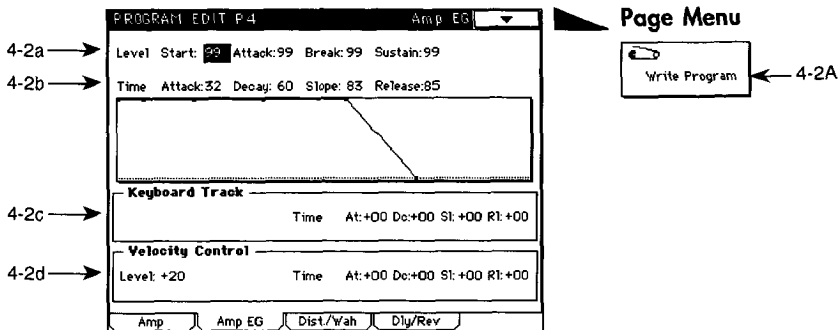
4-1A: Write Program

This writes the edited program into the specified program number of the specified bank. Be sure to write important programs. If you turn the power off or select another program before writing the data, it cannot be recovered. Refer to Basic Guide "9. Writing a Program or Combination".

4-2: AMP EG

Here you can make settings for the Amp EG. The Amp EG determines how the volume will change over time.

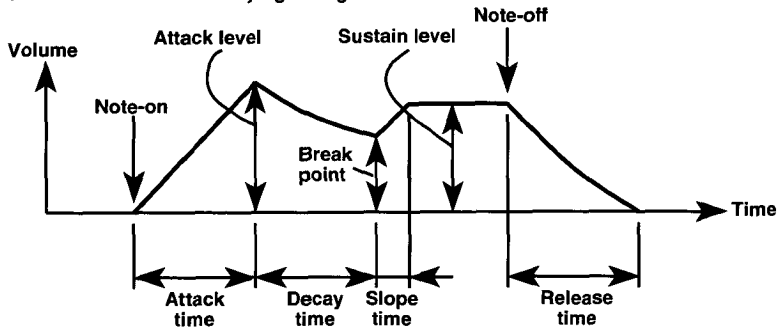
On the solo synth, the Amp EG can be used as a general-purpose controller, so that it can control time-varying changes for other parameters in addition to volume.



4-2a: Level (Amp EG Level)

These parameters specify the levels to which the volume will change in response to your pressing and releasing a note.

How VDA1 creates time-varying changes in volume



Start (Start Level) [00...99]
Sets the volume level at note-on (when the note is pressed).

Attack (Attack Level) [00...99]
Sets the volume level reached after the Attack Time.

Break (Break Point) [00...99]
Sets the volume level reached after the Decay Time.

Sustain (Sustain Level) [00...99]
Sets the volume level reached after the Slope Time.

4-2b: Time (Amp EG Time)

These parameters determine the times over which the volume will change in response to your pressing and releasing a note.

Attack (Attack Time) [00...99]

Sets the time over which the volume will change from note-on (when you press the key) until it reaches the Attack Level. With a setting of 0, the volume will change instantly. With a setting of 99 it will change slowly.

Decay (Decay Time) [00...99]

Sets the time over which the volume will change from after the Attack Time ends until the Break Point is reached. For details, refer to the preceding explanation of Attack Time.

Slope (Slope Time) [00...99]

Sets the time over which the volume will change from after the Decay Time ends until the Sustain Level is reached. For details, refer to the preceding explanation of Attack Time.

Release (Release Time) [00...99]

Sets the time over which the volume will fall to zero after note-off (when you release the key). For details, refer to the preceding explanation of Attack Time.

4-2c: Keyboard Track (Amplitude EG Keyboard Tracking)

These parameters specify how keyboard position will affect the times of the Amplitude EG.

Time

At (Attack Time) [-99...+99]

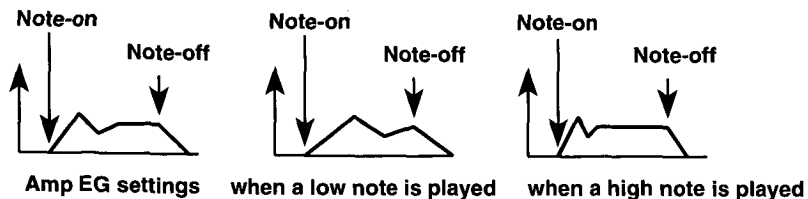
Dc (Decay Time) [-99...+99]

Sl (Slope Time) [-99...+99]

Rl (Release Time) [-99...+99]

Specify the depth and direction at which each EG time will be affected by keyboard position. With positive (+) settings, EG times will become longer as you play higher on the keyboard. With negative (-) settings, EG times will become shorter.

For negative (-) settings of the Time values:



4-2d: Velocity Control (Amplitude EG Velocity Control)

These parameters specify how keyboard playing dynamics (velocity) will affect the levels and times of the Amplitude EG.

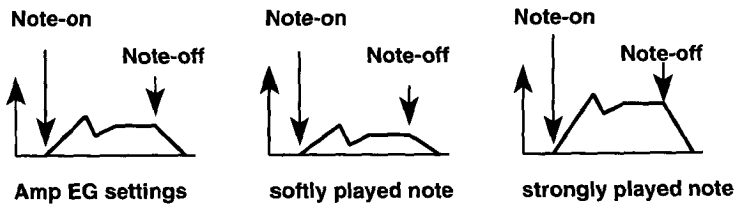
Level

[–99...+99]

Specifies the direction and amount by which velocity will affect EG levels.

