KORG Collection

Prophecy

Owner's Manual   <u>E 1</u>

Contents

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Introduction

Thank you for purchasing the KORG Collection - Prophecy software synthesizer. To help you get the most out of your new instrument, please read this manual carefully.

Main Features

This is a software recreation of the "Prophecy," a solo synthesizer that was released in 1995 that featured a MOSS (Multi Oscillator Synthesizer System) sound generator composed of seven types of oscillators.

Includes a wide variety of MOSS sound generator-driven oscillator models

This softsynth is a complete recreation of the MOSS (Multi-Oscillator Synthesis System) that was used on the original Prophecy, featuring five types and a total of seven oscillator models. Select from 12 types of combinations that combine these models to set out on a vast world of sonic exploration. The sounds made using each oscillator model can be processed by non-linear table wave shapes for each oscillator. You can select from two different table types, "CLIP" and "RESO," and use these to radically deform the waveforms created with the oscillators. You can also mix the original waveforms to generate a wide array of sounds, from mild sound processing to waveforms that are massively altered beyond the original waveform in ways you'd never imagine.

A user interface designed with ease of use in mind

The Prophecy software synthesizer uses a specialized interface that matches its role as a plug-in instrument. The sound browser in this software synthesizer was designed so that you can instantly find and choose the sounds you want, by tonal color or name.
This softsynth is also structured with three pages, SYNTH, FX and ARP for a graphical interface that's intuitive to operate, something that could not be realized using the original hardware. This provides the optimal workflow for finding the kind of sound you want in the sound browser and then modifying it.

How the Prophecy is Structure

How a program is organized

The programs of the Prophecy are organized as follows.
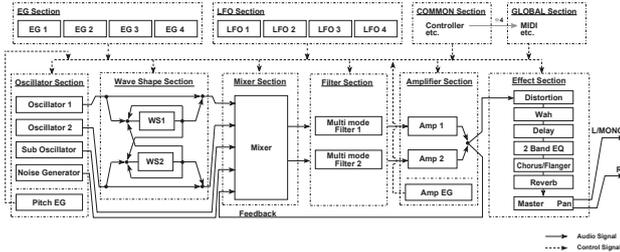
■ OSC (Oscillator) section

The Oscillator section creates the waveform, which is the most basic element determining the sound.

- **Oscillator 1**
- **Oscillator 2**

   Seven types of tone generation (oscillator types) are provided. You can select a combination of two oscillator types, and make settings that specify the basic pitch and other aspects of the oscillator.

- **Sub Oscillator**

   You can select one of 4 basic waveforms, and specify its pitch as an interval of semitones or cents from the basic pitch. The same pitch modulation effect that applies to the Oscillator will be applied to the Sub Oscillator. In the Mixer section, the signal of the Sub Oscillator is mixed with the signals from Oscillators 1 and 2.

- **Noise Generator**

   This generates white noise. The signal from the Noise Generator is mixed by the Mixer section, in the same way as the Sub Oscillator signal.

■ Wave Shape section

The Wave Shape section uses a non-linear table to modify the waveform. The signals from Oscillators 1 and 2 are routed through the Wave Shape section, allowing you to apply effects such as clipping or resonance to the signals.

■ Mixer section

The Mixer section mixes the signals from Oscillators 1 and 2, the Sub Oscillator, the Noise Generator, and feedback from the Amp section, and outputs the result to the Multi Mode Filters 1 and 2 (the Filter section).

■ FILTER section

The Filter section modifies the waveform by attenuating or emphasizing specified frequency regions.

This section contains two multi-mode filters. Each allows you to select the filter type (low pass, high pass, band bass, or band reject). The Filter section allows you to modify the overall brightness of the sound. You can also specify how the two filters will be connected to the Mixer section and the Amp section.
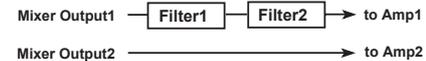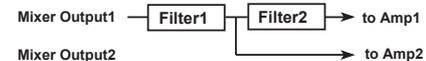
■ AMP (Amplifier) section

The AMP (amplifier) section is used to make time-based changes to the volume output from the FILTER section, using an EG or other connected modulation source. Two independent amps are provided, and the volume input to each amp will depend on how the filters are connected.

■ EFFECT section

The Effect section contains seven types of effect; Distortion, Wah, Delay, 2 Band PEQ, Chorus/Flanger, and Reverb.

■ EG section

This section features four standard envelope generators (EG), a pitch EG and an amp EG. These EGs can be used as modulation sources for parameters in each section , to apply time-varying changes to the sound.

■ LFO section

This section provides four LFOs. These LFOs can be used as modulation sources for parameters in each section, to apply cyclical change to the sound.

■ COMMON section

This section contains parameters such as program name, and settings for the keyboard and controllers (WHEEL 1/2/3, RIBBON, etc.).

■ GLOBAL section

This section contains settings that affect the entire Prophecy, such as tuning and MIDI-related settings.

■ Oscillator types

- **Standard Oscillator**
  This simulates the oscillator of an analog synthesizer. You can achieve the same effects as on an analog synthesizer, such as Pulse Width Modulation.
- **Comb Filter**
  This oscillator extracts a pitched component from white noise. It can create not only unique sounds, but also a wide variety of sounds ranging from string-type sounds to synth bass.
- **VPM (Variable Phase Modulation)**
  You can create an impressive array of harmonics by processing the sound with phase modulation from the two oscillators.
- **Cross/Sync/Ring Modulation**
  This oscillator simulates the inter-modulation between oscillators that was possible on analog synthesizers.
- **Brass Model Oscillator**
  This oscillator provides a physical model simulation of lip reed brass instruments such as trumpet and trombone.
- **Reed Model Oscillator**
  This oscillator provides a physical model simulation of reed instruments such as a saxophone.
- **Plucked String Model Oscillator**
  This oscillator provides a physical model simulation of plucked string instruments such as a bass guitar.

note The Brass Model Oscillator, Reed Model Oscillator, and Plucked String Oscillator use physical models. Unlike conventional oscillators which produce a fixed waveform, physical models simulate the physical characteristics of the components that make up an instrument, such as the bore, reed, or string.
For example, a physical model might calculate the way in which a

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pressure wave would be reflected and attenuated as it passed through a bore, or the way in which a reed moves when air is blown past it. These calculations are made in realtime to determine what sound would result.

note When "Brass Model Oscillator", "ReedModel Oscillator" or "PluckedString Model Oscillator" is selected for oscillator 1, you can't use oscillator 2.

Part Names and functions

Header

1. Display
Shows the names of the programs that are currently loaded.
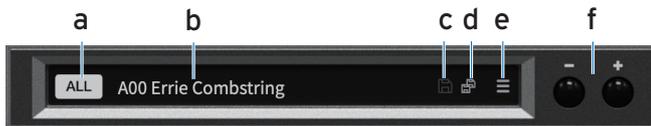
a. Category Select
Select a category, and then select a program that belongs to the selected category.

b. Sound Name
Shows the name of the currently selected sound. Tap the display to show the program browser. You can also specify a category to quickly select programs.(→ p. 12 "Browser functions")

c. Save
Overwrites the currently selected program.

d. Save As
Saves the currently selected program with a different name.

e. MENU
Use this to initialize a program, recall or save the controller settings and perform other operations. (→ p. 14 "MENU")

f. Select button
Use the Select buttons to switch to the programs that are previous or next in the list.

2. PERFORMANCE EDIT
The programs are edited using the parameters assigned to each knob. This adjusts the assigned parameters. Configure the settings assigned to each knob in the CONTROLLER section of the ARP page.

3. ARPEGGIO
Used for switching the arpeggiator function on/off and for the various arpeggio operations.

4. UNISON
This configures the settings for making multiple voices sound.

5. VOLUME knob
Used to adjust the overall volume.

6. Mode Select buttons
Selects the mode.
SYNTH: Enters Synth Mode.
EFFECTS: Enters Effects Mode.
ARP: Enters Arp/Controller Mode.

7. Edit area
Here you can edit the parameters that are shown in each edit page. Drag or tap each controller to select it, and then edit its parameter.

8. Controllers
These are the on-screen controllers used when playing (keyboard, joystick, swich). When operating these controllers from an external MIDI device, it is convenient to set the MIDI control numbers in Global page.

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Basic operations

Use the mouse to edit the values of various controllers and parameters.

Keyboard

• Click on the keyboard to play notes.

Joystick

• Drag the joystick up, down, left and right to control it.

Knob

• Drag the knob to adjust its value.
• If you hold down the ALT (mac: Option) key while clicking, the parameter returns to its default value.

Value slider

• Drag the value of the slider up and down to adjust a value.
• Double-click the value to input manually using a keyboard.

Combo box
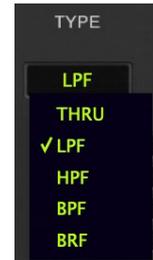
• Click on the combo box to select a value from the pop-up menu that appears.

Checkbox

• Click a checkbox to toggle the setting ON or OFF.

Menu button
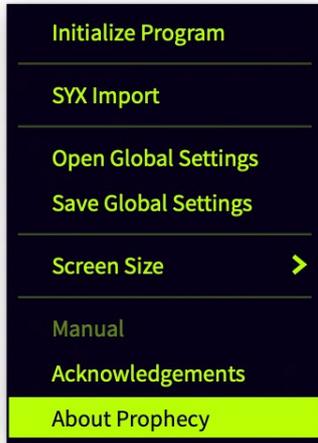
- Click to select a command from the pop-up menu that appears.

Toggle Switch

- Click to toggle the setting ON or OFF.

Graphical envelope
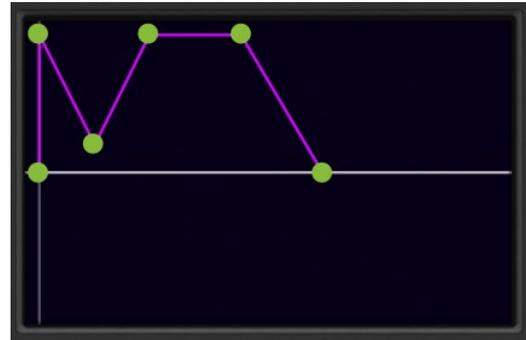
- Drag each point to adjust its value (level or time).

