KORG Collection

Owner's Manual

KAOSS PAD
DYNAMIC EFFECT / SAMPLER

E 1

Table of Contents

Introduction

Thank you for purchasing the Korg KAOSS PAD software synthesizer. To help you get the most out of your new product, please read this manual carefully.

Main features

- **Effect processor using the touch pad**

  The KAOSS PAD Series are effect units that feature an intuitive touch pad interface. This plugin version is based on the same concept. With this plugin, no understanding or fine-tuning of effect units is required—just load the plugin into a DAW track and manipulate the XY pad on the user interface to add a variety of dramatic effects to the sound, creating different atmospheres and ways to make your song move forward.

- **Newly-designed effects**

  Up until now, the plugins available in the Korg Collection Series have represented our efforts to create full recreations of their namesake, the original hardware-based KORG products. In contrast, this KC KAOSS PAD was redesigned as a plugin version that inherits the concept of the KAOSS PAD, not just as a recreation of that specific hardware.

  To add to the basic effects such as filters that have been used in the KAOSS PAD series up until now, the KC KAOSS PAD is equipped with a total of 27 different effect algorithms, including the newly introduced Vocal FX.

- **A versatile effect processor**

  Although the KAOSS PAD is simple to operate and makes it easy for the user to achieve their goals, this is a versatile and complex effects processor. The KC KAOSS PAD gives you access to the internals of the effect processor, which was previously unavailable with the original hardware. Since it's clear to see what's going on inside, you can now create your own KAOSS PAD programs. Also, this software has been revived as a more modern effect processor with a revised sound engine architecture, while still respecting its original tradition.

- **A variety of control methods**

  Different from a standard effect unit, the effects of the KAOSS PAD are made for DJs, who can control the effects just by moving their finger across the XY pad. When used for recording tracks on a DAW, the user needs to record touch events. You can either use the XY pad as a user interface to record in real time, or receive control change messages from a MIDI controller to control this software from an external MIDI device. If you already own KAOSS PAD hardware or a controller like the nanoKontrol Studio that features an XY pad, you can record effects using that XY pad.

The KC KAOSS PAD also features ways to control the XY pad via note events. This lets you control the KAOSS PAD just by sending it notes, as if you were playing on it.

- **A collection of exceptional programs**

  While this software features a newly-designed effect engine, it also has a large assortment of programs that are representative of KAOSS PAD effects up through the present. 128 brand-new programs are available, including the newly-designed Vocal FX.

Overview
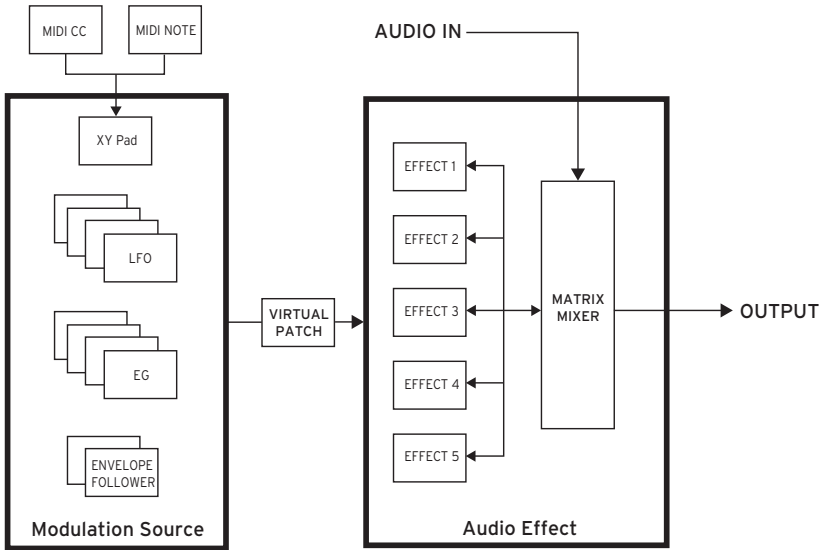
The KC KAOSS PAD features five multi-effects and a matrix mixer that's used to flexibly route these effects, which lets you add effects to the input signal before output. The plugin also has four LFOs, four EGs and two envelope followers that are used to control these effects, topped with the simple user interface of the XY pad for bringing a deep wellspring of effects to life.

A "virtual patch" system is used for connecting these modulation sources to the effect units, which serves as a patching section that controls how the effects are applied. You can also remap the values for each modulation source, opening up a range of free expression through motion that goes beyond the motion produced by the values of the original modulation source.

A total of 27 effect algorithms are selectable, including two sound generators and the new vocal effect. You can select a total of 19 LFO waveforms, which are inherited from the KORG wavestate and opsix.

Part names and functions

KAOSS PAD page
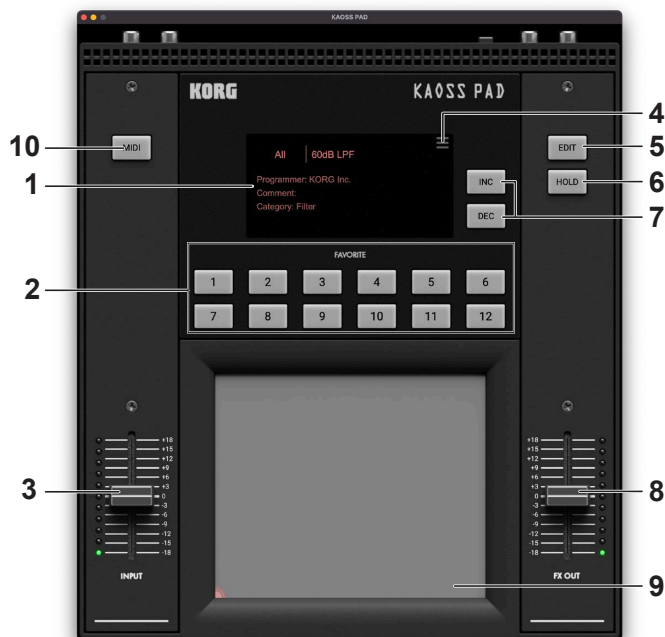
1. Display

Displays the information for the currently selected effect program.

2. FAVORITE buttons

Use these buttons to instantly recall the effect programs you registered as favorites.

3. INPUT slider

Adjusts the level of sound that's being inputted to the effect, within a -18 dB to +18 dB range.

4. MENU

Shows the menu ("Menu" on page 14).

5. EDIT button

Opens the effect edit page.

6. HOLD button

Holds (maintains) the touch state of the XY pad. This is useful when you want to always apply certain effects.

7. INC, DEC buttons

Selects either the currently selected effect program or the next effect program. Either the next or the previous program changes depending on the state of the current program filter.

8. FX OUT slider

Adjusts the effect out signal level, within a -18 dB to +18 dB range.

9. KAOSS PAD (touchpad)

This is the XY pad for the KAOSS PAD. Touch this pad to apply effects. The parameters that can be assigned vary, depending on the effect program.

10. MIDI button

The KAOSS PAD plugin lets you virtually "touch" the XY pad via MIDI note messages. Pressing this button shows a screen where you can check which note numbers correspond to the XY pad.

Effect edit page

1. Header

a. MENU
Shows the menu ("Menu" on page 14).

b. TEMPO
Shows the current tempo. Drag with your mouse to edit.

c. TAP
Detects the timing at which you click the button, and uses this timing to set the tempo.

Note: On the plugin version, this follows the DAW's tempo. The tempo indication and tap tempo button are not shown in the header.

b. Sound Name
Shows the name of the program that's now loaded. Click the name to show the browser screen. (→ page 12 "Browser functions")

c. EDIT button
Opens the effect edit page.

d. Undo button

Cancels the most recent edit operation.

2. Effect edit area

Use this section to edit the parameters for the five effects and to edit the virtual patch.
Drag or tap each controller to select it, and then edit its parameter.

a. Effect1…5

The parameters differ depending on the effect type you select.
→ "Effect type guide" on page 25

b. Virtual Patch

The modulation sources, destinations and intensities used to modulate the parameters are
shown as a list.
→ "Virtual Patch" on page 81

3. MIXER

This area is used for input and effect routing, as well as for setting the levels and pan for each
effect out. You can click the menu icon at upper right to call up the routing template.

4. LFO

This section configures the LFOs used to modulate the parameters. There are four LFOs. To
apply modulation, drag the section tab icon to the parameter you want to modulate. You can
also directly edit the LFOs from the virtual patch list.

5. EG

This section configures the envelopes used to modulate the parameters. There are four EGs.
To apply modulation, drag the section tab icon to the parameter you want to modulate. You
can also directly edit the EGs from the virtual patch list.

6. Envelope follower

This is a modulation source that generates and outputs an envelope from the input signal.
Use this when you want to add effects according to the input signal level. There are two
envelope followers.

7. XY pad

Use this the pad control input to modulate the parameters.

Browser functions

This software features a browser search function that lets you quickly find and choose the program you want out of the wide range of presets, filtering by category.
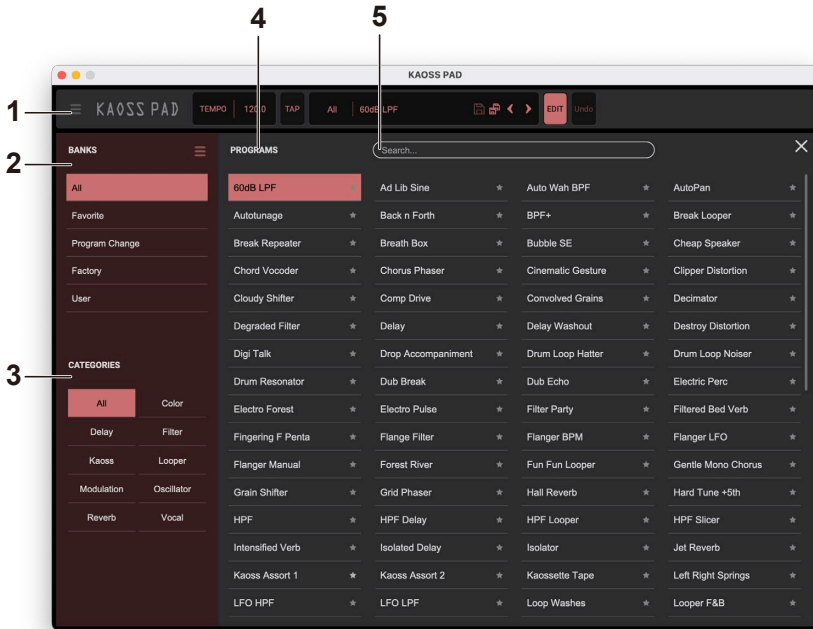
1. Header

See "1. Header" on page 10.

2. BANKS

a. All

Displays all program data.

b. Favorite

Displays only the programs that are added as favorites in the browser.

Click the star (☆) icon to the right of the program name to add or remove that program from the favorites.

c. 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.

d. Factory

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

e. Template

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

f. User

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

3. 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".

4. 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.

5. Search...

You can search for programs by typing some text.