With positive (+) settings, Amp EG levels will be increased as you play more strongly. With negative (–) settings, Amp EG levels will be decreased as you play more strongly.

For positive (+) Level settings:



Time

At (Attack Time)

[–99...+99]

Dc (Decay Time)

[–99...+99]

Sl (Slope Time)

[–99...+99]

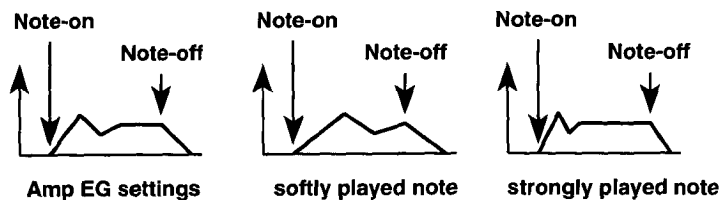
Rl (Release Time)

[–99...+99]

Specify the direction and amount by which velocity will affect EG times.

With positive (+) settings, Amp EG times will be lengthened for strongly played notes. With negative (–) settings, Amp EG times will be shortened for strongly played notes.

For negative (–) settings of the Time parameters:



▼ Page Menu Command

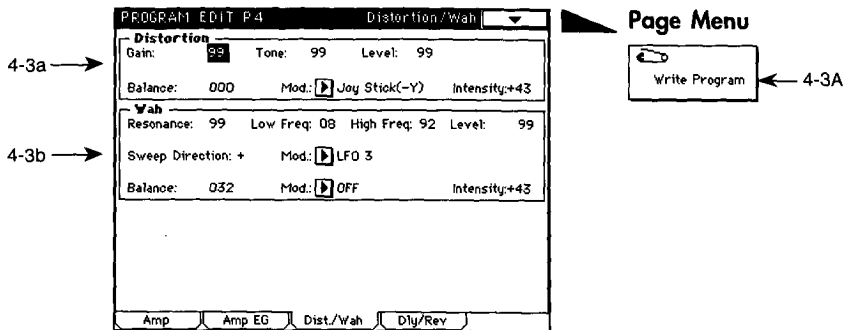
4–2A: Write Program

This writes the edited program into the specified program number of the specified bank.

Be sure to write important programs. If you turn the power off or select another program before writing the data, it cannot be recovered.

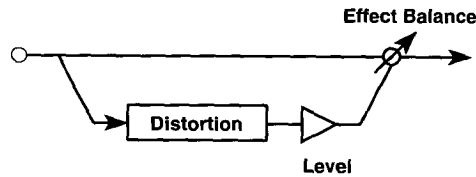
Refer to Basic Guide “9. Writing a Program or Combination”.

4-3: Distortion/Wah



4-3a: Distortion

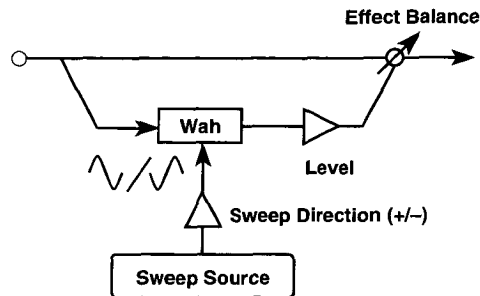
This effect distorts the input sound.



- Gain** [00...99]
Sets the degree to which the input sound will be distorted.
- Tone** [00...99]
Adjusts the tone of the effect sound.
- Level (Effect Level)** [00...99]
Adjusts the output level of the effect sound.
- Balance (Effect Balance)** [000...100]
Sets the output balance of the direct sound and effect sound. With a setting of 0 only the direct sound will be output, and with a setting of 100 only the effect sound will be output.
- Mod. (Effect Balance Modulation Source)** [OFF...Tempo]
Selects a modulation source that will control Effect Balance.
- Intensity (Effect Balance Mod. Intensity)** [-99...+99]
Specifies the depth and direction of the selected Effect Balance Modulation Source. With positive (+) settings, the Effect Balance value will be raised, and with negative (-) values it will be lowered. If you have selected EG or LFO as the Effect Balance Modulation Source, positive (+) values will use the original phase, and negative (-) values will invert the phase of the EG or LFO.

4-3b: Wah

This effect modifies the tone by creating an area of frequency emphasis which can be swept up and down.



Resonance [00...99]

This parameter determines the character of the sound. Higher settings will produce a stronger wah effect.

Low Freq (Low Frequency) [00...99]

Specifies the low frequency of the range in which the wah filter will move. As this value is increased the frequency will rise.

High Freq (High Frequency) [00...99]

Specifies the high frequency of the range in which the wah filter will move. As this value is increased the frequency will rise.

Level (Effect Level) [00...99]

Adjusts the output level of the wah.

Sweep Direction [+, -]

Specifies the direction of the modulation source selected in Sweep Source. When this parameter is set to "+" the normal phase of the LFO will be used. A setting of "-" will invert the LFO phase.

Mod. (Modulation Source) [OFF...Tempo]

Selects the modulation source that will control the wah filter.

Balance (Effect Balance) [000...100]

Sets the output balance of the direct sound and effect sound. With a setting of 0 only the direct sound will be output, and with a setting of 100 only the effect sound will be output.

Mod. (Effect Balance Modulation Source) [OFF...Tempo]

Selects a modulation source that will control Effect Balance.