Browser functions

The Prophecy software synthesizer features a browser search function that lets you quickly find and choose the sounds you want out of the wide range of options, filtering by category.

1. BANKS

All
Displays all program data.

Favorites
Displays only the programs that are added as favorites in the browser. To add a program to favorites, select the "☆" (star) icon in the Programs tab, or use the right-click context menu.

Program Change
Displays the program you want to change with program change messages. To add a program, use the right-click context menu in the Programs tab.

Factory
Displays the factory-set (preset) programs. You can't overwrite the factory-set programs.

Template
Displays templates that are useful when creating programs. You can't overwrite the template programs.

User
Displays the programs that are saved. User programs are saved in the folders shown below.
[macOS]
    ~/Documents/KORG/KC_Prophecy/Presets/User
[Windows]
    ~/Documents/KORG/KC_Prophecy/Presets/User

2. CATEGORIES

Use the categories when you want to narrow down your selection of programs for the selected bank. Only programs that are registered in categories are shown in "Programs."

3. PROGRAMS

Selects the program you want to use. You can also register favorites or program changes, or edit the program information.
Right-click to add a preset program to a favorite or to a program change. You can also edit the information for user programs.

4. Search...

You can search for programs by typing some text.

5. Previews

Plays back a preview of the phrase. This is useful when selecting programs. You can also select patterns.

MENU
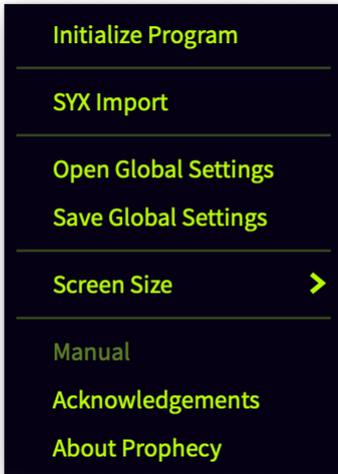
Initialize Program
This initializes the currently selected program.

SYX Import
Imports the .syx file. This lets you load sounds created on the Prophecy hardware-based synth itself.

Open Global Settings
Displays the Global page, which contains controller CC assignment and scale settings, keyboard settings and more. (→ p. 59 "Global").

Save Global Settings
This saves the settings you've edited on the Global page.

Screen Size
Changes the screen size. Any changes to this setting will take effect the next time the softsynth is launched.

Manual
Displays the manual for the software or the original hardware.

Acknowledgements
Shows the software components used to create this softsynth, as well as acknowledgements of those involved in developing this product.

About Prophecy
Shows the software version.

Quick Start

Playing the synthesizer

Use the on-screen keyboard or an external MIDI keyboard to play sounds with the Prophecy software synthesizer.

1. Enter SYNTH page by selecting SYNTH with the MODE SELECT button.
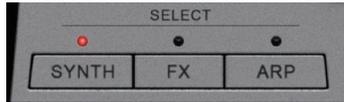
2. Click the program name in the display to open the browser screen.

3. Select the desired program from the list.
   Try playing around with the various sounds.

Using the arpeggiator

Use the arpeggiator to play the Prophecy software synthesizer's sounds.

The arpeggiator features five preset patterns (UP, DDWN , ALT1, ALT2, RANDOM) and five user patterns (Pat1–5). You can also create your own user patterns of up to 24 steps. You can also change the step interval, arpeggio note velocity and length and other parameters for the preset patterns as well to play a variety of arpeggios.

1. Press the ARPEGGIO ON/OFF button. The button will light up.
   This turns the arpeggio function on. Now, when you play a note on the keyboard, you'll hear an arpeggio.

2. Use TEMPO to set the desired tempo.

3. Use PATTERN to switch between arpeggio patterns.
   Play the chords you like, and see what kind of note patterns are played.

4. To stop the arpeggiator, press the ARPEGGIO ON/OFF button. The button will go dark.

Edit the Tone of the Synthesizer

Now, let's try editing sounds on the Prophecy software synthesizer.

1. Select sound A04, "Studio Mog1" from the "All" bank on the browser

2. Enter SYNTH page by selecting SYNTH with the MODE SELECT button.
   The synth edit screen will be displayed. The main parameters necessary for editing are found on the SYNTH page.

3. Use the on-screen knobs and buttons to edit sounds.
   Try operating the CUTOFF knob in the FILTER section. By doing this, you'll hear how the sound changes in brightness.

Saving a sound

Save the sounds you create, so that you can recall them anytime.

1. Press the Save As button on the header.
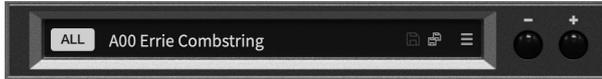
2. Edit the name of your sound in the dialog shown.

3. Press the Save button.

Parameter Guide

This explains the parameters used on the Prophecy software synthesizer.

Synth Mode

OSC1

OCT (Octave)
Set the basic pitch of oscillator 1 in octave units. A setting of 32" is 2 octaves down, 16" is 1 octave down,8" is the standard pitch, and 4" is 1 octave up.

SEM (Semi)
This is an adjustment in semitone units to the basic pitch specified by the Octave setting.

FIN (Fine)
This is a fine adjustment to the basic pitch in steps of 1 cent.

OFS (Frenquency Offset)
This is a fine adjustment to the basic pitch in steps of 0.1 Hz.

note   For oscillator types which use a physical model, "Frequency Offset" settings can result in unstable oscillation

PITCH
These parameters specify how modulation will control the basic pitch of oscillator 1.

Mod. Src (Pitch Modulation Source)
Select the modulation source that will control the pitch. (Refer to Modulation Source List.)

Intensity (Pitch Modulation Intensity)
Specify the depth and direction of the pitch change that can be controlled by the Pitch Modulation Source.

OSC PITCH LFO

SOURCE
Select the LFO that will cyclically modulate the pitch, creating a vibrato effect. For the settings of each LFO, refer to the LFO section (p.29).

Intensity
Specify the depth of the pitch change that will be caused by the LFO selected in LFO Select. With positive (+) settings, vibrato will be applied using the original phase of the LFO waveform. With negative (–) settings, vibrato will be applied using the LFO waveform in inverted phase.

AFTER TOUCH (Intensity AT Control)
Specify how greatly Aftertouch will control the depth of the LFO pitch modulation effect.

CC#1 (Intensity CC#1 Control)
Specify how greatly Control Change #1 will control the depth of the LFO pitch modulation effect.

OSC PITCH SLOPE

Low Key
Specify the key at which Lower keyboard tracking will begin.

Low Intensity
Specify the depth and direction of the pitch change that will occur for the area of the keyboard below the Low Key.

High Key
Specify the key at which Higher keyboard tracking will begin.

High Intensity

Specify the depth and direction of the pitch change that will occur for the area of the keyboard above the High Key.

Oscillator Type

Selects the oscillator type for oscillator 1. For Brass, Reed and Pluck, only oscillator 1 is used. However, the pitch-related parameters for oscillator 2 will be enabled, so you can use them to control the sub-oscillator's pitch. See "Oscillator Types" on page 33 for details on each oscillator type.

OSC2

(→ p. 18 "OSC1")

WAVE SHAPE 1, 2

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.
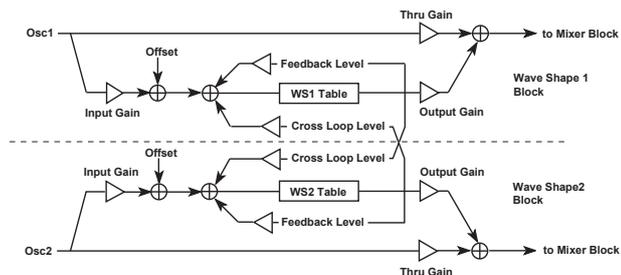
GAIN (Input Gain)

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

Mod. Source

Select the modulation source that will control the Input Gain. (Refer to Modulation Source List.)

Mod. Intensity

Set 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.

OFS (Offset)

Specify the offset amount that will added to the signal specified by Input Gain.
By using Input Gain to reduce the input signal level and adding an Input Offset, you can bias the waveshaping table.
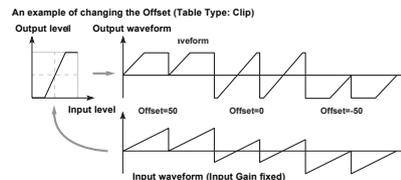
SHAPE

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

Table Select

Select 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.

Wave Shaping Table and the Shape parameter

Clip type

Output level

Waveform level | Shape:0 ←→ Shape:99 | Input level | Output of the Clip table with a sawtooth wave input

Waveform before entering the table

Resonant type

Output level

Waveform level | Shape:0 ←→ Shape:99 | Input level | Output of the Resonant table with a sawtooth wave input

Waveform before entering the table
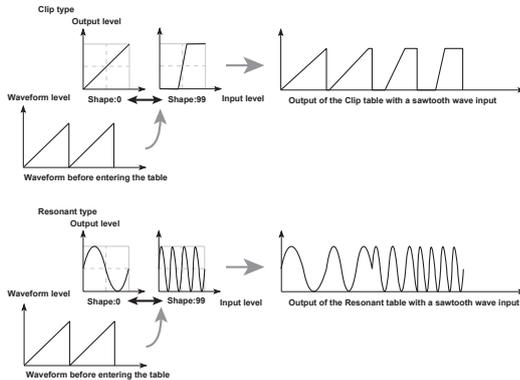
Mod. Source

Select the modulation source that will control Shape. (Refer to Modulation Source List.)

Mod. Intensity

Set 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.

FB1 (Feedback Level)

Set the amount of wave shape 1 output that is fed back.

FB2 (Cross Loop Level)

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

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

DRY (Thru Gain)

Set the level of the direct signal from OSC1.