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Menu

Click the menu button on the left side of the header to show the menu. From this menu, you can edit the parameters used to control the plugin overall, and access other operations.
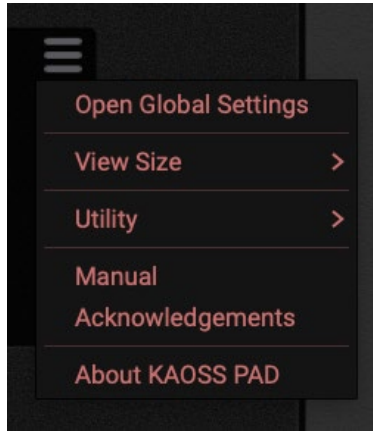
1. Open Global Settings
Shows the global settings. Refer to the Parameter Guide for details on the global settings. ("Global parameters" on page 84)

2. View Size
Changes the screen size. Any changes to this setting will take effect the next time the software is launched.

3. Utility
Initialize : Initializes all effect settings.
Remove all virtual patches: Deletes all virtual patch connections.

4. Manual
Shows the manual for this software.

5. Acknowledgement
Displays information about the open source software used in this application.

6. About KAOSS PAD
Shows the software version.

Basic operations

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

XY pad

Drag your finger on the pad to adjust the value. The XY pad tracks the X/Y coordinates and the touch state. To maintain the touch state (as if keeping your finger on the pad), turn the HOLD button on.
You can also use MIDI control change messages to control the XY pad from an external MIDI device.
You can also use MIDI note messages to control the pad.

Knobs

The knobs show their current values and the modulation values. Drag to adjust a parameter's value. The knob returns to its default value when double-clicked. Double-click the parameter name to enter edit mode, where you can input numeric values from your computer keyboard. These operations are also available from the context menu when you right-click on a knob.

Sliders

Drag a slider up or down to adjust its parameter's value. The slider returns to its default value when double-clicked. Double-click the numbers to enter edit mode, where you can input numeric values from your computer keyboard. These operations are also available from the context menu when you right-click on a slider.

Segment controls

Click to switch between settings.

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Check boxes

Click a check box to toggle the setting ON or OFF.

SYNC
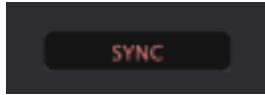
Combo box

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

EG1

LPF

√ LPF
HPF
BPF
BRF
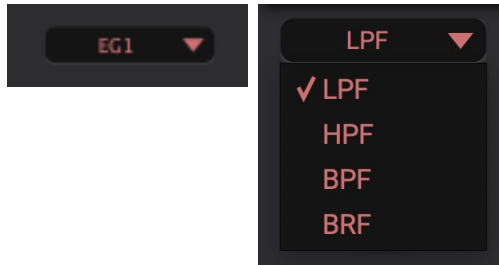
Value displays

Drag the value display to adjust its value.
Double-click the value display to input the value using a computer keyboard. These operations are also available from the context menu when you right-click on the value display.

100.00 %
LENGTH
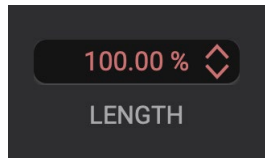
Graph display

You can edit the EQ or filter parameters from the graph. Drag the handles indicated by dots.

20   100   500   1k   5k   10k
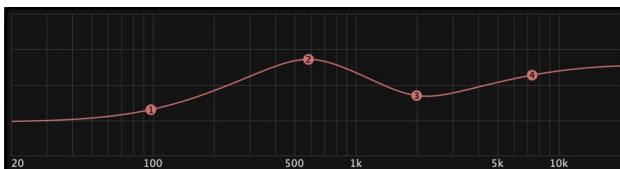
Operating Guide

Enabling the plugin

This software runs in demo mode until it is enabled. In demo mode, you can try out the full functionality of the plugin, but you can't save/load the current state. Also, some limitations exist such as a maximum of 20 minutes of audio generation and so on. For more information on how to enable the software, see the following article.
https://support.korguser.net/hc/articles/360019156151

Trying out the effects

1. **Insert (load) the plugin into your DAW software.**
2. **Select the programs from the browser.**
    Tap the program name shown in the display, and select "60dB LPF" in the browser.
3. **Click on the XY pad to alter the sound.**
    When you drag your mouse, the sound changes.
4. **Record some parameter changes (automation) in your DAW.**
    Start recording in your DAW application.
    Click and drag on the XY pad to record the parameter changes to your DAW.
    The method of recording parameter changes depends on your DAW. Refer to the owner's manual of your DAW.

Controlling this software via a MIDI controller

1. **Connect the MIDI controller to your PC or Mac.**
2. **Launch your DAW, and insert the plugin into a track.**
   Configure the track so that it accepts input from the MIDI controller.
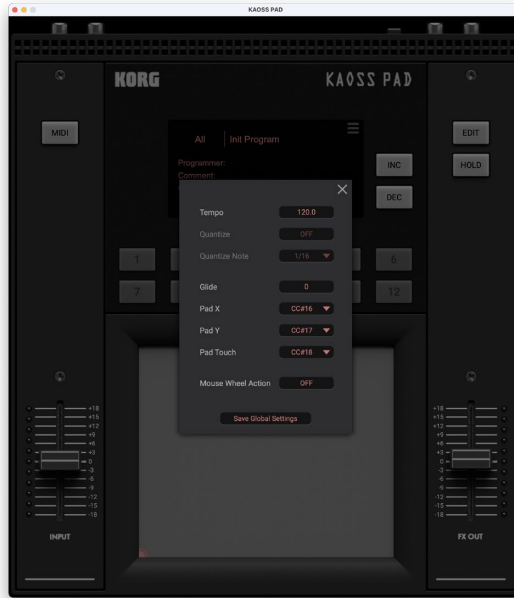
3. **Transmit a MIDI control change messages from the MIDI controller, to see whether the sound changes.**
   If the sound doesn't change, the MIDI control change settings may not be properly configured. Check the global settings and set your MIDI controller to the MIDI control change settings that are shown.

Controlling this software via a MIDI keyboard

1. **Insert (load) the plugin into your DAW software.**
2. **Press the MIDI button to display the MIDI note view page.**

3. **On your DAW, insert a MIDI track and select "KAOSS PAD" as the output destination.**
   The method of transmitting MIDI to the audio effect depends on your DAW. See the owner's manual of your DAW as well as the following FAQ for details.
   https://support.korguser.net/hc/en-us/articles/11857891055001
4. **Transmit the notes from the MIDI track you inserted.**
   The sound changes according to the note numbers.
   Adjust the Glide parameter to set how smoothly the sound changes.

Creating effects

Selecting and adjusting the effect algorithms

1. **Open the effect edit page.**
    Press the EDIT button to display the effect edit page.
2. **Select an effect slot.**
    Select from one of the five effect slots. The effect edit page for the selected effect slot is shown.
3. **Edit the parameters that are shown in the effect edit page.**
    When you change the effect type, the effect parameter that belong to that effect type are shown.
    For more on each parameter, refer to the "Effect type guide".

Making assignments to the matrix mixer

1. **Understand how routing works.**
    Although we use a matrix to show how the mixer is routed, this isn't easy to immediately understand. This is an example to show how the matrix mixer works.

Let's think of the matrix on a row-by-row basis. For each input source (shown at the left-hand side of each row), we set how much volume is inputted for each slot. For instance, the illustration above shows that the audio input for effect 3 is set to a level of 100, which means 0 dB.
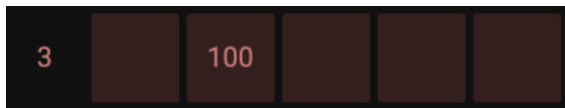
Next, we connect the effect 3 output to effect 2. In this case, the number on the left-hand side moves to column 3, and we input the number into the second cell from the left.
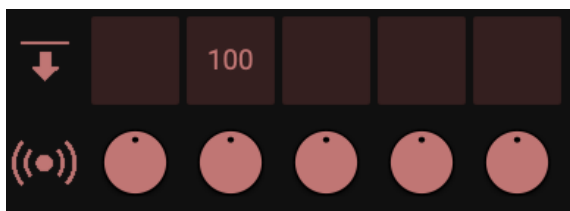
The output row works a little differently. Here we input the levels used for outputting the output from each column to the Master Out. To connect the output of effect 2 to the Master Out, we input a number into the second cell from the left. To adjust the stereo position (pan), use the pan controls below the output row.

Modulation settings

Virtual patch assignment

Most of the effect parameters can be modulated by modulation sources like an LFO. The easiest way to modulate the parameters is to drag the icon located on the tab of the LFO or EG section and drop it onto the parameter you want to modulate.

1. **Click and hold on the circled dot icon in the modulation source section.**
2. **Without releasing your mouse, drag the circled dot icon to the parameter you want to modulate, and then release the mouse button.**

You can adjust the modulation by hovering the cursor over the parameter at the modulation destination and accessing the small popup control.

You can also add, edit and otherwise manipulate various settings in the virtual patch list section.

Remapper

All of the modulation settings go through the virtual patch and the remapper section. Normally, there's no need to adjust the remapper. However, you might find the remapper useful when you need to create a motion that can't be replicated using just a modulation source.

How to read the graph
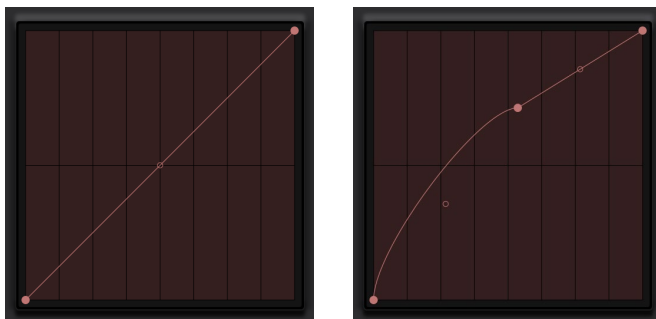
The X-axis is the output value for the modulation source, and the Y value that corresponds to that X value is the remapper output. In other words, for a graph like the one at left in which Y = X, the modulation source output and remapper output are exactly the same. When you add points and adjust the curves like in the graph at right, you can achieve more intricate effects.

To add new points on the remapper, double-click on the graph. Drag with your mouse to adjust the points. To turn a line connecting the points into a curve, drag the handles that are shown between the points.

You can access the context menu for each point by right-clicking on the point.

Saving the effects

1. **To save the effects you created as new effects, click the "Save As" icon in the header.**
2. **To edit and overwrite the effects you loaded, click the "Save" icon in the header.**
   The factory presets cannot be modified, so the "Save" icon is disabled for these presets.
3. **Switch to the browser and right-click on an effect you saved.**
   An edit window appears.
4. **Edit the contents as appropriate, and click "Save".**
   For the Category, use the filter in the program browser. Use this to freely categorize and organize your programs.