Intensity (Effect Balance Mod. Intensity) [-99...+99]

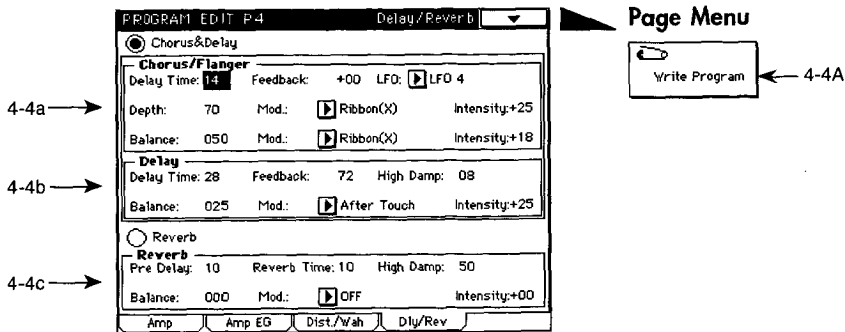
Specifies the depth and direction of the control that "Effect Balance Modulation Source" will have. With positive (+) settings, the "Effect Balance" value will be raised, and with negative (-) values it will be lowered. If you have selected EG or LFO as the "Effect Balance Modulation Source", positive (+) values will use the original phase, and negative (-) values will invert the phase of the EG or LFO.

▼ **Page Menu Command**

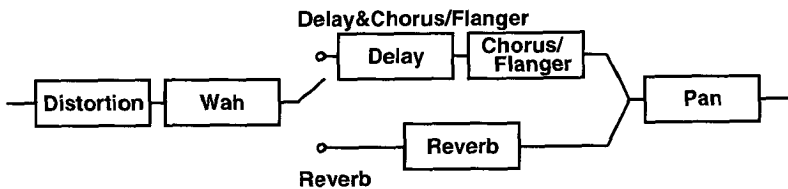
4-3A: Write Program

This writes the edited program into the specified program number of the specified bank. Be sure to write important programs. If you turn the power off or select another program before writing the data, it cannot be recovered. Refer to Basic Guide "9. Writing a Program or Combination".

4-4: Delay/Reverb

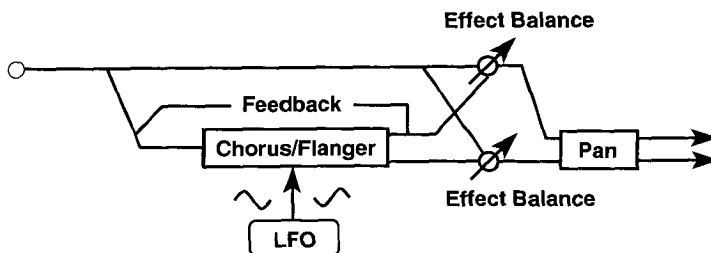


Select the effect that you wish to use. If Chorus & Delay is selected, a delay and a chorus/flanger will be used. If Reverb is selected, reverb will be used.



4-4a: Chorus/Flanger

This chorus/flanger effect modulates the delay time of the input signal to add depth and movement to the sound. The effect is mono input and stereo output. The two effect block outputs will be modulated in opposite phase.



Delay Time

Sets the delay time of the Chorus/Flanger.

[00...99]

Feedback

Sets the amount of the output signal that is returned (fed back) into the input. Adjusting this value further away from 0 will produce a more pronounced flanging effect.

[-99...+99]

LFO (LFO Select)

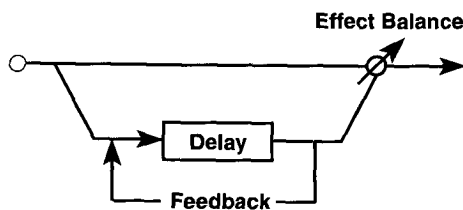
Selects the LFO that will apply modulation. LFO settings are made in the 6-1~4: LFO1~4 sections.

[LFO1...4]

- Depth (LFO Depth)** [00...99]
Sets the depth of modulation. Increasing this setting will produce deeper modulation (movement).
- Mod. (Depth Modulation Source)** [OFF...Tempo]
Selects a modulation source to control LFO Depth.
- Intensity (Depth Mod. Intensity)** [-99...+99]
Specifies the depth and direction of the control that the selected Depth Modulation Source will have. With positive (+) settings, the LFO Depth will be increased, and with negative (-) values it will be decreased. If you have selected EG or LFO as the Depth Mod.Source, positive (+) values will use the original phase, and negative (-) values will invert the phase of the EG or LFO.
- Balance (Effect Balance)** [000...100]
Sets the output balance between the direct sound and effect sound. With a setting of 0 only the direct sound will be output, and with a setting of 100 only the effect sound will be output.
- Mod. (Effect Balance Modulation Source)** [OFF...Tempo]
Selects a modulation source to control Effect Balance.
- Intensity (Effect Balance Modulation Intensity)** [-99...+99]
Specifies the depth and direction of the control that the selected Effect Balance Modulation Source will have. With positive (+) settings, the Effect Balance will be raised, and with negative (-) values it will be lowered. If you have selected EG or LFO as the Effect Balance Modulation Source, positive (+) values will use the original phase, and negative (-) values will invert the phase of the EG or LFO.

4-4b: Delay

This effect adds a time delay to the input signal. The High Damp setting allows you to add a natural-sounding decay to the delay repeats.



- Delay Time** [00...99]
Sets the Delay Time.
- Feedback** [00...99]
Sets the amount of the output signal which is returned (fed back) to the input.
- High Damp** [00...99]
Sets the amount of attenuation which is applied to the high frequencies of the feedback signal. As this value is increased, the high frequencies will decay faster, producing a darker tone.
- Balance (Effect Balance)** [000...100]
Sets the output balance of the direct sound and effect sound. With a setting of 0 only the direct sound will be output, and with a setting of 100 only the effect sound will be output.