WET (Output Gain)

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

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

Output level | Output waveform of the Wave Shaping Table (Output Gain = 25)

Input level | Thru Gain=70

Input waveform
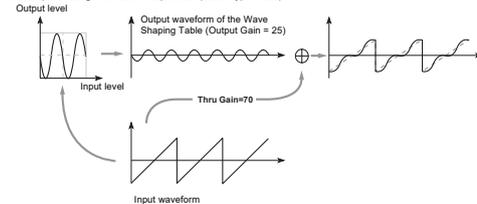
SUB

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.

PITCH (Pitch Source)

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

SEM (Relative Semi Tone)

Specify a pitch interval in semitones between the sub oscillator and the selected Pitch Source oscillator.

With a setting of (for example) +12, the sub oscillator will produce a pitch one octave above the selected

Pitch Source oscillator.

FIN (Relative Fine Tune)

Specify a fine adjustment to the pitch interval in steps of 1/100 semitone (1 cent).

WAVEFORM

Select the waveform of the sub oscillator.

NOISE

The noise generator produces white noise. In the Mixer section, the generated noise is mixed with the signals from oscillator 1 and 2, in the same way as the sub oscillator.

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

COLOR (Noise LPF Frequency)

Set 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)

Specify how keyboard position will affect the Noise LPF Frequency.

when Noise LPF Fc = 50   when Noise LPF Fc =75   when Noise LPF Fc = 25
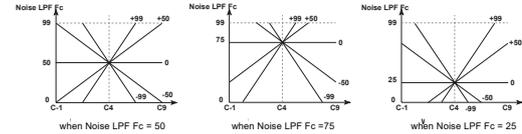
MIXER

The mixer section allows you to set the levels at which the five signals (WS1, WS2, SUB, NOISE, FB) will be combined into the two mixer outputs. You can also select a modulation source to control each level, and specify its intensity.
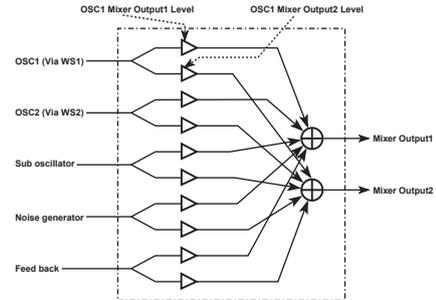
OUT 1

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.

OSC1

Level (Output Level)
Set the level that will be output to mixer output 1.

Mod. Source (Level Modulation Source)
Select a modulation source that will control the above output level. (Refer to Modulation Source List.)

OSC2
(→ p. 22 "OSC1")

Sub
(→ p. 22 "OSC1")

Noise Level
(→ p. 22 "OSC1")

Fb
(→ p. 22 "OSC1")

OUT2
This configures the level at which sound is output to the mixer from oscillators 1 and 2 (passing through wave shape 1 and 2) or from the sub-oscillator, noise generator, or the feedback from amp section, as well as the modulation source that controls it.

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

Serial1

| Mixer Output1 | Filter1 | Filter2 | Amp1 | ⊕ → |
| Mixer Output2 | | | Amp2 | |

Serial2

| Mixer Output1 | Filter1 | Filter2 | Amp1 | ⊕ → |
| Mixer Output2 | | | Amp2 | |

Parallel

| Mixer Output1 | Filter1 | Amp1 | ⊕ → |
| Mixer Output2 | Filter2 | Amp2 | |
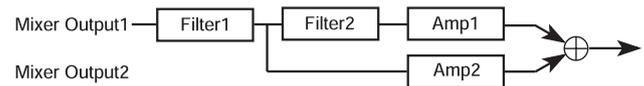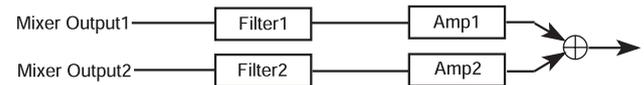
If you wish to use band pass filters to create two peaks in the frequency response, select PARALLEL.
If you wish to use band reject filters to create two valleys in the frequency response, select SERIAL. In this case, setting filters 1 and 2 to the same settings will sharpen the slope of the cutoff.

FILTERS

The Prophecy contains two multi-mode filters. For each one, you can select one of four filter types; LPF, HPF, BPF, and BRF.
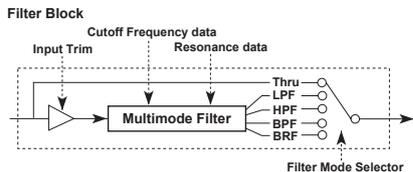
Filter1, Filter2

TYPE (Filter Type)

Select the filter type for filter 1.
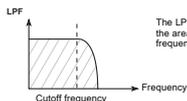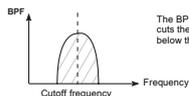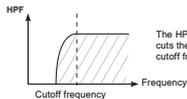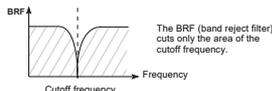
TRIM (Input Trim)

Adjust the level that is input to filter 1.

note If this setting is increased, distortion may occur if the Resonance setting is high. To adjust the volume, make settings in the AMP section.

CUTOFF (Cutoff Frequency)

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

Mod. Source (Cutoff Frequency Modulation Source)

Select the modulation source that will control cutoff frequency. (Refer to Modulation Source List.)

Mod. Intensity (Cutoff Frequency Mod. Intensity)

Specify 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.

Mod. EG (Cutoff Frequency Modulation EG)

Specify the EG that will create time-varying change in the cutoff frequency of filter 1.

Mod. EG Intensity (Cutoff Frequency Mod. EG Int.)

Specify 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.

Mod. LFO (Cutoff Frequency Modulation LFO)

Select the LFO that will control the cutoff frequency of filter 1. Settings for each LFO are made in the LFO section.

Mod. LFO Intensity (Cutoff Frequency Mod. LFO Int.)

Specify 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.

Cutoff Frequency Keyboard Track

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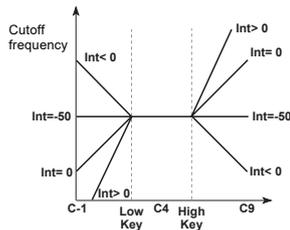
Low Key

Specify the key at which Lower keyboard tracking will begin.

Lower Intensity

Specify 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 Key

Specify the key at which Higher keyboard tracking will begin.

Higher Intensity

Specify 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.

RESO (Resonance)

Specify the degree to which the frequencies in the region of the Cutoff Frequency 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 Input Trim setting.
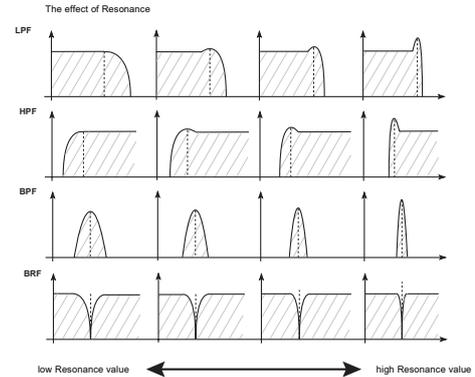
Mod. Source (Resonance Modulation Source)

Select the modulation source that will control Resonance. (Refer to Modulation Source List.)

Mod. Intensity (Resonance Mod. Intensity)

Specify the amount and direction by which the selected Resonance Modulation 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.

AMPS

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 Filter Routing.

LEVEL

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

Mod. Source (Amplitude Modulation Source)

Select a modulation source that will control the volume level of Amplitude. (Refer to Modulation Source List.)

Mod. Intensity (Amplitude Mod. Intensity)

Specify 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.

Amp Mod. EG (Amplitude Modulation EG)

Select the EG that will apply time-variant changes to the Amplitude volume level.

Mod. EG Intensity (Amplitude Mod. EG Intensity)

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

Keyboard Track
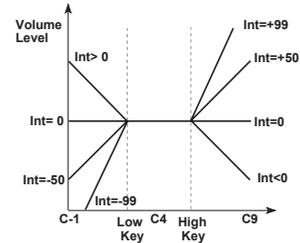
Low key (Keyboard Tracking Low Key)

Specify the key at which Lower keyboard tracking will begin.

Lower Intensity (Keyboard Tracking Lower Intensity)

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

High Key (Keyboard Tracking High Key)

Specify the key at which Higher keyboard tracking will begin.

Higher Intensity (Keyboard Tracking Higher Intensity)

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

EG, Pitch EG, Amp EG, LFO

Select
Select the EG1–4, Pitch EG, Amp EG and LFO1–4 to edit.

EG

EG Level
These parameters set the levels for EG.

Start Level
Set the level at key-on.

Attack Level
Set the level that will be reached after the Attack Time elapses.

Break Level
Set the level that will be reached after the Decay Time elapses.

Sustain Level
Set the level that will be reached after the Slope Time elapses.

Release Level
Set the level that will be reached after the Release Time elapses after key-off.
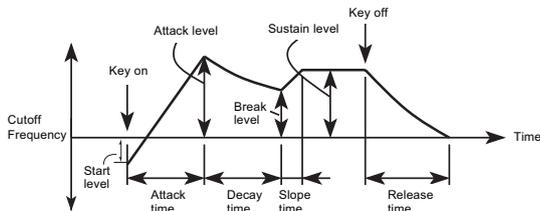
Velocity Control
Specify the depth and direction of the effect that velocity will have on EG levels. With positive (+) settings, EG levels will be increased as you play more strongly. With negative (-) settings, EG levels will be decreased as you play more strongly.

EG Time
These parameters set the times for EG.

Attack Time
Set the time from key-on until the Attack Level value is reached.

Decay Time
Set the time from when the Attack Time ends until the Break Point value is reached.

Slope Time
Set the time from when the Decay Time ends until the Sustain Level value is reached.

Release Time
Set the time from key-off until the Release Level is reached.

EG TIME MOD (Velocity)
Specify the depth and direction of the effect that velocity will have on EG times. With positive (+) settings, EG times will be lengthened as you play more strongly, and with negative (-) settings they will be shortened.