Parameter guide

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Effect

Use this section to edit the parameters for the five effects and to edit the virtual patch.
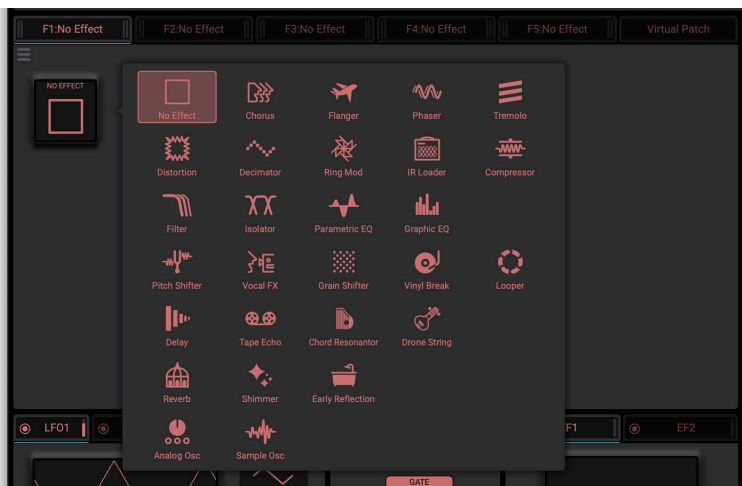
Effect type guide

Chorus

This effect modulates the delay time of the input signal to add depth and warmth to the sound. In addition to the delay sound settings, you can change the strength of the delay effect by changing the setting for the number of delay sounds.
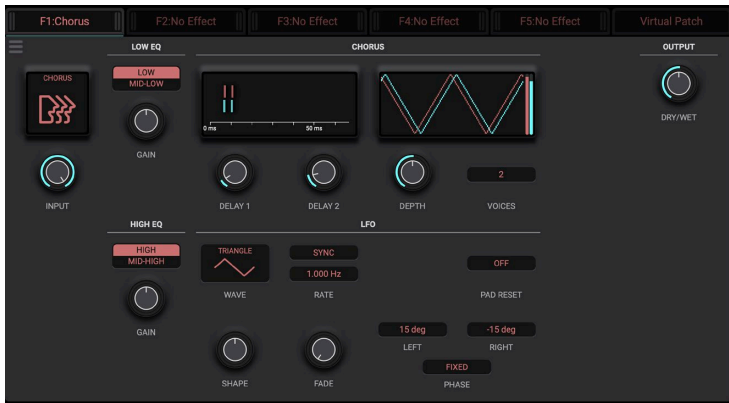
INPUT (Input Trim) ....**-Inf...0.0**

Adjusts the input signal level.

LOW EQ

(LOW/MID-LOW) (Low EQ Mode) ....**LOW, MID-LOW**

Sets the cutoff frequency of the low-frequency band equalizer. You can choose either the low-frequency or the mid-frequency band.

GAIN (Low EQ Gain) ....**-15.0...15.0**

The gain for the low-frequency band equalizer.

HIGH EQ

[HIGH/MID-HIGH] (High EQ Mode) ....**HIGH, MID-HIGH**

Sets the cutoff frequency of the high-frequency band equalizer. You can choose either the high-frequency or the mid-frequency band.

GAIN (High EQ Gain)...-15.0...15.0

The gain for the high-frequency band equalizer.

DELAY

DELAY 1 (Delay 1).. 0.0...50.0

The tap 1 delay time.

DELAY 2 (Delay 2).. 0.0...50.0

The tap 2 delay time.

DEPTH (Depth) .... 0...100

Sets the depth of the LFO chorus effect.

VOICES (Voices) .... 2...16

Sets how many delay sounds are layered together.

LFO

WAVE (LFO Wave Select) .... (list)

Selects the LFO waveform.

[SYNC] (LFO Sync On) .... (Off, On)

Selects whether the LFO is synchronized to the tempo.

RATE (LFO Rate) ....0.001...32.000

Adjusts the LFO speed. This is not used if the LFO is synchronized to the tempo.

RATE (LFO Sync Rate)... (list)

Sets the LFO speed as a note value, when the LFO is synchronized to the tempo.

SHAPE (LFO Shape)...-100...100

Modifies the shape of the LFO waveform. You can use this to make the waveform rounder or more square, or to emphasize a certain range.

FADE (LFO Fade)... 0.0...9.9

Sets the LFO fade-in time.

PAD RESET(LFO Pad Reset On).. OFF, ON

When this is "ON", the LFO is reset every time you touch the XY pad.

PHASE (LFO Phase Random On) ....FIXED, RANDOM

When this is "ON", the LFO starts at a random phase in the cycle.

LEFT (LFO Phase L)..-180...180

Sets the start of the LFO waveform phase for the left channel.

RIGHT (LFO Phase R)...-180...180

Sets the start of the LFO waveform phase for the right channel.

<u>OUTPUT</u>

DRY/WET (Dry/Wet) .... 0...100

Adjusts the balance between the effect sound and the direct sound.

Flanger

An effect that creates a thick swelling sound and a sense of motion in pitch. This is effective for sounds that contain many overtones.

DELAY (Delay Time) .... 0.0...50.0

Sets the time it takes to hear the delay after the original (dry) sound is heard.

FEEDBACK (Feedback).....................................-100...100

Sets the amount of feedback. The peak changes depending on whether this is a positive (+) or a negative (-) value.

DEPTH (Depth) .... 0...100

Sets the depth of LFO modulation.

HIGH DAMP (High Damp).. 0...100

Sets how much the high-frequency band of the feedback sound is dampened. Higher values attenuate more harmonics in the high-frequency band.

LFO

WAVE (LFO Wave Select) .... (list)

Selects the LFO waveform.

[SYNC] (LFO Sync On) .... (Off, On)

Selects whether the LFO is synchronized to the tempo.

RATE (LFO Rate) ....0.001...32.000

Adjusts the LFO speed. This is not used if the LFO is synchronized to the tempo.

RATE (LFO Sync Rate).. (list)

Sets the LFO speed as a note value, when the LFO is synchronized to the tempo.

SHAPE (LFO Shape)...-100...100

Modifies the shape of the LFO waveform. You can use this to make the waveform rounder or more square, or to emphasize a certain range.

FADE (LFO Fade).. 0.0...9.9

Sets the LFO fade-in time.

PAD RESET(LFO Pad Reset On)..OFF, ON

When this is "ON", the LFO is reset every time you touch the XY pad.

PHASE (LFO Phase Random On) ....FIXED, RANDOM

When this is "ON", the LFO starts at a random phase in the cycle.

LEFT (LFO Phase L)...-180...180

Sets the start of the LFO waveform phase for the left channel.

RIGHT (LFO Phase R)...-180...180

Sets the start of the LFO waveform phase for the right channel.

DRY/WET (Dry/Wet) .... 0...100

Adjusts the balance between the effect sound and the direct sound.

Phaser

Alters the phase of the sound to give the sound a swelling effect.

HIGH DAMP (High Damp).. 0...100

Sets how much the high-frequency band of the feedback sound is dampened. Higher values attenuate more harmonics in the high-frequency band.

MANUAL (Manual) .... 0...100

Adjusts the position of the phasing effect.

RESONANCE (Resonance)..-100...100

Sets the resonance amount.

DEPTH (Depth) .... 0...100

Adjusts the depth of the phasing effect.

NOTCH (Notch)... 1...12

Sets the number of filters used to create the phasing effect.

LFO

WAVE (LFO Wave Select) .... (list)

Selects the LFO waveform.

[SYNC] (LFO Sync On) .... (Off, On)

Selects whether the LFO is synchronized to the tempo.

RATE (LFO Rate) ....0.001...32.000

Adjusts the LFO speed. This is not used if the LFO is synchronized to the tempo.

RATE (LFO Sync Rate).. (list)

Sets the LFO speed as a note value, when the LFO is synchronized to the tempo.

SHAPE (LFO Shape)...-100...100

Modifies the shape of the LFO waveform. You can use this to make the waveform rounder or more square, or to emphasize a certain range.

FADE (LFO Fade)... 0.0...9.9

Sets the LFO fade-in time.

PAD RESET(LFO Pad Reset On).. OFF, ON

When this is "ON", the LFO is reset every time you touch the XY pad.

PHASE (LFO Phase Random On) ....FIXED, RANDOM

When this is "ON", the LFO starts at a random phase in the cycle.

LEFT (LFO Phase L)..-180...180

Sets the start of the LFO waveform phase for the left channel.

RIGHT (LFO Phase R)...-180...180

Sets the start of the LFO waveform phase for the right channel.

OUTPUT

DRY/WET (Dry/Wet) .... 0...100

Adjusts the balance between the effect sound and the direct sound.

Tremolo

This effect causes the volume of the input signal to waver.

DEPTH (Depth) .... 0...100

Sets the depth of the change in volume that's driven by the LFO.

LFO

WAVE (LFO Wave Select) .... (list)

Selects the LFO waveform.

[SYNC] (LFO Sync On) .... (Off, On)

Selects whether the LFO is synchronized to the tempo.

RATE (LFO Rate) ....0.001...32.000

Adjusts the LFO speed. This is not used if the LFO is synchronized to the tempo.

RATE (LFO Sync Rate)... (list)

Sets the LFO speed as a note value, when the LFO is synchronized to the tempo.

SHAPE (LFO Shape)..-100...100

Modifies the shape of the LFO waveform. You can use this to make the waveform rounder or more square, or to emphasize a certain range.

FADE (LFO Fade)... 0.0...9.9

Sets the LFO fade-in time.

PAD RESET(LFO Pad Reset On)..OFF, ON

When this is "ON", the LFO is reset every time you touch the XY pad.

PHASE (LFO Phase Random On) ....FIXED, RANDOM

When this is "ON", the LFO starts at a random phase in the cycle.

LEFT (LFO Phase L)..-180...180

Sets the start of the LFO waveform phase for the left channel.

RIGHT (LFO Phase R)...-180...180

Sets the start of the LFO waveform phase for the right channel.

Distortion

This effect distorts the input signal.

DISTORTION

DRIVE (Drive)..-42.0...42.0

Controls the level for the input signal sent to the distortion circuit.

PRE EQ (Pre EQ) ....-100...100

Adjusts the cutoff frequency for the pre EQ that's applied to the input signal sent to the distortion circuit.

[AMP/CLIP] (Type)...AMP, CLIP

Selects the distortion type.

TONE (Tone) .... 0...100

Adjusts the high-frequency components to change the sound.

POST EQ

FREQ (Post EQ Freq)..20...20000

Sets the cutoff frequency of the post EQ.

GAIN (Post EQ Gain)..-18.0...18.0

Adjusts the post EQ gain.

OUTPUT

LEVEL (Level)..-Inf...0.0

Adjusts the output signal level.

DRY/WET (Dry/Wet) .... 0...100

Adjusts the balance between the effect sound and the direct sound.

Decimator

This effect creates a cheap and rough sampled effect by lowering the sampling frequency or the bit length. You can also use this to create sampler-like noises.
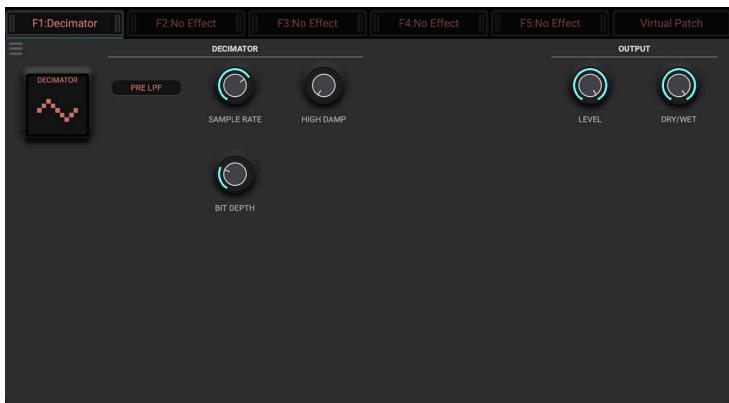
DECIMATOR

PRE LPF (Pre LPF) .... (Off, On)

Set this to "On" to suppress the high-frequency harmonic noise that occurs when the sampling frequency is lowered.