Mod. (Effect Balance Modulation Source)**[OFF...Tempo]**

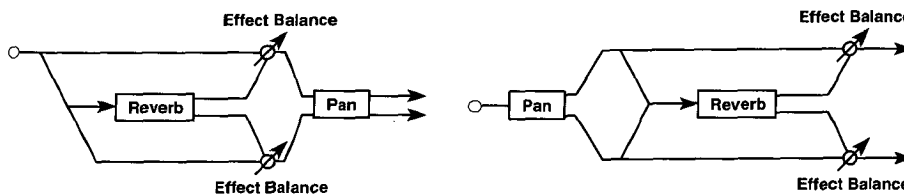
Selects a modulation source that will control Effect Balance.

Intensity (Effect Balance Mod. Intensity)**[-99...+99]**

Specifies the depth and direction of the control that the selected Effect Balance Modulation Source will have. With positive (+) settings, the Effect Balance will be raised, and with negative (-) values it will be lowered. If you have selected EG or LFO as the Effect Balance Mod.Source, positive (+) values will use the original phase, and negative (-) values will invert the phase of the EG or LFO.

4-4c: Reverb

Reverb is an effect that adds reverberance to the sound. This is a mono-in stereo-out reverb.

**Pre Delay (Pre Delay Time)****[00...99]**

Sets the time delay between the direct sound and the early reflections.

Reverb Time**[00...99]**

Sets the time over which the reverberant sound will decay.

High Damp**[00...99]**

Sets the amount of attenuation which is applied to the high frequencies of the feedback signal. As this value is increased, the high frequencies will decay faster.

Balance (Effect Balance)**[000...100]**

Sets the output balance between the direct sound and the effect sound. With a setting of 0 only the direct sound will be output, and with a setting of 100 only the effect sound will be output.

Mod. (Effect Balance Modulation Source)**[OFF...Tempo]**

Selects a modulation source to control Effect Balance.

Intensity (Effect Balance Modulation Intensity)**[-99...+99]**

Specifies the depth and direction of the control that the selected Effect Balance Modulation Source will have. With positive (+) settings, the Effect Balance will be raised, and with negative (-) values it will be lowered. If you have selected EG or LFO as the Effect Balance Modulation Source, positive (+) values will use the original phase, and negative (-) values will invert the phase of the EG or LFO.

▼ Page Menu Command**4-4A: Write Program**

This writes the edited program into the specified program number of the specified bank.

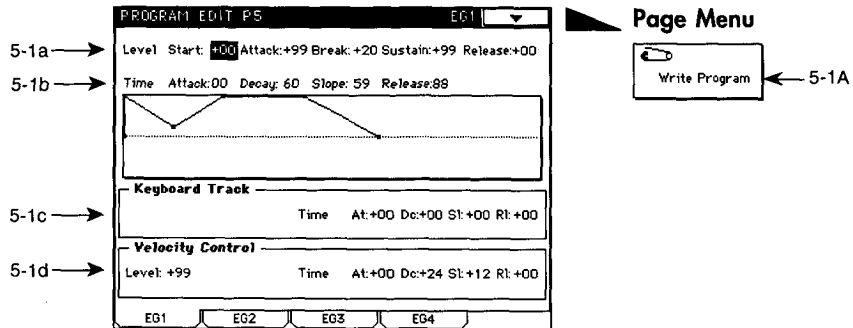
Be sure to write important programs. If you turn the power off or select another program before writing the data, it cannot be recovered.

Refer to Basic Guide "9. Writing a Program or Combination".

Program Edit P5

Here you can make settings for the four general-purpose EGs (envelope generators). Each EG can be used as a modulation source for parameters in any section (other than EG, COMMON, or GLOBAL) to apply time-variant changes.

5-1: EG1



5-1a: Level (EG Level)

These parameters set the levels for EG1.

- | | |
|--|-------------|
| Start (Start Level) | [-99...+99] |
| Sets the level at note-on. | |
| Attack (Attack Level) | [-99...+99] |
| Sets the level that will be reached after the Attack Time elapses. | |
| Break (Break Point) | [-99...+99] |
| Sets the level that will be reached after the Decay Time elapses. | |
| Sustain (Sustain Level) | [-99...+99] |
| Sets the level that will be reached after the Slope Time elapses. | |
| Release (Release Level) | [-99...+99] |
| Sets the level that will be reached after the Release Time elapses after note-off. | |

5-1b: Time (EG Time)

These parameters set the times for EG1.

- | | |
|---|-----------|
| Attack (Attack Time) | [00...99] |
| Sets the time from note-on until the Attack Level value is reached. | |
| Decay (Decay Time) | [00...99] |
| Sets the time from when the Attack Time ends until the Break Point value is reached. | |
| Slope (Slope Time) | [00...99] |
| Sets the time from when the Decay Time ends until the Sustain Level value is reached. | |

Release (Release Time)

[00...99]

Sets the time from note-off until the Release Level is reached.

5-1c: Keyboard Track (EG Time Keyboard Tracking)

These parameters determine how keyboard position will affect EG times.

Time**At (Attack Time)**

[-99...+99]

Dc (Decay Time)

[-99...+99]

Sl (Slope Time)

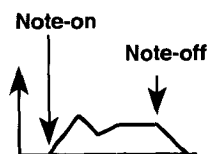
[-99...+99]

Rl (Release Time)

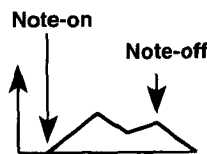
[-99...+99]

With positive (+) settings, EG times will be lengthened as you play higher notes, and with negative (-) settings they will be shortened.