EG TIME MOD (Keyboard Tracking)
Set the depth and direction of the effect that keyboard position will have on each EG time parameter. With positive (+) settings, EG times will be lengthened as you play higher notes, and with negative (–) settings they will be shortened.

Pitch EG

The Pitch EG controls the way in which the oscillator pitch changes over time.

The Pitch EG of the Prophecy 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.

The settings here will determine the amounts of pitch change that occur 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 in Pitch Modulation EG and set the depth of the effect in Pitch Mod.
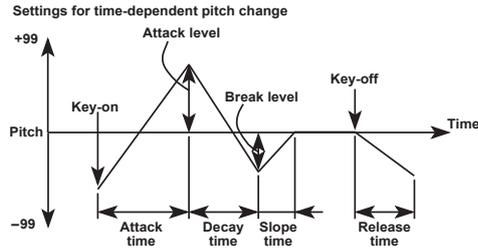
Settings for time-dependent pitch change

EG Level

These parameters set the levels for EG.
(→ p. 26 "EG Level")

EG Time

These parameters set the times for EG.
(→ p. 26 "EG Time")

LEVEL (Velocity Control)

Specify how velocity will affect the Pitch EG Levels.

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

LEVEL (Keyboard Tracking)

Specify 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 change. Negative (−) settings will result in decreased Pitch EG Levels as you play above the C4 key, causing less pitch change.

TIME (Velocity Control)

Specify how velocity will affect the Pitch EG Times.

With positive (+) settings, pitch change will occur more quickly as you play with more velocity (i.e., Pitch EG Times will be shortened). With negative (−) settings, pitch change will occur more slowly as you play with more velocity.

TIME (Keyboard Tracking)

Specify 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 change. Negative (−) settings will result in shorter Pitch EG Times as you play above the C4 key.
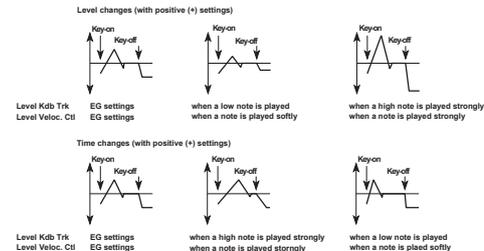
Amp EG

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

On the Prophecy, 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.

To create change in volume over time using the Amp EG, select A.EG for the Amplitude Modulation EG parameter, and set the Amplitude Mod. EG Intensity parameter to specify the depth of the effect.

You can have additional control over volume by selecting an Amplitude Modulation Source and setting the Amplitude Mod. Intensity.

How Amp EG creates time-varying changes in volume
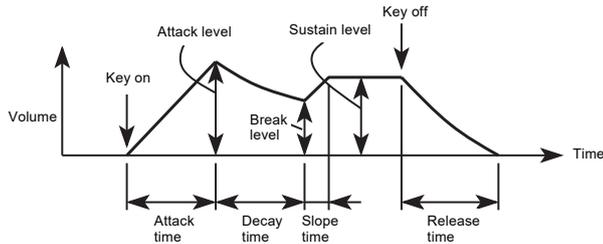
EG Level

These parameters set the levels for EG.
(→ p. 26 "EG Level")

EG Time

These parameters set the times for EG.
(→ p. 26 "EG Time")

LEVEL (Velocity Control)

Specify 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.

TIME (Velocity Control)

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

TIME (Keyboard Tracking)

These parameters determine how keyboard position will affect EG times.

LFO

WAVEFORM

Select the LFO waveform.
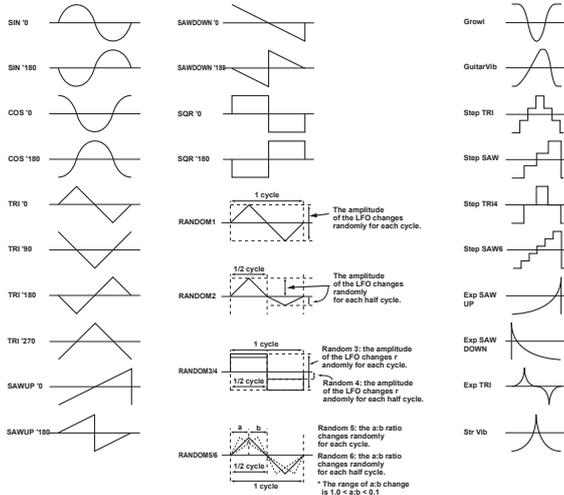
FREQ (Frequency)

These parameters set the speed of the LFO, and specify the depth and direction of the effect that keyboard tracking and control change #1 will have on LFO speed.

Mod. Source

Select a modulation source that will control LFO speed. (Refer to Modulation Source List.)

Mod. Intensity

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.

CC#1 Ctrl

Specify how control change #1 will affect the LFO speed.

Keyboard Track

Specify 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.

MODE

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

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

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

With a setting of BOTH, the LFO will begin to apply at key-on, and will stop at key-off.
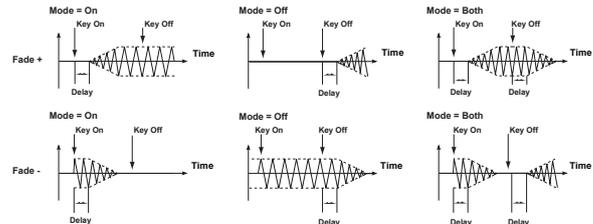
OFS (Offset)

Specify the center value of the LFO waveform.

Offset = 0

Parameter value being modulated

Amplitude of modulation specified by Modulation Intensity

Offset = 50

Parameter value being modulated

Amplitude of modulation specified by Modulation Intensity

Offset = -50

Parameter value being modulated

Amplitude of modulation specified by Modulation Intensity
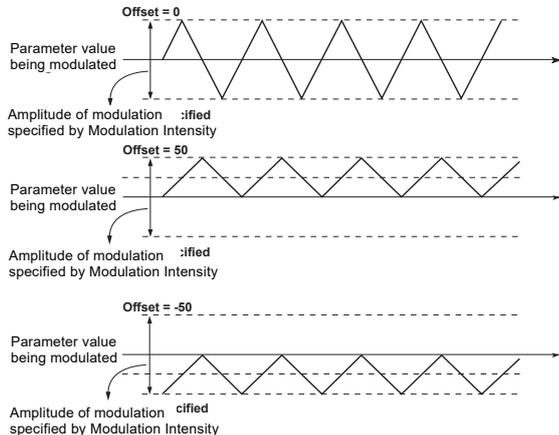
DELAY

Specify the time delay after key-on until the LFO begins to take effect.

FADE (Fade In)

Specify 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.

SYNC

With a setting of 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 have no effect.)

With a setting of ON, the LFO will start again each time a key is pressed, and an independent LFO will operate for each key.

Key Sync SW = On

Key On   Key On

Key Sync SW = Off

Key On   Key On
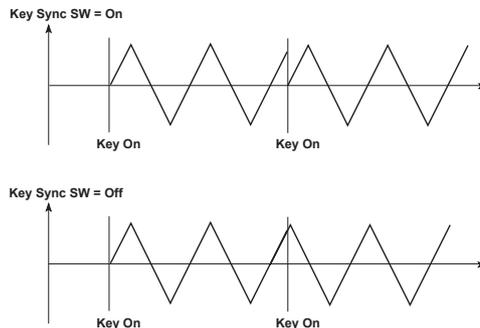
LEVEL

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.

Modulation Source

Select a modulation source that will control the level of the LFO waveform. (Refer to Modulation Source List.)

Modulation Intensity

Specify 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.

About Oscillator Type

Standard OSC

This oscillator produces the sawtooth, pulse, and ramp waveforms used by analog synthesizers.

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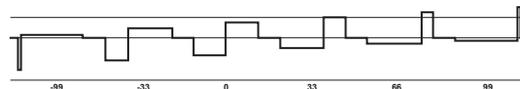
Waveform (Pulsewidth) Modulation can be applied to modify the waveform as shown below, creating changes in tone color over time. When modulation is at 0, a square wave is produced. When modulation is at 99, the pulse width will be 0 and there will be no sound. If the modulation value is negative, the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

MAIN

WAVE (Wave Select)

Select the main waveform; either SAW (sawtooth wave) or PULSE (pulse wave).

EDGE (Wave Edge)

Adjust the amount of high overtones for the main waveform. This will intensify for higher notes, and will have little effect on lower notes. 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.

FORM

Set the waveform.

Mod. Source

Select the waveform modulation source (Refer to Modulation Source List.)

Intensity

Set the depth and direction of the waveform modulation that will be applied from the modulation source you selected for Wave Form Modulation Source.
Negative values will invert the phase of the modulation source.

Mod. LFO

Select the source LFO for waveform modulation. LFO settings are made in the LFO section.

Intensity

Set the depth and direction of the waveform modulation that will be applied by the LFO that you selected in (Wave) Form Mod. LFO. Negative values will invert the direction of the effect.

LEVEL

Set the output level of the main waveform.

RAMP

LEVEL (Ramp Level)

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

Comb Filter OSC

The Comb Filter Oscillator inputs noise and an oscillator waveform into a comb filter, and produces characteristic 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

FIG.2

Frequency characteristics of a sawtooth wave

FIG.3

Frequency characteristics of white noise (when the comb filter feedback gain is 0)

Frequency characteristics when the comb filter feedback gain is raised
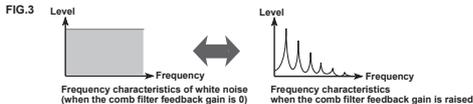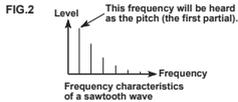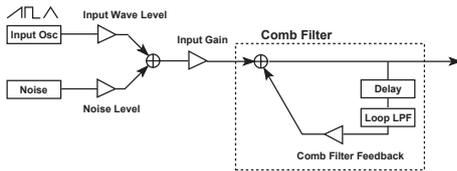
MAIN

WAVE
Select the oscillator waveform that will be input into the comb filter.

LEVEL
Specify the oscillator volume level that will be input into the comb filter.

NOISE

LEVEL
Specify the noise volume level that will be input into the comb filter.