SAMPLE RATE (Sample Rate) ....80...48000

Sets the sampling frequency.

HIGH DAMP (High Damp)... 0...100

Adjusts how much the high-frequency band is dampened.

BIT DEPTH (Bit Depth) ....2.. 24

Sets the data bit length. Smaller values make the sound grainier and more distorted. Use the OUTPUT LEVEL to adjust the volume, as the volume changes according to the setting.

OUTPUT

LEVEL (Level)...-Inf...0.0

Adjusts the output signal level.

DRY/WET (Dry/Wet) .... 0...100

Adjusts the balance between the effect sound and the direct sound.

Ring Modulator

This effect creates a metallic sound by applying the oscillator to the input signal. You can use V.Patch to drive the oscillator, creating wild modulation.
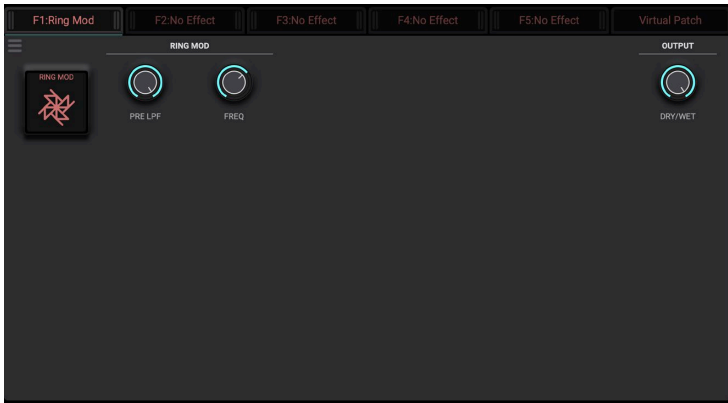
RING

PRE LPF (Pre LPF) .... 0...100

Adjusts how much the high-frequency band of the sound input to the ring modulator is dampened. If the input signal contains a lot of harmonics, the effect may sound muddled. Use this parameter to adjust the high-frequency band.

FREQ (Frequency) ....0.0...12000.0

Sets the oscillator frequency.

OUTPUT

DRY/WET (Dry/Wet) .... 0...100

Adjusts the balance between the effect sound and the direct sound.

IR Loader

This effect uses an impulse response file to simulate the feel of audio signals sent through other devices or spaces.

INPUT (Input) ....-Inf...0.0

Adjusts the input signal level.

PRE EQ

LOW (Pre EQ Low Freq)...20...20000

Sets the cutoff frequency of the pre EQ low-frequency band.

HIGH (Pre EQ High Freq)...20...20000

Sets the cutoff frequency of the pre EQ high-frequency band.

[Data]... (list)

Selects the impulse response file. The audio file to use must be in the following format.
- Sampling frequency: 48,000 Hz; stereo, up to 10 sec.

OUTPUT

DRY/WET (Dry/Wet) .... 0...100

Adjusts the balance between the effect sound and the direct sound.

Compressor

A compressor with detailed settings for evaluating the trigger signal, changing the compression curve and so on.

INPUT(Input) ....-Inf...0.0

Adjusts the input signal level.

TRIGGER EQ

[OFF/ON] (Trigger EQ On)... (Off, On)

Switches the equalizer on/off for the trigger signal.

[LPF/HPF/BPF/BRF] (Trigger EQ Type)............. LPF, HPF, BPF, BRF

Selects the equalizer type for the trigger signal.

FREQ (Trigger EQ Freq)...20...20000

The equalizer cutoff frequency for the trigger signal.

Q (Trigger EQ Q) .... 0.5...10.0

The equalizer bandwidth for the trigger signal. Increasing this value results in a narrower range over which the equalizer is applied, giving a more biting sound.

COMPRESSOR

RATIO (Ratio)...1.0...Inf

The compression ratio for the signal. Compression is only applied when the trigger signal level exceeds the level set in "Threshold".

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ATTACK (Attack) ....0.45...500.00

Sets the compression attack time. Increasing this value applies the compression more slowly.

RELEASE (Release) ....0.5...5000.0

Sets the compression release time. Increasing this value releases the compression effect more slowly.

THRESHOLD (Threshold)..-40.0...0.0

Sets the level at which compression begins to be applied.

OUTPUT (Output).. -36.00...24.00

Changes the output level.

KNEE (Knee).. 0.0...30.0

Sets the curve with which compression is applied. Increasing this value causes the volume to change more gradually around the Threshold level.

[AUTO GAIN] (Auto Gain On).. (Off, On)

When this is "On", the output level is automatically adjusted according to the Ratio and Threshold settings.

[RMS/PEAK] (Mode) .... RMS, PEAK

Sets how the trigger signal is evaluated. When set to "Peak", the compressor always responds when the trigger signal is at its peak value, meaning that the compressor generally reacts quickly. When set to "RMS" (root mean square), the compressor reacts based on the energy within a certain short range of the trigger signal. In this mode, the compressor does not follow detailed changes in signal volume, but operates in a stable manner.

OUTPUT

DRY/WET (Dry/Wet) .... 0...100

Adjusts the balance between the effect sound and the direct sound.

Filter

This is a multi-mode filter that features four types: low-pass, high-pass, band-pass and band-reject. You can add effects using the built-in LFO and drive circuit.

INPUT (Input) ....-Inf...0.0

Adjusts the signal level that's input to the effect.

FILTER

[LPF/HPF/BPF/BRF] (Type) ....LPF, HPF, BPF, BRF

Selects the filter type.

CUTOFF (Cutoff) .... 5.95...21714.34

This sets the cutoff frequency of the filter.

PEAK (Resonance) .... 0...100

Sets the resonance of the filter.

OUTPUT (Output) ....-Inf...0.0

Sets the output level.

DRIVE

[OFF/ON] (Drive On) .... (Off, On)

Switches the drive circuit on/off.

LOW BOOST (Drive Low Boost) .... 0...100

Sets the boost for the low range of the drive circuit.

GAIN (Drive Gain) .... 0.0...18.0

Sets the distortion effect produced by the drive circuit.

LFO DEPTH (LFO Depth) .... 0...100

Sets the depth of change in cutoff frequency that the LFO produces.

LFO

WAVE (LFO Wave Select) .... (list)

Selects the LFO waveform.

[SYNC] (LFO Sync On) .... (Off, On)

Selects whether the LFO is synchronized to the tempo.

RATE (LFO Rate) ....0.001...32.000

Adjusts the LFO speed. This is not used if the LFO is synchronized to the tempo.

RATE (LFO Sync Rate).. (list)

Sets the LFO speed as a note value, when the LFO is synchronized to the tempo.

SHAPE (LFO Shape)..-100...100

Modifies the shape of the LFO waveform. You can use this to make the waveform rounder or more square, or to emphasize a certain range.

FADE (LFO Fade).. 0.0...9.9

Sets the LFO fade-in time.

PAD RESET(LFO Pad Reset On)... OFF, ON

When this is "ON", the LFO is reset every time you touch the XY pad.

PHASE (LFO Phase Random On) ....FIXED, RANDOM

When this is "ON", the LFO starts at a random phase in the cycle.

LEFT (LFO Phase L)..-180...180

Sets the start of the LFO waveform phase for the left channel.

RIGHT (LFO Phase R)..-180...180

Sets the start of the LFO waveform phase for the right channel.

OUTPUT

DRY/WET (Dry/Wet) .... 0...100

Adjusts the balance between the effect sound and the direct sound.

Isolator

This effect separates the input signal into low-, mid- and high-frequency bands and lets you control their respective volumes.

INPUT (Input) ....-Inf...0.0

Adjusts the input signal level.

ISOLATOR

LOW FREQ (Low X-Over Freq) .... 100...500

The frequency where the low-/mid-range bands are separated.

HIGH FREQ (High X-Over Freq) ....2000...6000

The frequency where the mid-/high-frequency bands are separated.

LOW (Low Gain)..-Inf...12.0

The gain for the low-frequency band.

MID (Mid Gain) ....-Inf...12.0

The gain for the mid-range band.

HIGH (High Gain) ....-Inf...12.0

The gain for the high-frequency band.

SCALE (Scale) .... 0...200

Adjusts the overall volume.

Parametric EQ

This is a four-band parametric equalizer. You can select the equalizer type for bands 1 and 4.

INPUT (Input) ....-Inf...0.0

Adjusts the input signal level.

BAND 1

[BAND 1] (Band 1 On) .... (Off, On)

Switches band 1 on/off.

FREQ (Band 1 Freq)..20...20000

The cutoff frequency for band 1.

Q (Band 1 Q) ....0.5...10.0

The bandwidth for band 1. Increasing this value results in a narrower range over which the equalizer is applied, giving a more biting sound.

GAIN (Band 1 Gain)...-18.0...18.0

The gain for band 1.

TYPE (Band 1 Type)..PEAK, SHELF, CUT

This changes the type for band 1.

BAND 2

[BAND 2] (Band 2 On) .... (Off, On)

Switches band 2 on/off.

FREQ(Band 2 Freq)...20...20000

The cutoff frequency for band 2.

Q (Band 2 Q) .... 0.5...10.0

The bandwidth for band 2. Increasing this value results in a narrower range over which the equalizer is applied, giving a more biting sound.

GAIN (Band 2 Gain)...-18.0...18.0

The gain for band 2.

BAND 3

BAND 4

OUTPUT

DRY/WET (Dry/Wet) .... 0...100

Adjusts the balance between the effect sound and the direct sound.

Graphic EQ

This is a seven-band graphic equalizer. You can select between one of 12 types for the center frequency setting of each band to match the sound.

INPUT (Input) ....-Inf...0.0

Adjusts the input signal level.

EQUALIZER

TYPE (Type) .... (list)

Selects the center frequency combination for each band.

[Band 1] (Band 1 Gain)....................................-18.0...18.0

The gain for band 1.

[Band 2] (Band 2 Gain)....................................-18.0...18.0

The gain for band 2.

[Band 3] (Band 3 Gain)....................................-18.0...18.0

The gain for band 3.

[Band 4] (Band 4 Gain)....................................-18.0...18.0

The gain for band 4.

[Band 5] (Band 5 Gain)....................................-18.0...18.0

The gain for band 5.

[Band 6] (Band 6 Gain)...-18.0...18.0

The gain for band 6.

[Band 7] (Band 7 Gain)...-18.0...18.0

The gain for band 7.

<u>**OUTPUT**</u>

DRY/WET (Dry/Wet) .... 0...100

Adjusts the balance between the effect sound and the direct sound.

Pitch Shifter

This effect lets you change the pitch of the input signal. The effect also features a delay circuit that you can use to repeatedly modulate the pitch, creating a feedback effect.
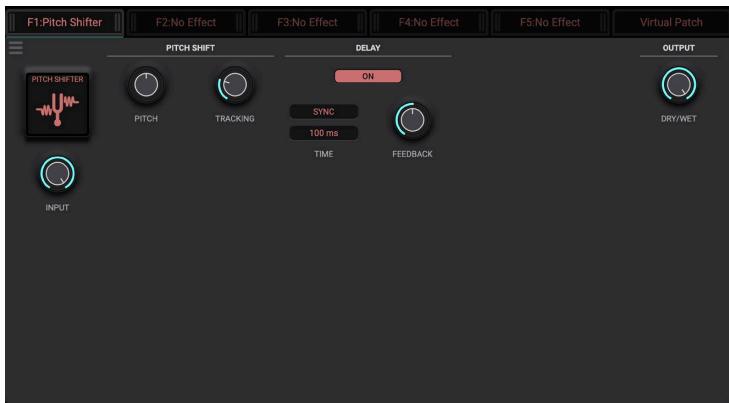
INPUT (Input) ....-Inf...0.0

Adjusts the input signal level.