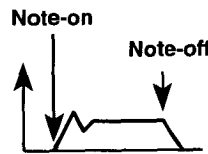
For negative (-) settings of the Time values:



Amp EG settings



when a low note is played



when a high note is played

5-1d: Velocity Control

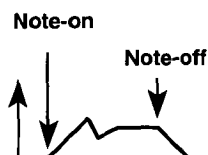
These parameters determine how keyboard playing dynamics (velocity) will affect EG levels and times.

Level (EG Level)

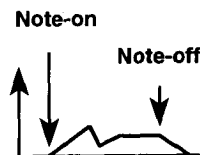
[-99...+99]

Specifies the depth and direction of the effect that velocity will have on EG levels. With positive (+) settings, EG levels will be increased as you play more strongly. With negative (-) settings, EG levels will be decreased as you play more strongly.

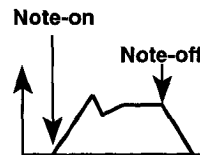
For positive (+) Level settings:



Amp EG settings



softly played note



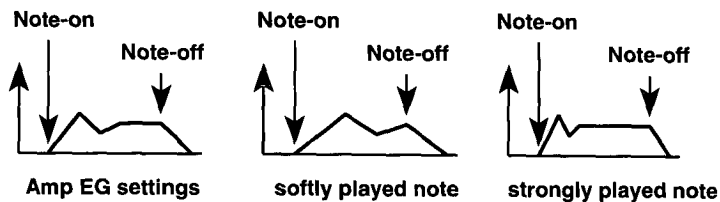
strongly played note

Time

At (Attack Time)	[-99...+99]
Dc (Decay Time)	[-99...+99]
Sl (Slope Time)	[-99...+99]
Rl (Release Time)	[-99...+99]

With positive (+) settings, EG times will be lengthened as you play more strongly, and with negative (-) settings they will be shortened.

For negative (-) settings of the Time parameters:



▼ Page Menu Command

5-1A: Write Program

This writes the edited program into the specified program number of the specified bank. Be sure to write important programs. If you turn the power off or select another program before writing the data, it cannot be recovered. Refer to Basic Guide "9. Writing a Program or Combination".

5-2: EG2

For details on the operation and setting of these parameters, refer to "5-1: EG1".

5-3: EG3

For details on the operation and setting of these parameters, refer to "5-1: EG1".

5-4: EG4

For details on the operation and setting of these parameters, refer to "5-1: EG1".

Program Edit P6

Here you can make settings for the four general-purpose LFOs. These can be used as modulation sources for the parameters of each section (except for COMMON and GLOBAL), allowing you to apply cyclic changes to the sound.

6-1: LFO1

6-1a → Waveform: **Sine 0** Freq: 019 Offset: +00

6-1b → Start: Key On KeySyno Delay: 00 FadeIn: +00

6-1c → **Frequency Modulation**
 JS(+Y): +00 KeyTrack: +00
 Mod.: **Slider(CC#18)** Intensity: -50

6-1d → **Amplitude Modulation**
 Mod.: **OFF** Intensity: +00

Page Menu
 Write Program ← 6-1A

6-1a: Waveform/Freq (Frequency)/Offset

Waveform

Selects the LFO waveform.

[Sine 0...String]

Sine 0		Down Saw 0		Growl	
Sine 180		Down Saw 180		Guitar	
Cosine 0		Rectangle 0		Step Triangle	
Cosine 180		Rectangle 180		Step Saw	
Triangle 0		Random 1		Step Tri4	
Triangle 90		Random 2		Step Saw 6	
Triangle 180		Random 3		Exp Up Saw	
Triangle 270		Random 4		Exp Down Saw	
Up Saw 0		Random 5		Exp Triangle	
Up Saw 180		Random 6		String	

The amplitude of the LFO changes randomly for each cycle.

The amplitude of the LFO changes randomly for each half cycle.

Random 3: The amplitude of the LFO changes randomly for each cycle.

Random 4: The amplitude of the LFO changes randomly for each half cycle.

Random 5: The a:b ratio changes randomly for each cycle.

Random 6: The a:b ratio changes randomly for each half cycle.

* The range of a:b change is 1.0 > a:b > 0.1

Freq (Frequency)

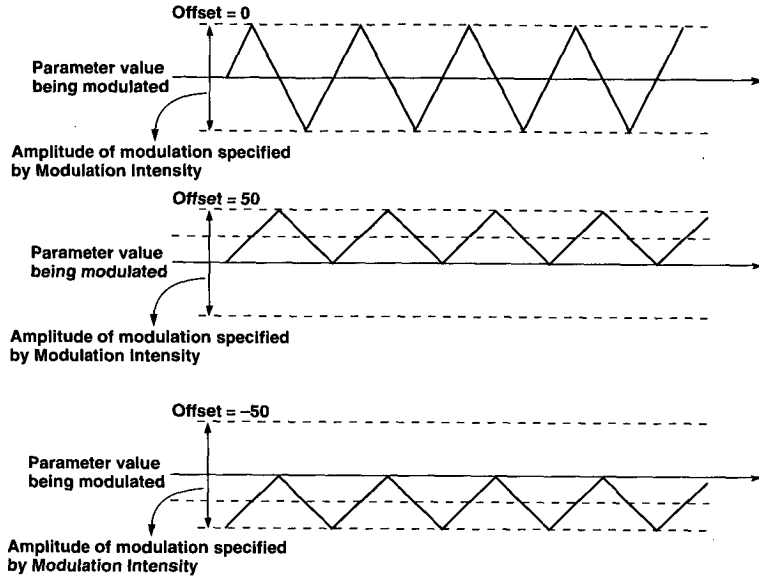
Sets the frequency of the LFO.