GAIN
Specify the input level to the comb filter.

note 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 minimize the differences in output level from the comb filter.

FEEDBACK
Set 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.

Mod. Source
Select the modulation source that will control Comb Filter Feedback. (Refer to Modulation Source List.)

Mod. Intensity
Specify the depth and direction of the effect 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. If the Feedback Modulation Source parameter 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.

Mod. EG

Select the EG (envelope generator) that will create time-based change in Comb Filter Feedback.

Mod. EG Intensity

Specify 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.

LPF (Loop LPF Frequency)

Specify 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.

VPM OSC

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.

Modulator Pitch | Carrier Pitch (Basic Pitch) | Wave Shaping Parameters

Modulator Level — Modulator → Carrier → Wave Shaping → Carrier Level → Output

Feedback Gain
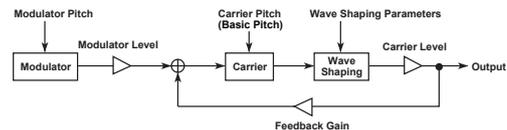
Carrier

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 phasemodulated 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.

CARRIER

Wave

Select the carrier waveform.

SHAPE

Increase or decrease 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.

Mod. Source (Wave Shape Modulation Source)

Select a source such as EG or Aftertouch that will modulate Shape. (Refer to Modulation Source List.)

Mod. Intensity

Specify the depth and direction of the Wave Shape modulation applied by the selected Wave Shape Modulation Source.

Mod. LFO (Wave Shape Modulation LFO)

Select the LFO to control the wave shape. This will produce an effect similar to wah or sync modulation. For LFO settings, refer to the LFO section.

Mod. LFO Intensity

Specify the depth and direction of the Wave Shape modulation applied by the selected Wave Shape Modulation LFO.

LEVEL

These parameters set the output level of the carrier, and determine the EG and modulation settings.

Mod. EG (Carrier Level Modulation EG)

Set the output level of the carrier. This determines the output level of the VPM oscillator.

Mod. EG Intensity

Specify 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. Source (Carrier Level Modulation Source)

Select the modulation source such as LFO or aftertouch (Refer to Modulation Source List) that will modulate the output level of the carrier.

Mod. Intensity

Specify 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.

FB (Feedback)

Specify 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.

MODULATOR

Wave

Select the waveform that will be used as the modulator; sine (SIN), sawtooth (SAW), triangle (TRI), square (SQU) wave, or OSC (2 for OSC1, or 1 for OSC2).

SEM (Semi)

Set the pitch of the modulator in semitone units. This setting is relative to the pitch of the carrier. The basic pitch of the carrier is determined by the OSC1-1 Basic Pitch parameter.

FIN (Fine)

Make fine adjustments to the modulator pitch. This setting is relative to the pitch of the carrier.

LEVEL

Set 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 effect of modulation will intensify.

Mod. Source (Modulator Level Modulation Source)

Specify the modulation source that will affect the output level of the modulator. (Refer to Modulation Source List.)

Mod. Intensity

Specify 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.

VPM MODULATOR LEVEL

SOURCE (Modulator Level Modulation EG)

Select the EG that will control the output level of the modulator. For EG settings (→ p. 26 "EG, Pitch EG, Amp EG, LFO").

INTENSITY

Specify the depth and direction by which the EG selected in Modulator Level Modulation EG will control the modulator output level.

DEST (Destination)

(→ p. 35 "Level")

CONTROLS

Specify the depth and direction by which keyboard tracking will affect the EG control over modulator output level. 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.

PITCH

Mod. Source

Select the modulation source that will modulate the pitch of the modulator. (Refer to Modulation Source List.) Normally, an EG is used for this purpose.

Mod. Intensity

Specify 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) Mod. Src. With negative (-) values, the polarity of the modulation source will be inverted.

Keyborad Tracking

Specify 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.

Modulation Osc

This oscillator allows you to select one of three types of modulation commonly used in analog synthesizers; sync, cross, and ring modulation. The modulation oscillator contains a carrier oscillator. This carrier waveform will be modulated. The modulator waveform is not built-in, and you must select an output such as OSC1 as the modulation input. The modulation oscillator is fixed at OSC2.

Carrier

The frequency and/or amplitude of this waveform 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 Prophecy synthesizer, and will vary widely depending on the settings.)

SYNC MODULATION

The modulator will be the master waveform, and the carrier 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.

Sync Modulation
Modulator Wave (Master)
Carrier Wave (Slave)
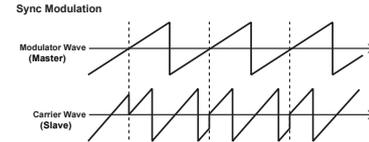
CROSS MODULATION

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
Cross Carrier Depth
Modulator
Carrier Wave
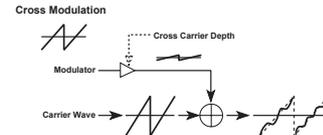
RING MODULATION

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.
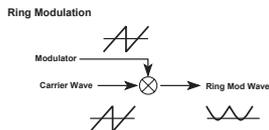
MOD TYPE

Select the type of modulation; RING (ring modulation), CROSS (cross modulation), or SYNC (sync modulation).

CARRIER

WAVE

When "Ring" is selected for the MOD TYPE Select the waveform of the carrier (the modulation oscillator of the two waveforms that are multiplied) used for ring modulation; SIN (sine), SAW (sawtooth), or SQU (square).
When "Cross" is selected for the MOD TYPE Select the waveform of the carrier for cross modulation; SIN (sine), SAW (sawtooth), or SQU (square).
When "Sync" is selected for the MOD TYPE Select the carrier (slave) waveform used for sync modulation; SAW (sawtooth) or TRI (triangle).

EDGE

When "Sync" is selected for the MOD TYPE 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.

MODULATOR

Input Select

Select the modulator used for modulation.
  OSC1: The output waveform of OSC1 (This will depend on the oscillator that is selected for OSC1.)
  FBACK: Feedback (This is the waveform that passes through the filter and amp and is output from the Prophecy synthesizer, and will vary widely depending on the settings.)
  NOISE: Noise

When "Cross" is selected for the MOD TYPE

DEPTH

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

Depth Mod. Souce

Select a modulation source that will control the depth of cross modulation. (Refer to Modulation Source List.)

Depth Mod. Intensity

Specify the depth and direction in which the modulation source specified for Cross Modulation Depth Modulation Source will affect cross modulation depth.

Mod. Depth Mod. EG

Select the EG that will control the depth of cross modulation. For EG 1~4 settings, refer to the EG section.

EG Intensity

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

Brass Model

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 change 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).

Settings for Jump Bend are made in OSC PB Intensity (+) and PB Intensity (−), and settings for Smooth Bend are made using the Smooth Bending parameters.

Lip (Character) specify tonal change resulting from lip shape

Inst Type select from models that simulate the different bore lengths and shapes of various instruments

Bell specify the shape of the end of the bore

Pressure specify the force of the breath blown into the mouthpiece

Noise specify the amount of breath noise
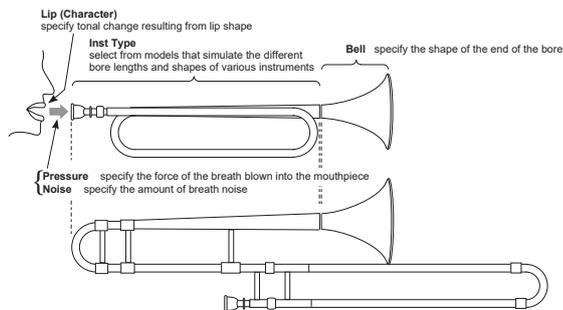
note For some parameter settings, the resulting pitch may not match the pitches of the keyboard.

note When high pitches are played, the volume may decrease, and in some cases there may be no sound.

INSTRUMENT TYPE
Select the instrument type. This selection determines characteristics of the instrument such as bore length and mouthpiece shape.

SMOOTH BENDING

Source
Select the controller that will control the smooth bending effect (Refer to Modulation Source List), to create continuous changes in pitch.

For example you could assign Wheel 1 to PBend+ (in Common section page CMN-5 Control Wheel 1) and use it to control Jump Bending, and assign Wheel 2 as the Smooth Bending controller. This would allow you to independently use both types of bending effect in a single program.

Intensity
Set the bend range of Smooth Bending up to a maximum of 1 octave. Jump Bend will use the setting of page OSC-cmn5 PB Intensity (+) and PB Intensity (−).

DIRECTION
Specify 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.

BREATH

PRESSURE

Mod. Source (Pressure EG Intensity Modulation Source)

Select the modulation source that will control Pressure EG Intensity. (Refer to Modulation Source List.) 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.

Mod. Intensity

Specify 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.

BRASS BREATH PRESSURE

SOURCE (Pressure EG)

Select the EG that will control Pressure. For EG settings (→ p. 26 "EG, Pitch EG, Amp EG, LFO").

Intensity (Pressure EG Intensity)

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

Controls (Pressure EG Intensity Modulation Source)

Select the modulation source that will control Pressure EG Intensity. (Refer to Modulation Source List.) 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

Specify 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.

Source (Pressure Modulation LFO)

Select 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

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

NOISE (Noise Level)

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

LIP

CHARACTER

Adjust 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. Source (Lip Character Modulation Source)

Select the modulation source that will control Lip Character. (Refer to Modulation Source List.)

Mod. Intensity

Specify 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. 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.

BELL

TYPE

Specify 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

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

RES (Resonance)

Adjust 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.

Reed Model

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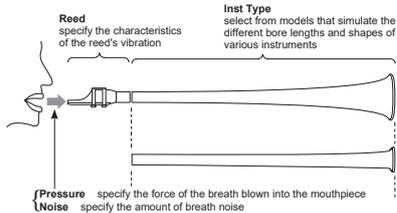
note Some parameter settings may cause the pitch to deviate from the normal pitch of the keyboard.

note When high pitches are played, the volume may decrease, and in some cases there may be no sound.