<u>**PITCH SHIFT**</u>

PITCH (Pitch) .... -24.00...24.00

Adjusts the pitch.

TRACKING (Tracking).. 0...100

Adjusts the responsiveness of the effect when modulating the pitch. Smaller values allow the pitch-modulated signal to be output without latency, but this is at the expense of sound quality and signal distortion.

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DELAY

[Delay] (Delay On)... (Off, On)

Turns the delay on/off.

[SYNC] (Delay Time Sync On) .... (Off, On)

Sets whether the effect synchronizes to the tempo.

TIME (Sync Delay Time) .... (list)

Adjusts the delay time in units of notes. Use this when synchronizing the delay to the tempo.

TIME (Delay Time) .... 1...5000

Adjusts the delay time.

FEEDBACK (Feedback)... 0...100

Sets the amount of feedback.

OUTPUT

DRY/WET (Dry/Wet) .... 0...100

Adjusts the balance between the effect sound and the direct sound.

Vocal FX

A set of modules optimized for voice input that apply automatic tuning, harmonization, and filter processing.
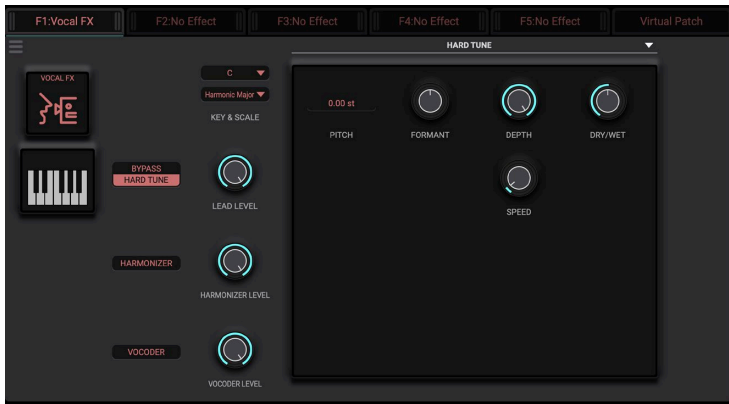
HARD TUNE (HT On)..(Dry, HARD TUNE)

Switches the output of the Hard Tune module between the dry input signal and the tuned output signal.

HARMONIZER (HM On).. (Off, On)

Turns the harmonizer module on and off.

VOCODER (VC On)... (Off, On)

Turns the vocoder module on and off.

KEY (Key) .... (list)

The root note of the scale that input will be tuned to.

SCALE (Scale) .... (list)

The scale that input will be tuned to.

HARDTUNE LEVEL (HT Level) ....-Inf...0.0

Adjusts the output level of the hard tune module, including when the Bypass/Hard Tune switch is set to Bypass.

HARMONIZER LEVEL (HM Level).......................................-Inf...0.0

Adjusts the output level of the harmonizer module.

VOCODER LEVEL (VC Level) ....-Inf...0.0

Adjusts the output level of the oscillator module.

HARD TUNE

HARD TUNE: A monophonic pitch correction algorithm that shifts input to match a selected scale and key.
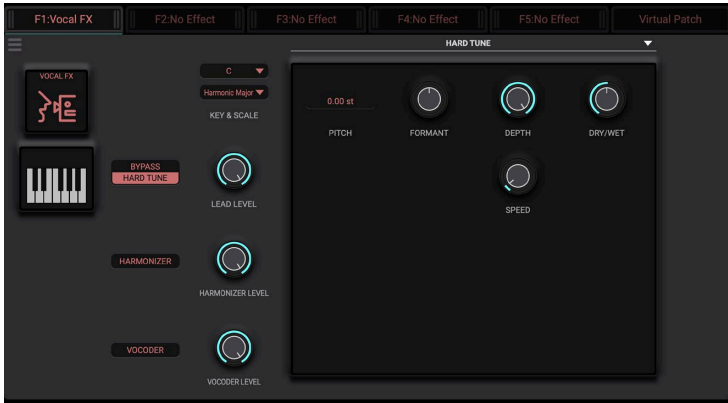
PITCH (HT Pitch) .... -24.00...+24.00

The amount that the tuned signal will be pitch shifted, in semitones.

FORMANT (HT Formant)..-50...+50

The amount that the hard tune output timbre will be shifted.

DEPTH (HT Depth) .... 0...100

The intensity of the tuning effect.

SPEED (HT Speed) .... 1...500

How fast pitch correction will be applied to the input signal.

DRY/WET (HT Dry/Wet).. 0...100

The balance between dry and tuned signal levels.

HARMONIZER 1, 2

HARMONIZER: A monophonic pitch correction algorithm with two voices that calculates diatonic pitch shifts in a selected scale and key to harmonize with the hard tune output.

PITCH (HM 1(2) Pitch/Voicing) .... (list)

The harmony that voice 1/2 will be shifted to, in scale tones for diatonic scales and semitones for chromatic.

Offset (HM 1(2) Offset) .... -24.00...+24.00

The distance in semitones that the signal will be shifted in addition to the amount calculated for Pitch 1/2.

FORMANT (HM 1(2) Formant) ....-50...+50

The amount that the voice 1/2 output timbre will be shifted.

Pan (HM 1(2) Pan) ....L50...C...R50

How for to the left or right voice 1/2 be routed.

LEVEL (HM 1(2) Level)..-Inf...0.0

The volume for voice 1/2

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VOCODER

VOCODER: An algorithm that applies the spectral envelope of the input to internal oscillators, creating a "robot voice" effect.

PITCH (VC Pitch) .... -24.00...+24.00

The offset from the input signal's pitch, in semitones.

PITCH COLLECT (VC Pitch Collection On) .... (Off, On)

Determines whether to snap the oscillator pitch to the selected scale.

WAVE (VC Wave Select) .... Tri, Saw, Pulse

The waveform of the pitched oscillators.

POSITION (VC Position) ....-50...+50

The amount that the input formant will be shifted when applied to the oscillators.

Q(VC Q) .... 0...0.95

The bandwidth of the vocoder filter.

SPREAD (VC Spread On) .... (Off, On)

The stereo width of the vocoder output.

LEVEL (VC Wave Level) ....-Inf...0.0

The output level of the pitched oscillators.

NOISE (VC Noise Level)...-Inf...0.0

The output level of the noise oscillator.

50

Grain Shifter

This cuts out the short waveforms from the input signal and plays them back repeatedly, for an effect that changes the signal into a mechanical sound.

GRAIN SHIFTER

GRAIN SIZE (Grain Size).. 0...100

Sets the length of the waveform to loop.

[SYNC] (Interval Rate Sync On) .... (Off, On)

Selects whether the effect is synchronized to the tempo.

RATE (Interval Rate)..0.001...32.000

Sets the cycle used for switching between loop waveforms. Use this when the effect is not synchronized to the tempo (SYNC Off).

RATE (Interval Sync Rate) .... (list)

Sets the cycle used for switching between loop waveforms as a note length. Use this when synchronizing the effect to the tempo (SYNC On).

[QUANTIZE] (Quantize On)... (Off, On)

When this is On, the GRAIN SIZE setting is quantized to the closest note length.

PHASE (Interval Phase) ....-180...180

Sets the cycle phase used for switching between loop waveforms.

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PAD RESET(Interval Pad Reset On)..................................OFF, ON

When this is "ON", the phase for switching between loop waveforms is reset every time you touch the XY pad.

OUTPUT

DRY/WET (Dry/Wet) .... 0...100

Adjusts the balance between the effect sound and the direct sound.

Vinyl Break

This effect creates the scratching and stopping effects heard when you move a record on a turntable.

SPEED (Speed).. 0...100

Sets the time it takes for the sound to stop after triggered.

[BREAK] (Break On).. (Off, On)

The switch that triggers the effect. When this is on, the Vinyl Break effect starts.

SCRATCH

POSITION (Manual Scratch Position) .... 1...100

Sets the position where you begin scratching.

REGION (Scratch Region) .... 1...100

Adjusts the intensity of the effect caused by scratching.

LAG (Scratch Lag)... 1...100

Adjusts how quickly the effect responds to changes in the playback speed according to your scratching.

OUTPUT

DRY/WET (Dry/Wet) .... 0...100

Adjusts the balance between the effect sound and the direct sound.

[DRY MUTE] (Dry Mute On) .... (Off, On)

When this is "On", the direct sound is muted and only the effect sound is output, regardless of the DRY/WET setting.

Looper

This effect records the input signal and plays it back repeatedly. The effect has a forward mode, which records the signal from the time the loop turns on through the length of the loop and plays it back repeatedly; and a backward mode, which records up until when the loop turns on and plays the signal backwards.

SPEED (Speed)..50.00...200.00

Adjusts the playback speed of the loop signal.

[LOOP] (LOOP)... (Off, On)

When this is turned on, the recorded loop plays back.

BEAT (Beat)... (list)

Sets the cycle length of the loop signal.

LEVEL

FORWARD (Forward Level)..-Inf...0.0

Adjusts the forward signal level.

BACKWARD (Backward Level)..-Inf...0.0

Adjusts the backward signal level.

OUTPUT

DIRECT(Direct) ....-Inf...0.0

Adjusts the level of the direct sound.

[MIXED/SOLO] (Mixed/Solo) .... MIXED, SOLO

When this is set to SOLO on, the dry signal is always muted when the loop plays back.

Delay

This is a complex delay effect that lets you select one of three modes. You can use this to achieve delay effects that have different characteristics depending on the delay mode.
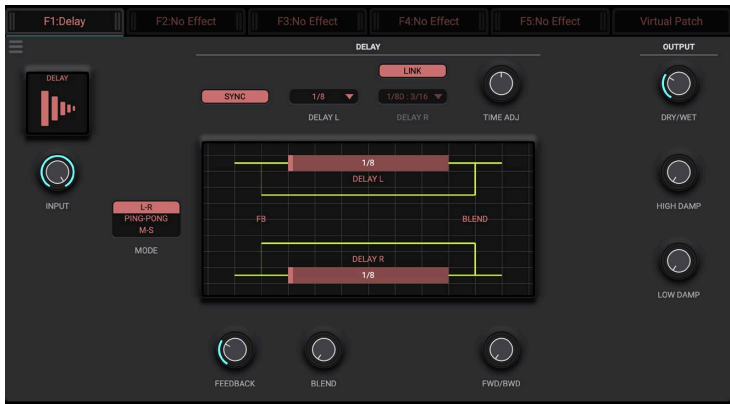
INPUT (Input) ....-Inf...0.0

Adjusts the input signal level.

DELAY

MODE (Mode).. L-R, Ping-Pong, M-S

Selects the delay mode. L-R is a normal type of delay that controls the delay time from left to right. PING-PONG is a delay that mixes the left/right channel signals and plays them alternately in stereo. M-S is a delay effect that applies MS (MID, SIDE) processing to the input signal and processes the signals separately.

FEEDBACK (Feedback)... 0...100

Sets the amount of feedback.