[000....199]

Offset

Specifies the center value of the LFO waveform.

[-99...+99]



6-1b: Start/KeySync/Delay/Fade

Start (Start Mode)

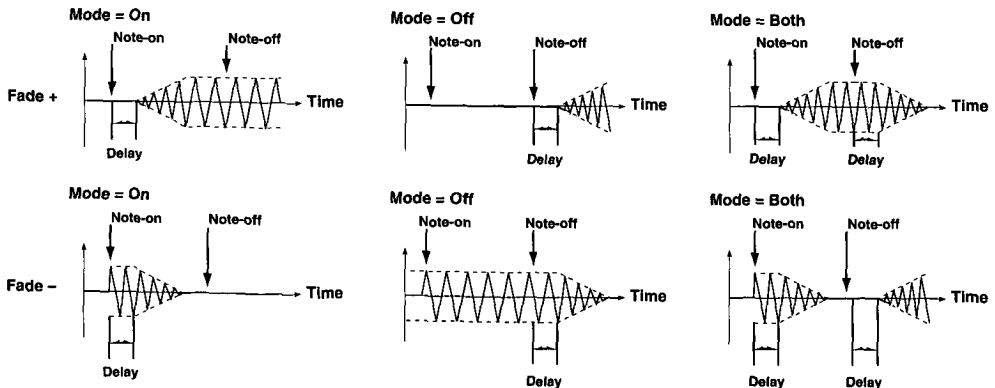
[Key On, Key Off, Both]

Specifies the time when the LFO begins to apply. This will be affected by the settings of "Delay" and "Fade In".

With a setting of **Key On**, the LFO will begin to apply at key-on. Normally you will set this parameter On.

With a setting of **Key Off**, the LFO will begin to apply at key-off.

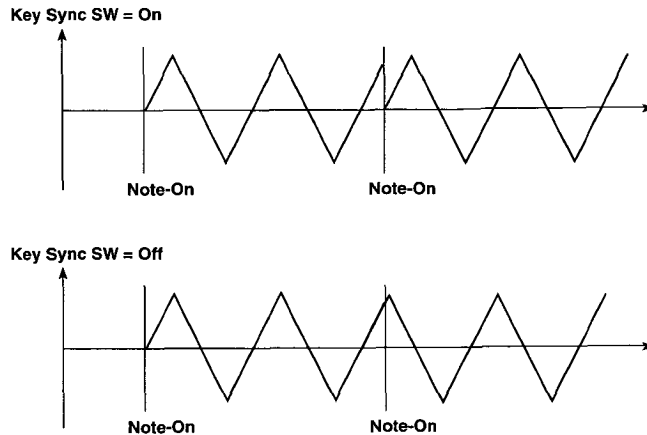
With a setting of **Both**, the LFO will begin to apply at key-off, and will stop at key-off.



Key Sync (Key Sync Switch)**[On, Off]**

If this is checked to turn it On, the LFO will start anew each time a key is pressed, and an independent LFO will operate for each key.

If this is un-checked to turn it Off, subsequently-played notes will use the effect of the LFO that was started by the first-played note. (In this case, the Delay and Fade In settings will apply only to the first-started LFO.)

**Delay****[00...99]**

Specifies the time from note-on until when the LFO begins to take effect.

Fade In**[-99...+99]**

Specifies the time over which the LFO takes full effect. With positive (+) settings, the effect of the LFO will gradually increase up to the full value specified by the parameters. With negative (-) settings, the effect of the LFO will begin with the full value specified by the parameters, and will then gradually diminish to no effect.

If KeySync is Off, this will affect only the first-started LFO.

6-1c: Frequency Modulation**JS (+Y) (Frequency JS (+Y) Control)****[-99...+99]**

Specifies how JS (+Y) will affect the LFO speed.

Key Track (Frequency Keyboard Tracking)**[-99...+99]**

Specifies how keyboard position will affect the LFO speed. With positive (+) settings, the LFO speed will become faster as you play higher notes. With negative (-) settings, the opposite effect will occur.

Mod. (Frequency Modulation Source)**[OFF...Tempo]**

Selects a modulation source that will control LFO speed.

Intensity (Frequency Modulation Intensity)**[-99...+99]**

This specifies the depth and direction of the adjustment that the controller will make to the LFO speed specified by the "Frequency" setting. If you have selected EG or LFO as the "Frequency Modulation Source", positive (+) values will use the original phase, and negative (-) values will invert the phase of the EG or LFO.

6-1d: Amplitude Modulation

These parameters specify a modulation source that will control the level of the LFO waveform and set the intensity of the control, and also specify how the LFO effect will change over time.

Mod. (Amplitude Modulation Source)

[OFF...Tempo]

Selects a modulation source that will control the level of the LFO waveform.

Intensity (Amplitude Mod. Intensity)

[-99...+99]

Specifies the depth and direction of the control that the selected "Amplitude Modulation Source" will have on the LFO waveform level. If you have selected EG or LFO as the "Amplitude Modulation Source", positive (+) values will use the original phase, and negative (-) values will invert the phase of the EG or LFO.