INSTRUMENT TYPE

Select the instrument type. This selection determines the shape of the bore and the characteristics of the reed.

Thirteen types are available; SopranoSAX, AltoSAX1, AltoSAX2, TenorSAX1, TenorSAX2, BaritoneSAX, FLUTE, SingleREED, DoubleREED, RECORDER, BOTTLE, GLASS BOTTLE, and MONSTER.

SMOOTH BENDING

SOURCE

Select the controller that will control the smooth bending effect, to produce unbroken change in pitch.

For details on how Jump Bending and Smooth Bending are related, refer to p.39 .

Intensity

Specify the range of Smooth Bending (up to one octave).

DIRECTION

Specify 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.

For details on the parameter values, refer to p.39 .

BREATH

PRESSURE

Mod. Source (Pressure EG Intensity Modulation Source)

Select the modulation source that will control Pressure EG Intensity. (Refer to Modulation Source List.) 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.

Mod. Intensity

Specify 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.

REED BREATH PRESSURE

SOURCE (Pressure EG Source)

Select the EG that will control Pressure. (→ p. 26 "EG, Pitch EG, Amp EG, LFO")

Intensity

Set the depth of the effect that the EG selected for Pressure EG will have on Pressure.

CONTROL

Select the modulation source that will control Pressure EG Intensity. (Refer to Modulation Source List.) 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.

Controls Intensity

Specify 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.

Mod. LFO

Select 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.

Mod. LFO Intensity

Specify the depth of the modulation (vibrato) effect that the LFO selected as the Pressure Modulation LFO will apply to Pressure.

NOISE (Noise Level)

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

REED

Mod. Source

Select a modulation source that will modulate the changes in the reed. (Refer to Modulation Source List.)

Mod. Intensity

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

Pluck OSC

This oscillator is mainly for creating electric bass 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.

parameters related to the Attack waveform
Attack Level specify the force with which the string is played (Attack waveform level)
Noise specify the level of noise included in the attack waveform / specify the tone
Attack Curve specify the envelope of the attack waveform

Decay/Release specify the ratio at which the wave traveling on the string is reflected from the bridge (Decay / Release Time)

bridge   bridge

String Position
specify the location at which the string is struck (the location of the pickup)

parameters related to the character of the string
String Loss specify the character of the string (the attenuation of the wave traveling on the string) muted playing is simulated with this parameter
Inharmonicity Amount specify how beating will affect the tone

ATTACK

NOISE

BALANCE

Adjust 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.

Type

Select the type of filter that will process the attack noise; LPF (low pass filter), HPF (high pass filter), or BPF (band pass filter). For details on the various types of filter, refer to Filter Section page FL1-1 [Type & Input].

CUTOFF (Attack Noise Filter Cutoff)

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

Cutoff Velocity

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

RES (Resonance)

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

CURVE

UP (Attack Curve Up)

Set 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 attack sounds.

Envelope of the attack waveform

Volume level

Attack Curve Up   Attack Curve Down
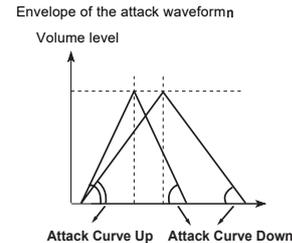
Attack Curve Up Velocity Control

Specify 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.

DOWN (Attack Curve Down)

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

Attack Curve Down Velocity Control

Specify 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

Set the overall hardness of the sound of the attack waveform. As this value is increased, the edge effect will intensify.

LEVEL

Set the force at which the string is plucked.

Attack Velocity

Set the depth and direction of the change in Attack Level that is controlled by velocity.

STRING

POSITION

Set 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. Source

Select the modulation source that will control String Position. (Refer to Modulation Source List.)

Mod. Intensity

Set the depth and direction of the effect that the selected String Position Mod. 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. 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.

Velocity Control

Set the depth and direction of the effect that velocity will have on String Position.

LOSS (String Loss)

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. Source

Select the modulation source that will control String Loss. (Refer to [Modulation Source List](#).)

Mod. Intensity

Specify 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.

Keyboard Track

Specify 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.

when String Loss = 50   when String Loss = 75   when String Loss = 25
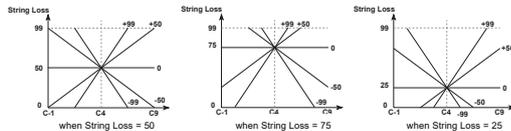
HARMONICS

These parameters affect the beating of the string.

Inharmonicity Amount

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

note Some String Loss 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, or initialize the settings to Initial Source #32:Plucked, and edit the sound once again.

Keyboard Track

Specify how Inharmonicity Amount will be adjusted according to the keyboard position of the note.

For positive (+) settings, the Inharmonicity Amount value will be increased for notes above C4. For negative (-) settings, the Inharmonicity value will be decreased for notes above C4.

when Inharmonicity Amount = 50   when Inharmonicity Amount = 75   when Inharmonicity Amount = 25
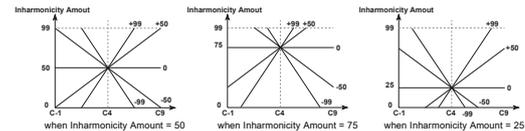
ENVELOPE

DEC (Decay)

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

note Depending on the settings of the Amplitude Modulation EG, this Release setting may have no effect. If the Break Level and Sustain Level of the EG are raised, the effect of this setting will be easier to hear.

Keyboard Track

Specify how keyboard position will affect the Decay Time. Positive (+) settings will slow down the decay as you play above the C4 key, and negative (–) settings will speed up the decay.

when Decay = 50   when Decay = 75   when Decay = 25
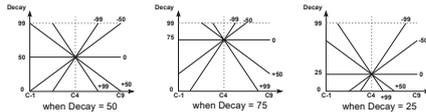
REL (Release)

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

note 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.

Keyboard Tracking

Specify how keyboard position will affect the Release. Positive (+) settings will slow down the release as you play above the C4 key, and negative (–) settings will speed up the release.
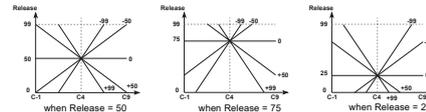
when Release = 50   when Release = 75   when Release = 25

Effects Mode

DIST
- GAIN
- TONE
- LEVEL
- BALANCE — M

WAH
- SWEEP — Off
- DIRECT — +
- RESO
- LOW FREQ
- HIGH FREQ
- LEVEL
- BALANCE — M

DELAY
- BPM SYNC — Off
- TIME
- FB
- HIGH DAMP
- BALANCE — M

EQ
- LOW CUTOFF
- HIGH CUTOFF
- GAIN
- GAIN
- Q
- Q

CHO/FLG
- DLY TIME
- LFO SELECT — LFO1
- FB
- DEPTH — M
- BALANCE — M —

REVERB
- PRE-DELAY
- HIGH DAMP
- RVB TIME
- BALANCE — M

MASTER
- PAN — M

PROGRAM VOICE SETTINGS

LEVEL
- EFFECT INPUT TRIM

VOICE
- MODE — MONO — MAX — 128
- TRIGGER — VELOCITY — THRESHOLD — 97
- HOLD
- PRIORITY — LAST

SCALE
- TYPE — EQUAL TEMP
- KEY — C
- RND PITCH

EG1 EG2 EG3 EG4 Pitch EG Amp EG
LFO1 LFO2 LFO3 LFO4

LEVEL — V
TIME — V

LEVEL — 0 +99 0 0 0
TIME — 0 30 0 30

EG1 EG2 EG3 EG4 Pitch EG Amp EG
LFO1 LFO2 LFO3 LFO4

WAVEFORM — TRI'0
FREQ — M #1
LEVEL — M

MODE — Key ON — OFS — 0 — DELAY — 0 — FADE — 0
SYNC — KEY — BPM

DIST (Distortion)

This effect distorts the input sound.

GAIN

Set the degree by which the input sound will be distorted.

TONE

Adjust the tone of the effect sound.

LEVEL

Adjust the output level of the effect sound.

BALANCE

Set 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.

Bal Mod. Source

Select a modulation source that will control Effect Balance. (Refer to Modulation Source List.)

Bal Mod. Intensity

Specify the depth and direction of the selected 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.

WAH

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

SWEEP (Sweep Souce)

Select the modulation source that will control the wah filter. (Refer to Modulation Source List.)

DIRECT (Sweep Direction)

Specify 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.

RESO (Resonance)

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

LOW FREQ (Low Frequency)

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

HIGH FREQ (High Frequency)

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

LEVEL

Adjust the output level of the wah.

BALANCE

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.

BPM SYNC

Turn this on/off to specify whether the delay time is synchronized to tempo.

TIME

Set the Delay Time. The maximum setting (99) produces a delay time of 1.2 seconds. Select the base note when BPM Sync is on.

FB (Feedback)

Set the amount of the output signal which is returned (fed back) to the input.

HIGH DAMP

Set 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

(→ p. 49 "Balance")

EQ (2 Band Parametric EQ)

This is a two-band stereo equalizer. Use this EQ to equalize (change the tonal character of) the overall sound.

LOW EQ

Adjust the cutoff frequency of the low range, and set the bandwidth and gain.

HIGH EQ

Adjust the cutoff frequency of the high range, and set the bandwidth and gain.

CHO/FLG (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.

DLY TIME (Delay Time)

Set the delay time of the Chorus/Flanger.

LFO SELECT

Select the LFO that will apply modulation. LFO settings are made in the LFO section.

FB (Feedback)

Set 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.

DEPTH

Set the depth of modulation. Increasing this setting will produce deeper modulation (movement).

Depth Mod. Source

Select a modulation source to control LFO Depth. (Refer to [Modulation Source List](#).)

Depth Mod. Intensity

Specify 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

(→ p. 49 "Balance")

REVERB

Set the pre-delay, the reverb time, and the high damp.

PRE DELAY

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

HIGH DAMP

Set 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.

RVB TIME (Reverb Time)

Set the time over which the reverberant sound will decay.