BLEND (Blend)... 0...100

When using the L-R type, this adjusts how much of the L (R) channel's delay signal is sent to the R (L) channel. When "Blend" is set to 100%, this acts as a cross delay. When using the PING-PONG type, this adjusts how much of the PING (PONG) channel's delay signal is sent to the PONG (PING) channel. When "Blend" is set to 0%, the signal is output from left to

right; and when "Blend" is set to 100%, the signal is output from right to left. When using the M-S type, this setting adjusts the balance between MID and SIDE.

FWD/BWD (Fwd/Bwd).. 0...100

Adjusts the balance between the forward signal and the backward signal. To achieve an effect similar to a reverse delay, this increases the backward signal balance.

TIME

[SYNC] (Sync On)... (Off, On)

Selects whether the effect is synchronized to the tempo.

[LINK] (Delay Time Link On) .... (Off, On)

The Delay 2 delay time is set to the same delay time value as for Delay 1.

DELAY L/PING/MID (Delay Time 1).................................... 1...5000

Sets the Delay L/PING/MID delay time in milliseconds (msec). Use this when the delay is not synchronized to the tempo.

DELAY L/PING/MID (Sync Delay Time 1)................................. (list)

Sets the Delay L/PING/MID delay time to a note value. Use this when synchronizing the delay to the tempo.

DELAY R/PONG/SIDE (Delay Time 2)................................. 1...5000

Sets the Delay R/PONG/SIDE delay time in milliseconds (msec). Use this when the delay is not synchronized to the tempo. This is not used when "Delay Time Link On" is enabled.

DELAY R/PONG/SIDE (Sync Delay Time 2) .... (list)

Sets the Delay R/PONG/SIDE delay time to a note value. Use this when synchronizing the delay to the tempo. This is not used when "Delay Time Link On" is enabled.

TIME ADJ (Time Adjust)...-100...100

Fine-tunes the delay time.

DAMPING

HIGH DAMP (High Damp).. 0...100

Adjusts how much the high-frequency band is dampened.

LOW DAMP (Low Damp)... 0...100

Adjusts how much the low-frequency band is dampened.

DRY/WET (Dry/Wet) .... 0...100

Adjusts the balance between the effect sound and the direct sound.

Tape Echo

This effect simulates a tape echo with three playback heads. The effect recreates the distortion and tonal changes produced by the rotation of magnetic tape.

INPUT (Input) ....-Inf...0.0

Adjusts the input signal level.

TONE (Pre Tone) .... 0...100

Sets the sound quality of the input signal.

MODULATION

RESPONSE (Time Mod Response)....................................... 0...100

Sets the response speed for the variations in pitch.

RATE (Time Mod Rate) ....0.020...1.000

Sets the frequency for the pitch variations.

DEPTH (Time Mod Depth) .... 0...100

Sets the depth of the pitch variations.

DELAY

[SYNC] (Delay Time Sync On) .... (Off, On)

Sets whether the effect synchronizes to the tempo.

TIME (Delay Time) .... 1...5000

Sets the tap 1 delay time in milliseconds (msec). Use this when the delay is not synchronized to the tempo.

TIME (Sync Delay Time) .... (list)

Sets the tap 1 delay time to a note value. Use this when synchronizing the delay to the tempo.

TAP1

LEVEL (Tap 1 Level)...-Inf...0.0

The tap 1 output level.

PAN (Tap 1 Pan)..L50...C0...R50

Sets the tap 1 stereo position (pan).

FB (Tap 1 Feedback)...-100...100

Sets the tap 1 feedback amount.

TAP2

POSITION (Tap 2 Position).. 0...100

Sets the relative position of tap 2 in respect to tap 1, as a ratio in respect to the tap 1 delay time.

LEVEL (Tap 2 Level)...-Inf...0.0

The tap 2 output level.

PAN (Tap 2 Pan)..L50...C0...R50

Sets the tap 2 stereo position (pan).

FB (Tap 2 Feedback)...-100...100

Sets the tap 2 feedback amount.

TAP3

POSITION (Tap 3 Position).. 0...100

Sets the relative position of tap 3 in respect to tap 1, as a ratio in respect to the tap 1 delay time.

LEVEL (Tap 3 Level)...-Inf...0.0

The tap 3 output level.

PAN (Tap 3 Pan).......................................L50...C0...R50

Sets the tap 3 stereo position (pan).

FB (Tap 3 Feedback).......................................-100.. 100

Sets the tap 3 feedback amount.

GLOBAL CONTROLS

FEEDBACK (Feedback)... 0...100

Sets the feedback amount as a whole for tap 1, 2 and 3.

PAN (Pan)..L50...C0...R50

Sets the stereo position (pan) as a whole for tap 1, 2 and 3.

LEVEL (Level).......................................-Inf...0.0

Adjusts the output level as a whole for tap 1, 2 and 3.

SATURATION (Saturation) .... 0...100

Sets the distortion intensity.

HIGH DAMP (High Damp).................................. 0...100

Adjusts how much the high-frequency band is dampened.

LOW DAMP (Low Damp).................................. 0...100

Adjusts how much the low-frequency band is dampened.

OUTPUT

DRY/WET (Dry/Wet) .... 0...100

Adjusts the balance between the effect sound and the direct sound.

Chord Resonator

This effect generates a sound similar to resonating strings, based on the audio input. This lets you create sounds that are reminiscent of the resonating string sounds that are produced by the sarod (an Indian instrument) or harp guitar, as well as sounds similar to what you hear when you're facing the strings of a piano while the damper pedal is pressed.
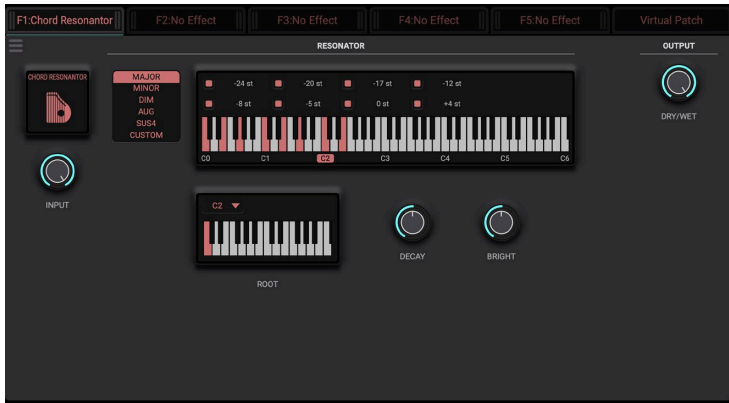
INPUT (Input) ....-Inf...0.0

Adjusts the input signal level.

RESONATOR

TYPE (Type) .... (list)

Selects the chord type for the resonant tone.

CHORD (Custom Note 1 Interval).......................................-24...24

Sets the pitch of the resonant tone (Note 1) when using a custom chord type, in semitones from the fundamental tone (root).

CHORD (Custom Note 2 Interval).......................................-24...24

Sets the pitch of the resonant tone (Note 2) when using a custom chord type, in semitones from the fundamental tone (root).

CHORD (Custom Note 3 Interval).......................................-24...24

Sets the pitch of the resonant tone (Note 3) when using a custom chord type, in semitones from the fundamental tone (root).

CHORD (Custom Note 4 Interval).......................................-24...24

Sets the pitch of the resonant tone (Note 4) when using a custom chord type, in semitones from the fundamental tone (root).

CHORD (Custom Note 5 Interval).......................................-24...24

Sets the pitch of the resonant tone (Note 5) when using a custom chord type, in semitones from the fundamental tone (root).

CHORD (Custom Note 6 Interval).......................................-24...24

Sets the pitch of the resonant tone (Note 6) when using a custom chord type, in semitones from the fundamental tone (root).

CHORD (Custom Note 7 Interval).......................................-24...24

Sets the pitch of the resonant tone (Note 7) when using a custom chord type, in semitones from the fundamental tone (root).

CHORD (Custom Note 8 Interval).......................................-24...24

Sets the pitch of the resonant tone (Note 8) when using a custom chord type, in semitones from the fundamental tone (root).

CHORD (Note 1 On)... (Off, On)

Switches Note 1 on/off.

CHORD (Note 2 On)... (Off, On)

Switches Note 2 on/off.

CHORD (Note 3 On)... (Off, On)

Switches Note 3 on/off.

CHORD (Note 4 On)... (Off, On)

Switches Note 4 on/off.

CHORD (Note 5 On)... (Off, On)

Switches Note 5 on/off.

CHORD (Note 6 On)... (Off, On)

Switches Note 6 on/off.

CHORD (Note 7 On).. (Off, On)

Switches Note 7 on/off.

CHORD (Note 8 On).. (Off, On)

Switches Note 8 on/off.

ROOT (Root Select) .... (list)

Sets the key of the resonant tone.

DECAY (Decay) .... 0...100

Adjusts how long it takes for the resonant tone to decay.

BRIGHT (Bright).. 0...100

Sets the brightness of the resonant tone.

OUTPUT

DRY/WET (Dry/Wet) .... 0...100

Adjusts the balance between the effect sound and the direct sound.

Drone String

This effect produces a resonant Indian tambura-type *jivari* tone, according to the input.
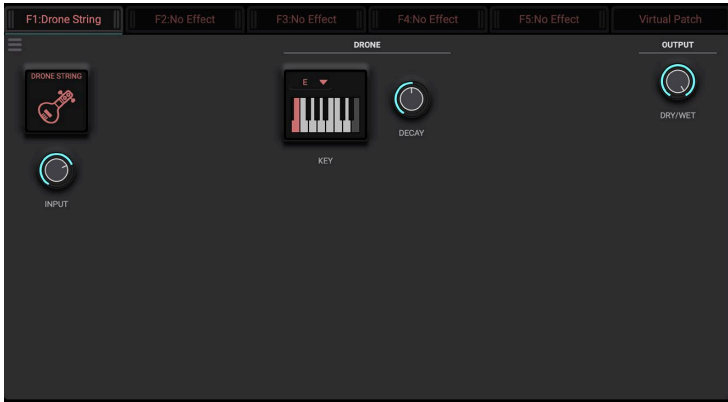
INPUT (Input) ....-12.0...12.0

Adjusts the input signal level.

DRONE

KEY (Key Select) .... (list)

Sets the key of the resonant tone.

DECAY (Decay) .... 0...100

Adjusts how long it takes for the resonant tone to decay.

OUTPUT

DRY/WET (Dry/Wet) .... 0...100

Adjusts the balance between the effect sound and the direct sound.

Reverb

This is a high-definition reverb that lets you adjust the room size, the early reflections (initial reflections of the sound), the reverb tail spread and so on.

COMMON

ROOM SIZE (Room Size) .... 5...100

Adjusts the room size.

PRE DELAY (Pre Delay)... 0...500

Sets the delay time in respect to the input audio.

EARLY REV

LEVEL (ER Level)..-Inf...0.0

Sets the level of early reflections.

LPF (ER LPF Cutoff) ....1...20000

Cuts the high-range frequency components of the early reflections.

HPF (ER HPF Cutoff)..1...20000

Cuts the low-range frequency components of the early reflections.

SEND TO LATE (ER Send To LR)..-Inf...0.0

Sets the level of early reflections that are sent to the reverb tail (late reflections).

LATE REV

TIME (LR Reverb Time)..200...10000

Sets the sustain time for the late reflections.