▼ Page Menu Command

6-1A: Write Program

This writes the edited program into the specified program number of the specified bank. Be sure to write important programs. If you turn the power off or select another program before writing the data, it cannot be recovered. Refer to Basic Guide "9. Writing a Program or Combination".

6-2: LFO2

For details on parameter operation and settings, refer to "6-1: LFO1".

6-3: LFO3

For details on parameter operation and settings, refer to "6-1: LFO1".

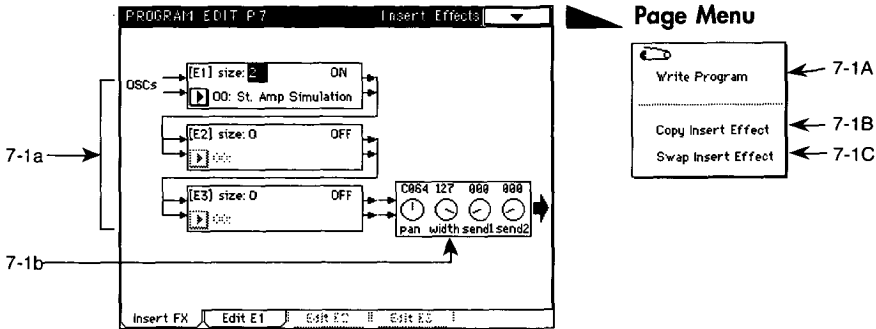
6-4: LFO4

For details on parameter operation and settings, refer to "6-1: LFO1".

Program Edit P7

7-1: Insert Effects

Makes settings for [E1], [E2], and [E3].



7-1a: Insert Effect Settings

Select the Insert Effect that the program will use.

Size

[0,1,2,4]

The Size you select will determine the insert effects that will be available. A setting of 0 is "No Effect" and effects cannot be selected.



The Size settings of [E1] – [E3] must total 4 or less. (It is not possible to make settings that would total 5 or more.)

Effect On/Off

[ON/OFF]

Turns the effect on/off.

Effect Select

Selects the insert effect. The effects that can be selected will depend on the Size setting. For details on each effect, refer to the separate Effect Guide.

7-1b: Width/Send 1, 2

Pan (Panpots)

[L000...C064...R127]

These are the Pan L and R settings that go to the "8-1: Master Effects".

Width

[000...100]

Adjusts the left/right spread of the effects. Higher values will spread the effects wider to left and right.

Send 1, 2

[000...127]

These are the Send 1 and 2 settings that go to the "8-1: Master Effects".

▼ **Page Menu Command**

7-1A: Write Program

This command writes an edited program into the specified program number of the specified bank.

Be sure to write important programs. If you turn the power off or select a different program before writing, the data cannot be recovered.

For details refer to Basic Guide "9. Writing a program or combination."

7-1B: Copy Insert Effect

This command copies insert effect settings from a specified program, combination or song to the insert effect of the program currently being edited.

7-1C: Swap Insert Effect

This command exchanges insert effect settings within the program currently being edited.

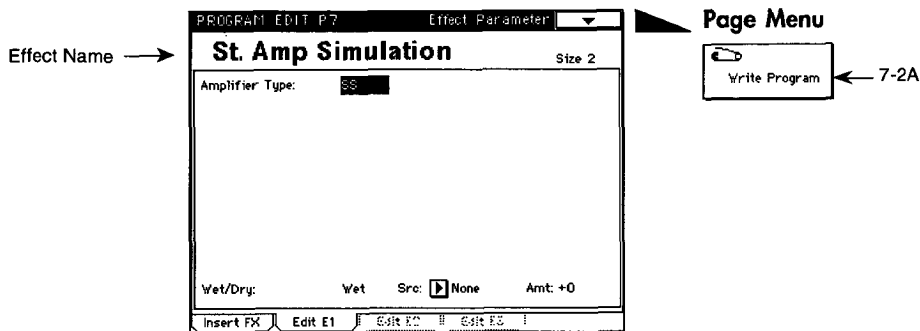
7-2: Edit E1 (Edit Insert Effect 1)

7-3: Edit E2 (Edit Insert Effect 2)

7-4: Edit E3 (Edit Insert Effect 3)

These pages will appear if the Size parameter of "7-1a: Insert Effect Settings" has a setting other than 0.

For details on effect parameters, refer to the separate Effect Guide.



▼ Page Menu Command

7-2A: Write Program

This writes the edited program into the specified program number of the specified bank.

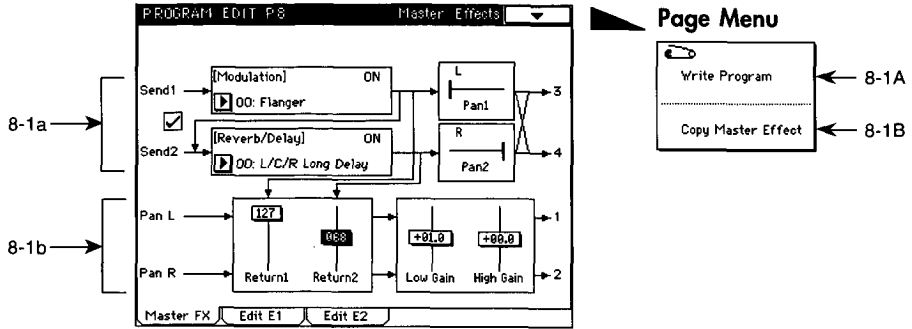
Be sure to write important programs. If you turn the power off or select another program before writing the data, it cannot be recovered.