BALANCE

(→ p. 49 "Balance")

MASTER

PAN (Panpot)

Set the L/R pan position of the output signal. A setting of LEFT places the signal fully left, and a setting of RIGHT fully right.

Panpot Mod. Source

Select a modulation source to control Panpot. (Refer to [Modulation Source List](#).)

Panpot Mod. Intensity

Specify the depth and direction of the control that the selected Panpot Modulation Source will have.

With positive (+) settings, the Panpot value will be raised, and with negative (-) values it will be lowered. If you have selected EG or LFO as the Panpot Modulatiion Source, positive (+) values will use the original phase, and negative (-) values will invert the phase of the EG or LFO.

PROGRAM VOICE SETTINGS

LEVEL

EFFECT INPUT TRIM
Sets the level of sound inputted to the effect.

VOICE

MODE
Specifies how notes are produced.
MONO: Plays monophonically.
POLY: Plays polyphonically.

MAX
This sets the maximum polyphony when MODE is set to "POLY."

TRIGGER
This parameter determines how the EG and LFO will be affected by key-on.
MULTI (multi trigger): For every key-on, EGs will begin operation 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.

THRESHOLD
When the Trigger Mode is set to VELOCITY, this parameter specifies the velocity value at which Multi and Single triggering will be switched. If the Above Below parameter is set to ABOVE, Multi trigger will be used for notes with a velocity above the Threshold Velocity. If the Above Below parameter is set to BELOW, Multi triggering will be used for notes with a velocity below the Threshold Velocity.

HOLD
This parameter specifies whether or not a note will continue sounding after the key is released. When Hold is ON, a note will continue to sound even after the key is released. However if the Sustain Level is set to 0 for the EG selected as the Amp Mod. EG (in AMP section page AMP), the sound will decay naturally.

PRIORITY
This setting determines which note will sound when two or more keys are pressed simultaneously.
LAST: The last-pressed note will sound.
LOW: The lowest of the simultaneously pressed notes will sound.
HIGH: The highest of the simultaneously pressed notes will sound.

SCALE

TYPE
Select one of the following 16 types of scale.

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 is a quarter-tone scale used in Arabian music. For "rast do/bayati re" set Scale Key to C; for "rast re/bayati mi" use D; for "rast fa/bayati sol" use F; for "rast sol/bayati la" use G; for "rast si flat/ bayati do" use A♯.
PYTHAGOREAN	This scale takes its name from the famous mathematician of ancient Greece, and is effective for melodic playing.
WERCKMEISTER	This is a scale used in the later Baroque period.
KIRNGERGER	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.
PELOG	This is an Indonesian Gamelan scale in which octaves consist of seven notes. When the Scale Key is C, the notes C, D, E, F, G, A, and B are used.
USER SCALE1	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. Make settings in Global section page.
USER SCALE2	This is a user-adjustable scale that allows you to specify the pitch of each note in the entire range (C-1–G9). Make settings in Global section page.

KEY

Specify the key (tonic) of the scale.

RND PITCH (Random Pitch)

Specify the depth at which the pitch will be varied randomly. 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.

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Arp/Controller Mode

ARPEGGIATOR

Configures the settings for the arpeggiators used a program.

PATTERN

This selects the arpeggio type.

OCT (Octave)

Switches the range (in octaves) over which the arpeggiator notes sound.

LATCH

When this is set to ON, the arpeggio keeps playing even after you take your hand off the keyboard.

TEMPO

Adjusts the tempo of the arpeggio.

RATE

Sets how long a single step should be. When setting this to "♪" (eighth note), the maximum length of the user pattern will be three measures (when converting a MIDI clock to a 1/96th note).

HOST

When this is set to ON, the arpeggiator will synchronize to the tempo of your DAW software.

SORT

Specify the order in which arpeggio notes pressed on the keyboard will be sounded. With a setting of OFF, they will be sounded in the order that they were pressed. With a setting of ON, they will be sorted in order of pitch.

KEY SYNC

When you press a key while no other keys are being pressed, either the arpeggio starts playing back while maintaining the speed that it was set to (when KEY SYNC is "OFF"), or the arpeggio starts playing at the same time you press a key (when KEY SYNC is "ON").

SCAN (Key Scan)

BTM (Bottom)

Specify the bottom key (lowest note) of the keyboard from which arpeggio notes can be specified.

TOP

Specify the top key (highest note) of the keyboard from which arpeggio notes can be specified.

GATE

Specify the gate time (note length) for the arpeggio notes. Settings of 1–100% are values relative to the Step Base (page Arpeggio). As the value is increased, each note will be longer, and with a setting of 100%, the arpeggio notes will be legato. A setting of STEP can be selected only for a User Pattern, and the gate time of each arpeggio note will be as specified by the Gate Ratio parameter.

Control Source

Select the controller that you'll use to change the gate time of the arpeggiated notes.

Ctrl Intensity (Gate Controller Intensity)

Specify the amount of control that a selected controller will have on the Gate Time of the arpeggio notes.

VELOCITY

Specify the velocity (1–127) of the arpeggio notes. With a setting of 1–127, all arpeggio notes will have the same velocity. If KEY is selected, the velocity with which the note was played on the keyboard will be used. STEP can be selected only for a User Pattern, and the velocity of each arpeggio note will be as specified by the Step Velocity parameter.

Control Source

Select the controller that you'll use to change the velocity of the arpeggiated notes.

Ctrl Intensity (Velocity Controller Intensity)

Specify the amount of control that a selected controller will have on the velocity of the arpeggio notes.

TYPE (Arpeggio Type)

This determines the relation between the arpeggio notes played on the keyboard and the Tone (page Pattern) of each step. This is displayed when a Preset Pattern is selected.

As_Played: If the Tone of a step exceeds the number of specified arpeggio notes (played on the keyboard), that step will not sound.

As_Played (FILL): If the Tone of a step exceeds the number of specified arpeggio notes (played on the keyboard), the last arpeggio note (the last-played note if Sort:OFF, or the lowest note if Sort:ON) will be sounded.

Running_UP: If the Tone of a step exceeds the number of specified arpeggio notes (played on the keyboard), arpeggiation will return to the first arpeggio note (the first-played note if Sort:OFF, or the lowest note if Sort:OFF).

UP&DOWN: If the Tone of a step exceeds the number of specified arpeggio notes (played on the keyboard), arpeggiation will return backward from the last arpeggio note.

Example) If for Step Number (page Pattern-5,1) #05 Tone has been set to LOOP (so that Tone 1~4 will be arpeggiated repeatedly):

If 3 notes are prlessed with As_Played:

1→2→3→ rest →1→2→3→ rest →1.....

If 3 notes are pressed with As_Played(FILL):

1→2→3→3→1→2→3→3→1....

If 3 notes are pressed with Running_UP:

1→2→3→ 1→1→2→3→1→1....

If 3 notes are pressed with UP&DOWN:

1→2→3→2→1→2→3→2→1....

OCT ALT (Octave Alternation)

This specifies how arpeggiation will operate when the OCTAVE switch is set to 2~4 octaves.

UP: Repeated ascent within the specified number of octaves.

DOWN: Repeated descent within the specified number of octaves.

UP&DOWN: Repeated ascent and descent within the specified number of octaves.

CONTROLLER

WHEEL

These parameters specify the function of Wheel Controllers 1, 2 and 3.

Wheel 1

Specify the function of the Wheel 1 controller. You can select from Pitch Bend (+/-, +, -), Aftertouch, and Control Change numbers 0–95.

Wheel 2

Specify the function of the Wheel 2 controller. You can select from Pitch Bend (+/-, +, -), Aftertouch, and Control Change numbers 0–95.

Wheel 3 + Direction

Specify the function of the Wheel 3 controller when it is moved away from yourself. You can select from Pitch Bend (+/-, +, -), Aftertouch, and Control Change numbers 0–95.

Wheel 3 - Direction

Specify the function of the Wheel 3 controller when it is moved toward yourself. You can select from Pitch Bend (+/-, +, -), Aftertouch, and Control Change numbers 0–95.

RIBBON

These parameters specify the function of the Ribbon controller, and specify the location on the X-axis which will be the zero point.

X

Specify the function that the Ribbon controller will have when it is moved to left or right. You can select from Pitch Bend (+/-, +, -), Aftertouch, and Control Change numbers 0–95.

Z

Specify the function that the Ribbon controller will have when it is pressed strongly. You can select from Pitch Bend (+/-, +, -), Aftertouch, and Control Change numbers 0–95.

note When you click on the ribbon in the app, this always works as Z.

PITCH BEND RANGE

+ (Pitch Bender Intensity +)

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

STEP + (PitchBends Step +)

Specify the type of pitch change that will occur when the Pitch Bender is moved in the positive (+) direction. For each setting of this parameter, the pitch will change as follows.

0	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)

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

- (Pitch Bender Intensity -)

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

STEP - (PitchBends Step -)

Specify the type of pitch change that will occur when the Pitch Bender is moved in the negative (-) direction. For each setting of this parameter, the pitch will change as explained in Pitch Bender Step (+X), above.

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

AFTER TOUCH

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 will lower the pitch.

KNOB 1-5

Assign Parameter

Select one of 256 parameters to be controlled by the knob selected in Knob No. (Refer to Modulation Source List.)

LEFT (Knob Left)

This sets the lower limit of the change that will result when you turn the knob all the way to the left, expressed as a percentage of the variable range of the parameter. For example of the range of the parameter is -99–+99, setting Knob Left to 50% will mean that the parameter value would be 0 when the knob is rotated fully left. With a Knob Left setting of 0%, the parameter value would be -99.

RIGHT (Knob Right)

This sets the upper limit of the change that will result when you turn the knob all the way to the right, expressed as a percentage of the variable range of the parameter. Refer to the explanation for Knob Left, above.

CURVE

Select one of three curves to determine how change will occur when you rotate the knob.
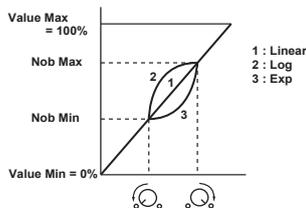
Global

This mode includes global settings for the KORG Collection-Prophecy software synthesizer, including master tune, transpose, global MIDI channel, MIDI filter, user scale and so on.