WIDTH (LR Width) .... 0...100

Adjusts the spread for the late reflections.

LOW (LR Low Freq)..40...5000

The cutoff frequency of the low-frequency band equalizer for the late reflections.

LOW (LR Low Adjust) .... 0.2...4.0

The gain for the low-frequency band equalizer for the late reflections.

HIGH (LR High Freq)...5000...20000

The cutoff frequency of the high-frequency band equalizer for the late reflections.

HIGH (LR High Adjust) .... 0.2...4.0

The gain for the high-frequency band equalizer for the late reflections.

POST LPF (LR LPF Cutoff) .... 1...20000

Cuts the high-range frequency components of the late reflections.

POST HPF (LR HPF Cutoff) .... 1...20000

Cuts the low-range frequency components of the late reflections.

DIFFUSION

INPUT (LR Diff Input) .... 0...100

Adjusts the density of late reflections applied to the input audio that's sent to the late reflections and early reflections. Increasing this value produces a more detailed and smooth reverb sound.

FEEDBACK (LR Diff Feedback)... 0...100

Adjusts the density of the reverb sound applied to all of the late reflections. Increasing this value produces a more detailed and smooth reverb sound.

MOD

RATE (LR APF Mod Rate 1) ....0.000...10.000

Adjusts the first LFO frequency that modulates the late reflections.

RATE (LR APF Mod Rate 2) ....0.000...10.000

Adjusts the second LFO frequency that modulates the late reflections.

DEPTH (LR APF Mod Depth) .... 0...100

Adjusts the depth of the modulation applied to the late reflections.

OUTPUT

DRY/WET (Dry/Wet) .... 0...100

Adjusts the balance between the effect sound and the direct sound.

Shimmer

A reverb with an added "shimmer" (modulated) sound that's achieved using a pitch-shifter effect. This lets you create effects ranging from sparkling to mysterious, depending on the pitch shift parameter setting.

INPUT (Input) ....-Inf...0.0

Adjusts the input signal level.

PRE EQ

HIGH (Pre EQ High Gain) ....-18.0...18.0

Adjusts the pre EQ high-frequency gain.

LOW (Pre EQ Low Gain)...-18.0...18.0

Adjusts the pre EQ gain low-frequency gain.

HIGH (Pre EQ High Freq)...100...10000

Sets the cutoff frequency of the pre EQ high-frequency band.

LOW (Pre EQ Low Freq)...100...10000

Sets the cutoff frequency of the pre EQ low-frequency band.

REVERB

TIME (Reverb Time)...100...10000

Sets the reverberation time.

TONE (Tone) .... 0...100

Adjusts the high-frequency components to change the sound.

APF (APF)...-100...100

Sets the APF phase.

PRE DELAY (Pre Delay).. 0...200

Sets the time from the original sound to the first reflection.

DIRECT LEVEL (Direct Level) .... 0...100

Sets the level of input audio going to the shimmer effect that doesn't pass through pre-delay.

SHIMMER

PITCH (Shimmer Pitch) .... -12.00...12.00

Sets the pitch of the shimmer sound.

MOD DEPTH (Shimmer Mod Depth).................................... 0...100

Sets the depth of the modulation that's applied to the shimmer sound's pitch.

MOD RATE (Shimmer Mod Rate)...................................0.01...2.00

Sets the frequency for the modulation that's applied to the shimmer sound's pitch.

OUTPUT (Shift Mix)... 0...100

Sets the output level of the shimmer sound.

PAN (Pan)..L50...C0...R50

Sets the stereo position (pan) of the shimmer sound.

OUTPUT

DRY/WET (Dry/Wet) .... 0...100

Adjusts the balance between the effect sound and the direct sound.

Early Reflection

This effect produces only the early reflections of a reverb, and gives the sound a sense of immediacy and presence. You can select one of four types of decay curves for the reflections.

INPUT (Input) ....-Inf...0.0

Adjusts the input signal level.

PRE EQ

LOW (Pre EQ Low Freq)...100...10000

Sets the cutoff frequency of the pre EQ low-frequency band.

LOW (Pre EQ Low Gain)..-18.0...18.0

Adjusts the pre EQ gain low-frequency gain.

HIGH (Pre EQ High Freq)..100...10000

Sets the cutoff frequency of the pre EQ high-frequency band.

HIGH (Pre EQ High Gain) ....-18.0...18.0

Adjusts the pre EQ high-frequency gain.

EARLY REFLECTION

TYPE (Type) .... SHARP, LOOSE, MODULATED, REVERSE

Selects the type of decay curve for the reflections.

PRE DELAY (Pre Delay).. 0...200

Sets the time from the original sound to the first reflection.

TIME (Reverb Time)... 10...1600

Sets the length of the reflections.

[HI DENSITY] (High Density On) .... (Off, On)

This doubles the resolution of the reflections and their maximum time, which lets you achieve smoother, thicker sounds.

OUTPUT

DRY/WET (Dry/Wet) .... 0...100

Adjusts the balance between the effect sound and the direct sound.

Analog Osc

This is an analog oscillator, which features two oscillators and a noise generator. You can apply various kinds of modulation between the two oscillators.

TRANSPOSE (Transpose) ....-60...+60

Controls the pitch of Osc 1 and 2 in semitones. When both Transpose and Octave are set to 0, a C4 (note number = 60) pitch is produced.

OCT (Octave) ....-4...+4

Controls the octave of Osc 1 and 2, in octave units.

PORTAMENTO (Portamento)... 0...100

This parameter controls the time it takes for the pitch to change from the previous pitch produced to the next pitch.

OSC1

WAVE (Osc1 Wave) ....SAW, SQUARE, SINE

Selects the waveform for oscillator 1.

PITCH (Osc1 Pitch) ....-24.00...+24.00

Controls the pitch of the oscillator in cents. The whole numbers are in semitones, and the digits below the decimal point are in cents.

70

OSC2

WAVE (Osc2 Wave) ....SAW, SQUARE, SINE

Selects the waveform for oscillator 2.

PITCH (Osc2 Pitch) .... -24.00...+24.00

Controls the pitch of the oscillator in semitones. The digits below the decimal point are in cents. Edit this value to create a thicker sound by adding slight differences in pitch between Osc 1 and 2 for a detuned effect, or by harmonizing the sound in fifths or octaves.

OSC2 MOD

RING (Ring Mod On) ....Off, On

Selects whether to add a ring modulation effect between Osc 1 and Osc 2. When this is set to "On", the sound from Osc 2 is not output, and instead the Osc 1 and a ring modulation sound is output.

SYNC (Sync Mod On)...Off, On

Selects whether to add a sync modulation effect between Osc 1 and Osc 2.
When this is set to "On", Osc 2 is forcibly reset to match the Osc 1 cycle, synchronizing the two oscillators together.
By doing this, the pitch of Osc 2 is the same as Osc 1, but Osc 2 is modulated into a different waveform with different harmonics from the original.
This has no effect if Osc 1 and Osc 2 are set to the same pitch.

CROSS (Cross Mod) .... 0...100

Adds a cross-modulation effect between Osc 1 and Osc 2.
If the value is 0, the effect is disabled. This produces an effect similar to FM modulation, as the signal from Osc 1 is used to calculate the pitch of Osc 2.
Increasing this number strengthens the modulation effect.

MIXER

OSC1 (Osc1 Level) ....-Inf...0.0

Controls the level of oscillator 1.

OSC2 (Osc2 Level) ....-Inf...0.0

Controls the level of oscillator 2.

NOISE (Noise Level) ....-Inf...0.0

Controls the level of the white noise oscillator.

[EG1-4, Const] (Amp EG Select) ....EG1, 2, 3, 4, Const

Selects the envelope used to control the oscillator volume.
When "Const" is selected, the sound continues to output.

OUTPUT

PAN (Pan)..L50...C0...R50

Controls the left-right position in the stereo field for all outputs.

Sample Osc

An oscillator that plays back sampled waves. You can choose the waveform you wish to play.

PITCH

TRANSPOSE (Transpose)....................................... -12.00...12.00

Adjusts the pitch used to play the sample in semitones and cents. The whole numbers show the semitones, and the decimal numbers show the cents.

RATIO (Pitch Ratio) .... 0.06 ..16.00

Sets the speed at which the sample plays back. Higher settings make the sample play back faster (at a higher pitch). The unit is shown as a multiple. At a value of 1.0, the sample plays back at its actual speed.

GLIDE (Glide) .... 0...100

Controls how long it takes to change to the playback speed that's edited in the RATIO parameter. Higher numbers for this parameter make the speed change more gradually.

SAMPLE

[FILE PATH] (Sample Select) .... (list)

This selects the sample to play.

START (Start) ....0.00...100.00

Sets the starting position where the sample plays back. Set this to 0 to start at the beginning of the sample, and 100 to start at the end.

[FORWARD/BACKWARD] (Forward/Backward) .... FORWARD, BACKWARD

Selects the playback direction of the sample. "Forward" plays the sample back forward, and "Backward" plays the sample in reverse.

LENGTH (Length) ....0.00...100.00

Sets how much of the sample is played. A value of 100 plays back the entire sample.

LOOP (Loop Start)..0.00...100.00

Sets the starting position for loop playback of the sample.

[LOOP] (Loop On)... (Off, On)

Selects whether the sample plays as a loop.
Set the loop range using the "Loop Start" and "Length" parameters.

X-FADE (X-Fade) ....0.00.. 100.00

This parameter adjusts the crossfade range for loop playback.

[PHASE RESET] (Phase Reset On).................................... (Off, On)

This sets whether to play back from the start point or from the current playback position when you press the XY pad to play back a sample. Normally, this is set to "On".

[SNAP] (Snap On).. (Off, On)

Use this to select whether to search for a zero cross point close to the loop range and play the sample from that position. You might want to use this if you don't want any unwanted noise to occur when you're playing.

AMP EG (Amp EG Select) .... (list)

Selects the envelope used to control the oscillator volume.
When "Const" is selected, the sound continues to output.

OUTPUT

LEVEL (Level)..-Inf.. 24.0

Adjusts the sample volume.

PAN (Pan)...L50...C0...R50

Controls the left-right position in the stereo field for the effect output.

Modulation

LFO

The LFO is an oscillator that produces frequencies below the audible range, and is used when you want to make slow changes to the sound.

LFO1

LFO1 (LFO1 Wave Select) .... (list)

Selects the LFO waveform.

RATE (LFO1 Rate) ....0.001...32.000

Adjusts the LFO speed. This is not used if the LFO is synchronized to the tempo.

[SYNC] (LFO1 Sync On) .... (Off, On)

Selects whether the LFO is synchronized to the tempo.

RATE (LFO1 Sync Rate) .... (list)

Sets the LFO speed as a note value, when the LFO is synchronized to the tempo.

SHAPE (LFO1 Shape) ....-100...100

Modifies the shape of the LFO waveform. You can use this to make the waveform rounder or more square, or to emphasize a certain range.

FADE (LFO1 Fade) .... 0.0...9.9

Sets the LFO fade-in time.

PHASE (LFO1 Phase Random On) ....FIXED, RANDOM

When this is "ON", the LFO starts at a random phase in the cycle.

PHASE (LFO1 Phase) ....-180...180

Sets the LFO phase.