Refer to Basic Guide "9. Writing a Program or Combination".

Program Edit P8

8-1: Master Effects

Here you can make master effects settings, and set the levels that will be output from the output jacks (1/L/MONO, 2/R, 3, 4).



8-1a: Master Effect Settings

Make settings for the modulation-type effect and the delay/reverb-type effect. The "Send 1,2" displayed in the left of the LCD screen are the send settings made in "7-1: Insert Effects". However if insert effects [E1], [E2] and [E3] have a Size of 0, this will be the send setting of "4-1c: Send/Pan".

Effect On/Off [ON/OFF]

Turns the master effects on/off.

Effect Select
 Selects the master effects. A modulation-type effect and a reverb/delay-type effect can be selected for the master effects.
 For details on the effects, refer to the separate Effect Guide.

Check Box
 If this is checked, the signal from [Modulation] will be input to [Reverb/Delay].

Pan 1, 2 [OFF, L...50: 50...R]
 Adjust the panning of output jacks 3 and 4.

8-1b: Return/Gain

The Pan L and R displayed in the left of the screen are the pan settings made in "7-1: Insert Effects". However if insert effects [E1], [E2] and [E3] have a Size of 0, this will be the pan setting of "4-1c: Send/Pan".

Return 1/2 [0...127]
 Adjust the volume of the output of the master effects.

Low/High Gain [-18.0...+18.0]
 Adjust the amount of cut/boost for the Low EQ and High EQ.

▼ Page Menu Command

8-1A: Write Program

This writes the edited program into the currently selected program number.

Be sure to write important programs. If you turn the power off or select another program before writing the data, it cannot be recovered.

Refer to Basic Guide "9. Writing a Program or Combination".

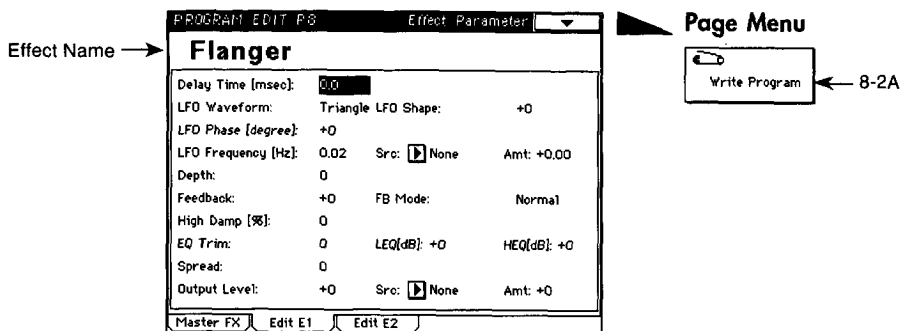
8-1B: Copy Master Effect

This command copies the master effect settings from a specified program, combination or song to the master effect of the program currently being edited.

8-2: Edit E1 (Edit Master Effect 1)

Makes settings for the modulation-type effect selected in “8-1a: Master Effect Settings”.

For details on the effect parameters, refer to the separate Effect Guide.



▼ Page Menu Command

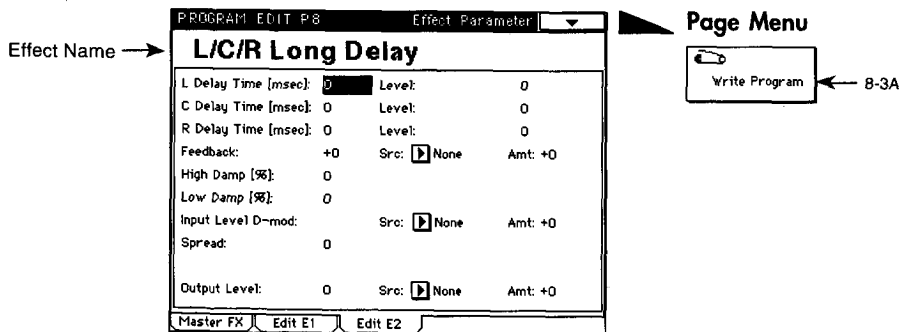
8-2A: Write Program

This writes the edited program into the specified program number of the specified bank. Be sure to write important programs. If you turn the power off or select another program before writing the data, it cannot be recovered. Refer to Basic Guide “9. Writing a Program or Combination”.

8-3: Edit E2 (Edit Master Effect 2)

Makes settings for the reverb/delay-type effect selected in “8-1a: Master Effect Settings”.

For details on the effect parameters, refer to the separate Effect Guide.



▼ Page Menu Command

8-3A: Write Program

This writes the edited program into the specified program number of the specified bank. Be sure to write important programs. If you turn the power off or select another program before writing the data, it cannot be recovered. Refer to Basic Guide “9. Writing a Program or Combination”.

Notes when dumping data from the Prophecy



Data dumps from the Korg PROPHECY Solo Synthesizer can be received to re-write the settings of bank S, but be aware of the following points:

- The parametric equalizer settings of the Prophecy's effect settings will be ignored.
- The Prophecy's effect settings are assigned to the effects immediately before the Bank S insert effects.
- The Prophecy's settings for category name will be ignored, and the Trinity's category names will be used instead. However the programs in each category are not affected.
- The controller-related settings of the Prophecy will be converted as appropriate for the Trinity.

NOTICE

KORG products are manufactured under strict specifications and voltages required by each country. These products are warranted by the KORG distributor only in each country. Any KORG product not sold with a warranty card or carrying a serial number disqualifies the product sold from the manufacturer's/distributor's warranty and liability. This requirement is for your own protection and safety.