KEYBOARD SETTINGS

MASTER TUNE
440.0

VEL CURVE
3

TRANSPOSE
0

AT CURVE
1

CONVERT POSITION
PostKbd

USER SCALE 1

C#	D#		F#	G#	A#
0	0		0	0	0

C	D	E	F	G	A	B
0	0	0	0	0	0	0

USER SCALE 2

RANGE
C-1 ~ B-1

C#	D#		F#	G#	A#
0	0		0	0	0

C	D	E	F	G	A	B
0	0	0	0	0	0	0

MIDI CC SETTINGS

WHEEL 1	---	PE1 ON/OFF	---
WHEEL 2	---	PE2 ON/OFF	---
WHEEL 3	---	PE3 ON/OFF	---
RIBBON X	---	PE4 ON/OFF	---
RIBBON Z	---	PE KNOB1	---
		PE KNOB2	---
		PE KNOB3	---
		PE KNOB4	---
		PE KNOB5	---

KEYBOARD SETTINGS

MASTER TUNE

Adjust the overall pitch of the Prophecy synthesizer in 0.1 Hz steps over a range of 430.0 Hz to 450.0 Hz.
Use this setting to tune the Prophecy to your other instruments.

TRANSPOSE

Adjust the overall pitch of the Prophecy synthesizer in semitone steps (100 cents) over a range of 1 octave up or down. Use this setting to transpose a song, etc.

VEL CURVE (Velocity Curve)

Select one of 8 types of curve by which velocity (keyboard playing dynamics) will cause changes in volume or tone.
This setting will be affected by the Transpose Point.

Velocity (MIDI In→ TG)
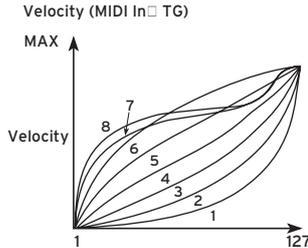
1: Significant differences will appear only for strongly played notes
2:     :
3:     :
4: A normal curve
5:     :
6: Significant differences will appear even for moderately strong notes
7: Moderately played notes will have little difference, and the effect will be fairly even
8: Moderately played notes will have little difference, and the effect will be fairly even (flatter than 7)

Since curves 7 and 8 produce little change for notes of moderate strength, they are suitable for when you do not need velocity or for when you want notes to have an even strength. However control will be more difficult, since softly played notes will have wider variations.

AT CURVE (AfterTouch Curve)

Select one of 8 types of curve by which aftertouch (the pressure that you apply to the keyboard after playing a note) will affect volume or tone.
This setting will be affected by the Transpose Point.

After Touch (MIDI In→ TG)
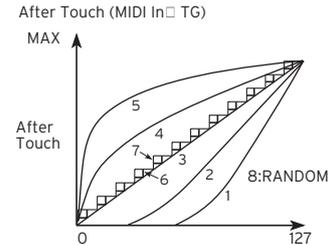
1: Significant effect will appear only if you press fairly strongly
2:     :
3: A normal curve
4:     :
5: Significant effect will appear even for light pressure
6: Abrupt change (24 steps)
7: Even abrupter change (12 steps)
8: Random

Curves 6 and 7 will produce stepped change of 12 or 24 steps.

Since curve 7 produces a change in 12 steps, you can set a pitch width of 1 octave to be controlled by Aftertouch, and apply pressure on the keyboard to change the pitch in semitone steps. Curve 8 is random. Use it for special effects, or when you want to use Aftertouch to apply unpredictable modulation

CONVERT POSITION

This specifies the position at which the transpose, velocity curve and aftertouch curve are applied. This setting will affect the way in which MIDI data is handled.

These settings have no effect when you use the Prophecy keyboard to play the sounds of the internal sound generator.

PostKbd: This is applied immediately after playing a key on the keyboard. The note numbers, velocity and aftertouch data that is outputted from the keyboard are separately converted to the set values or according to the curve, and are then sent to the internal sound generator to play the sound and are transmitted via the MIDI OUT connector. This has no effect on MIDI data received via the MIDI IN connector.

PreTG: This is applied just before the performance data reaches the sound generator. The note numbers, velocity and aftertouch data that are inputted to the sound generator are separately converted to the set values or according to the curve, and are then sent to the internal sound generator to play the sound. This has no effect on MIDI data transmitted from the MIDI OUT connector.

USER SCALE 1/2

These parameters let you create user-defined scales. For User Scale 1 you can specify a detuning value for each note of the octave, and your settings will be applied to all octaves of the full range. For User Scale 2 you can specify a detuning value for each of the 128 notes (C-1~G9) of the full range.

Scale 1 Detune, Scale 2 Detune

For the note selected by User Scale 1 Note, specify a detune value of -100 to +100 cents.

The setting is relative to equal temperament (0). With a setting of -100 the pitch will be a semitone lower than standard pitch, and with a setting of +100 the pitch will be a semitone higher than standard pitch.

Scale 2 RANGE

Select the note number that you wish to detune.

MIDI CC SETTINGS

MIDI Control Change

These parameters configure the control change messages assigned to each controller (WHEEL1-3, RIBBONX, Z, PERFORMANCE EDIT SW/KNOB 1-5). Set whether to convert transmitted/received data or received control change messages and send them to the internal sound generator.

MIDI Learn

Turn this ON and operate an external controller to set the controller's CC number.

CC# (Control Number)

Specify the control change number to be set.

Modulation Source List

No.	Modulation Source
0	Off
1	EG1
2	EG2
3	EG3
4	EG4
5	Pitch EG
6	AmpEG
7	LFO1
8	LFO2
9	LFO3
10	LFO4
11	Portamento
12	Note No.
13	Velocity
14	Pitch Bender
15	After Touch
16	Control Change #0
17	Control Change #1
.	.
.	.
.	.
110	Control Change #94
111	Control Change #95

LFO Wave List

No.	LFO Wave
0	SIN'0
1	SIN'180
2	COS'0
3	COS'180
4	TRI'0
5	TRI'90
6	TRI'180
7	TRI'270
8	SAWUP'0
9	SAWUP'180
10	SAWDOWN'0
11	SAWDOWN'180
12	SQR'0
13	SQR'180
14 . . . 19	RANDOM 1...6
20	Growl
21	Guiter Vib
22	Step TRI
23	Step SAW
24	StepTRI4
25	Step SAW6
26	Exp SAW UP
27	Exp SAW DOWN
28	Exp TRI
29	Exp Vib

Appendices

Troubleshooting

Please check the following points if you experience problems.

No sound

- Have you made the appropriate settings in the [System]→[Preferen-cees…]→[Audio/MIDI Settings]?
- Is the Master Level or any other volume-related parameters set to 0?
- Is your computer set to produce sound?
  If you're using Windows, open the Control Panel and check [Sound and Audio Device Properties].
  If you're using macOS, check [System Settings] → [Sound] and Applica-tion folder → Utility folder → [Audio MIDI Settings] → [Audio Devices].
- If you're using your computer's sound card, is the sound card set up correctly?
- If you've connected an audio device to your computer, is the audio device set up so that sound is being output from it?

The sound has clicks, pops, or noise

You may experience clicks, pops, or noise if your computer's CPU is experiencing a heavy load.
If you are having this type of problem, try the following.

- If other applications are running, close them.
- Reduce the maximum polyphony of the synthesizer you're using.
- In the [System]→[Preferencees…]→[Audio/MIDI Settings], increase the audio buffer size. However, increasing this too much will also increase the latency (delay before you hear sound).

Sound is delayed

- Latency is determined by "the number of samples" x "the number of buffers." In the [System]→[Preferencees…]→[Audio/MIDI Settings], set the "Audio buffer size" and the "Sample rate" to the lowest setting that still allows stable operation.

Can't control the software synthesizer from a MIDI device connected to the computer

- Are your computer and MIDI device connected correctly?
- Is the connected MIDI device detected by your computer?
  If you're using Windows, open the Control Panel and check [Sound and Audio Device Properties] → [Hardware].
  If you're using macOS, open the Application folder → Utility folder → [Audio MIDI Settings] → [MIDI Device], and make sure that your MIDI device is detected.
- Are the correct settings made in the [System]→[Preferencees...]→[Audio/MIDI Settings]?

Specifications

- Maximum polyphony: 256 notes (depending on the computer's CPU)
- Number of parts: 1
- Presets: more than 256
- Effects: 6 types
- Standalone operation or as a VST/AU plug-in instrument
- Realtime MIDI control and automation is supported

Operating requirements

for Mac

- OS: macOS 10.13 High Sierra or later (Latest updates)
    * This software will not run on a 32-bit OS.
- CPU: Intel Core i5 or better (Core i7 or better recommended)
- Memory: 8 GB RAM or more (16 GB RAM or more recommended)
- Storage: 8 GB or more free space (SSD recommended)
- Internet connection
- Plug-in: AU, VST, AAX (Only 64bit plug-in is supported)

for Windows

- OS: Windows 10 64bit* or later (Latest updates)
    * This software will not run on a 32-bit OS.
- CPU: Intel Core i5 or better (Core i7 or better recommended)
- Memory: 8 GB RAM or more (16 GB RAM or better recommended)
- Storage: 8 GB or more free space (SSD recommended)
- Internet connection
- Plug-in: VST, AAX (Only 64bit plug-in is supported)

* Appearance and specifications of this product are subject to change without notice.

Support and service

If you have questions about the product, please contact the Korg distributor for the country in which you purchased it.

Information to provide when contacting us

In order for us to help you, we'll need the following information since product support cannot be provided without it:
- Your name
- The name and version of the product (How to check the version)
- The name of the device that you're using
- The version of the operating system
- Your question (provide as much detail as possible)

Before you contact us

- Before you contact us, check whether this manual or KORG app Help Center has an answer for your question.
- Please be aware that we cannot answer questions about products that are not made by Korg, such as basic operation of your hardware device, or general questions about creating songs or sounds.