PAD RESET(LFO1 Pad Reset On) .... OFF, ON

When this is "ON", the LFO is reset every time you touch the XY pad.

LFO2 to CH4
For LFO2–LFO4, refer to the explanations for LFO1.

EG

This is a modulation source for adding a one-shot effect when you touch the XY pad.
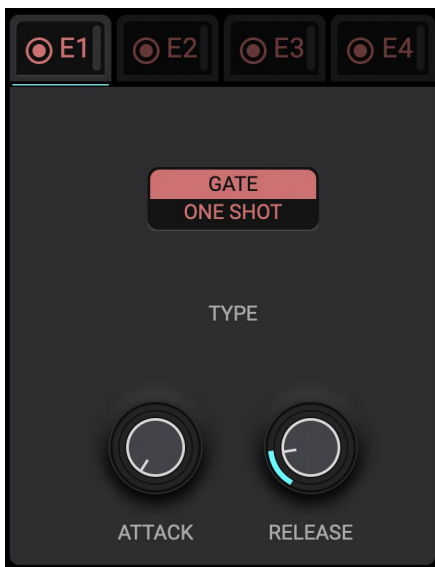
E1

TYPE (EG1 Type) .... Gate, Oneshot

Selects the envelope type. When you trigger the envelope by touching the XY pad, the "GATE" setting makes the EG sustain at maximum value until you release the note, whereas the "One Shot" setting makes the EG move to its release segment once it reaches the maximum level.

ATTACK (EG1 Attack) .... 0...47000

Sets the time it takes for the EG level to reach its maximum value from the minimum value.

RELEASE (/DECAY) (EG1 Release) .... 0...47000

Sets the time it takes for the EG to decay and reach its minimum value after the maximum level is reached.

Envelope follower

This is a modulation source that generates and outputs an envelope from the input signal. Use this when you want to add effects according to the input signal level.

EF1

[Audio In, FX1-5 Out[(EF1 Source) .... (list)

Selects the input source of the audio signal that's used to acquire the envelope.

[RMS, PEAK] (EF1 Mode)... RMS, PEAK

Selects the mode for acquiring the envelope.

INPUT (EF1 Input) ....-Inf...0.0

Adjusts the input signal level for the envelope follower.

ATTACK (EF1 Attack)..0.45...500.00

Sets the speed at which the envelope follower responds when the input signal increases.

RELEASE (EF1 Release) ....0.5...5000.0

Sets the speed at which the envelope follower responds when the input signal decreases.

GAIN (EF1 Gain) ....-Inf...24.0

Adjusts the gain for the acquired envelope.

XY pad

You can assign different parameters to control with this pad for the X and Y axes respectively. Parameters for automation as well as CC control can be used.
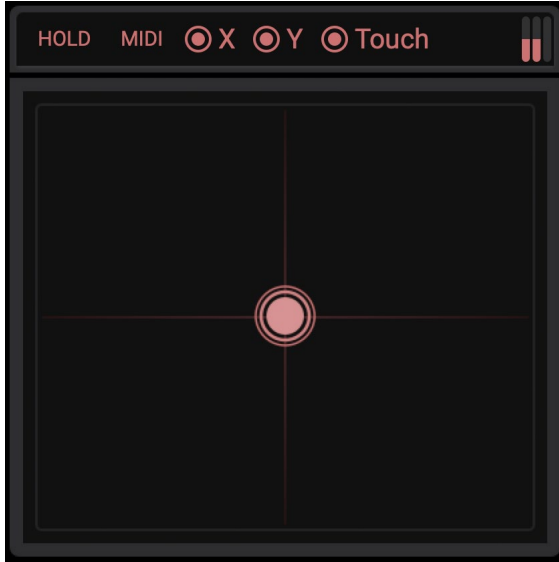
HOLD ....Off, On

Holds (maintains) the touch state of the XY pad. This is useful when you want to always apply certain effects.

MIDI ....Off, On

The KAOSS PAD plugin lets you virtually "touch" the XY pad via MIDI note messages. Pressing this button shows a screen where you can check which note numbers correspond to the XY pad.

X (Pad X) ....0.0...+1.0

The X coordinate position.

Y (Pad Y) ....0.0...+1.0

The Y coordinate position.

Touch (Pad Touch)...0...+1.0

The touch state of the XY pad.

Virtual Patch

The virtual patch works like an imaginary patch bay that lets you connect modulation sources to their destinations. You can make a total of 32 connections. A remapper is used to connect the modulation sources to their destinations, which gives you the freedom to create even more complex behaviors.
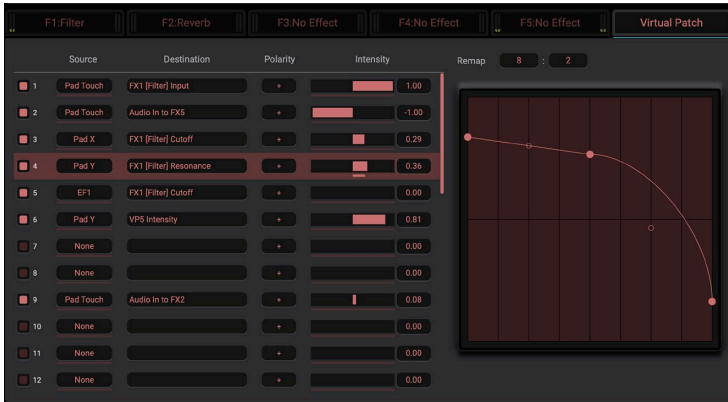
You can also do the patching by dragging and dropping modulation sources to parameters.

On/Off

Controls whether the virtual patch effect is on or off.

Source (Source) .... (list)

Selects the modulation source.

Destination(Distination) .... (list)

Selects the modulation destination.

Polarity (Polarity) .... +, +/-

Selects whether unipolar modulation (which considers the modulation source as a value from 0 to 1) or bipolar modulation (which considers the modulation source as a value from -1 to +1) is applied.

Intensity .... -1.. +1

Controls the strength of the modulation.

Mixer

This routes the inputs and outputs for the five multi-effects.
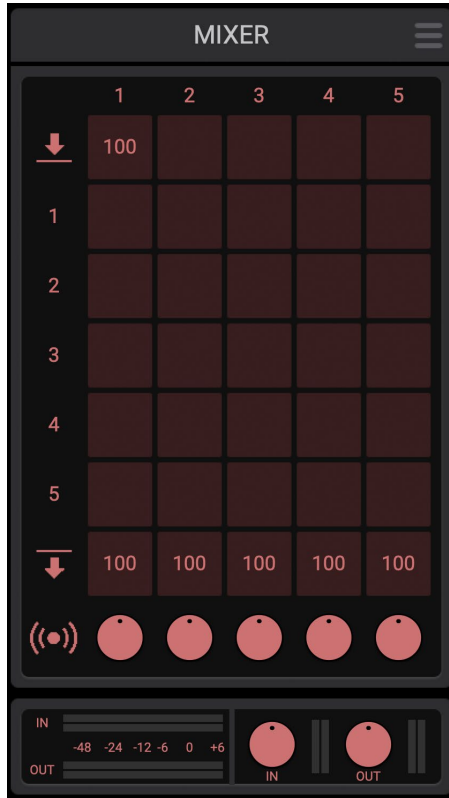
IN, 1... 5 (Audio In to FX1.. 5) .... 0...127

Sets the level of audio input that's sent to the input of each effect. A value of 100 is equal to 0 dB.

FX1...5, FX1...5 (FX1..5 to FX1...5) .... 0...127

Sets the signal level that's sent from the output of each effect to the input of each effect. A value of 100 is equal to 0 dB.

Out, FX1.. 5 (FX1..5 to Master) .... 0...127

Sets the signal level that's sent from the output of each effect to the master output. A value of 100 is equal to 0 dB.

Pan, FX1.. 5 (FX1..5 Output Pan)..............................L50...C0...R50

Sets the stereo position (pan) that's sent from the output of each effect to the master output.
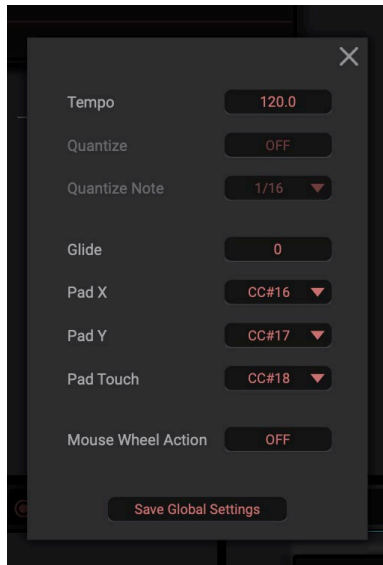
IN (Input Volume) ....-18.0...18.0

Adjusts the input level of the audio input.

OUT (Output Volume)...-18.0...18.0

Adjusts the output level of the master output.

Global parameters

These are settings that apply to the entire application, not just the individual programs.

Tempo .... 20...300

The tempo setting that's used when you use this app as a standalone application. This setting is not used when you use this app as a plugin.

Quantize ....Off, On

Sets whether to synchronize with the beat of your DAW, when applying effects like the looper or grain shifter to the sound.

Quantize Note .... (list)

Sets the beat size (note length) used for quantization.

Glide .... 0...100

Sets the motion speed, when controlling the XY pad using MIDI notes. A setting of 0 moves the position instantly to the XY pad position for that note.

MIDI CC settings

Pad X .... None, CC#1.. #31, #33.. #95, #102... 119

Sets the MIDI control change number that corresponds to the X coordinate when controlling the XY pad from an external MIDI device.

Pad Y .... None, CC#1.. #31, #33.. #95, #102... 119

Sets the MIDI control change number that corresponds to the Y coordinate when controlling the XY pad from an external MIDI device.

Pad Touch .... None, CC#1.. #31, #33.. #95, #102... 119

Sets the MIDI control change number that corresponds to the touch event when controlling the XY pad from an external MIDI device.

Mouse Wheel Action...Off. On

Allows parameter changes with the mouse wheel.

Save As Default button ....

You can click the Save As Default button to save the above settings to a file and then recall those settings when the software is launched again.

Appendices

●●

Troubleshooting

Please check the following points if you experience problems.

No sound

- Are the "Audio/MIDI Settings" (shown when you select "System > Preferences..." from the menu) correctly configured?
- Is the FX OUT 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 Application 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 can be output from it?
- Is the audio input connected to the effect in the matrix mixer settings?
  → Set the input level for the appropriate effect on the first row of the mixer.
- Is there an unnecessary feedback loop configured in the matrix mixer?
  → In some conditions, you may be able to set the sound so that it keeps amplifying itself, which results in no sound being produced.

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.
  → In the "Audio/MIDI Settings" (shown when you select "System > Preferences..." from the menu), 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" × "the number of buffers". In the "Audio/MIDI Settings" (shown when you select "System > Preferences..." from the menu), set the "Audio buffer size" and the "Sample rate" to the lowest settings that still allow 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 "Audio/MIDI Settings" (shown when you select "System > Preferences..." for the menu) correctly configured?

Specifications

Presets : 128
Standalone operation or as a VST3/AU (v2)/AAX plug-in instrument

Operating requirements

for Mac

OS: macOS 10.14 Mojave or later (Latest updates)
CPU: Apple M1 or better, or 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 (v2), VST3, 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: VST3, AAX (Only 64bit plug-in is supported)

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

Support and service

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
- 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.