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Contents

Tone Screen / Drum Kit Screen (Common Items)

Tone Screen
Tone VISUAL/PRO Screen
If STEP is selected for LFO
How to Apply the LFO

Drum Kit Screen
Drum Kit VISUAL/PRO Screen

KEYBOARD Panel

MFX Panel

REVERB Panel

Tone/Drum Kit Browser Screen
Tone/Drum Kit List

Tone/Drum Kit Manager Screen

Drum Inst Browser Screen

Model Screen (JUPITER-8)
Detailed Settings Screen (JUPITER-8)

Model Screen (JUNO-106)
Detailed Settings Screen (JUNO-106)

Model Screen (JX-8P)
Detailed Settings Screen (JX-8P)

Model Screen (SH-101)
Detailed Settings Screen (SH-101)

Model Screen (JD-800)
Detailed Settings Screen (JD-800)

REVERB parameters
REVERB list

MFX Parameters
MFX list
NO ASSIGN
FILTER
PHASER
FLANGER
CHORUS
MODULATION
DRIVE/AMP
COMP/LIMITER
DELAY
LOOPER
LO-FI
PITCH
COMBINATION
Note

Tone Screen / Drum Kit Screen (Common Items)

BROWSE
Accesses the Tone/Drum Kit Browser.

BASIC
Shows the operating screen in a compact format.

EDIT
Accesses the tone VISUAL/PRO screen or the drum kit VISUAL/PRO screen.

* This appears only in "Pro". It does not appear in "Lite" or in the unlabeled ZENOLOGY.

FX
Accesses the MFX, reverb screen.

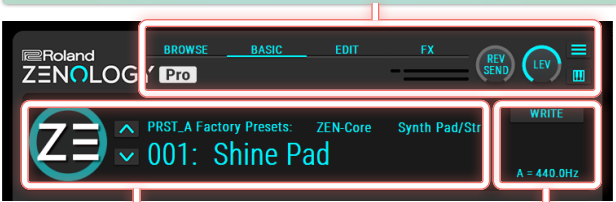
[REV SEND] knob
Adjusts the reverb send level.

[LEV] knob
Adjusts the overall volume of the tone or drum kit.

[☰] button
Accesses the following menu.

Revert MIDI Control Mapping to Default	Restores the MIDI control mapping to the default state.
Clear MIDI Control Mapping	Clears the assignments of control change numbers to parameters.
Voice Limit Light, Middle, Heavy	Specifies the load when generating notes.
Flip Scroll Direction (Only on Mac)	Inverts the direction of rotation when using the mouse wheel to edit a value.
Authentication	Performs user authentication for the ZENOLOGY.
Help	Shows the owner's manual (PDF).
About	Shows the About screen.

[🎹] buttons
Shows/hides the keyboard panel.

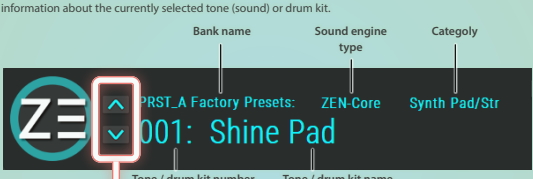


[WRITE] button
Accesses the Tone/Drum Kit Manager, allowing you to save a tone or drum kit.

[OVERWRITE] button
This is shown only when a USER BANK tone or drum kit is selected.
It saves the tone or drum kit directly to the currently selected BANK/NUMBER without going through the Tone/Drum Kit Manager screen.

[MASTER TUNE] button
Adjusts the pitch of the tone or drum kit.

Tone / drum kit indication
Shows information about the currently selected tone (sound) or drum kit.



[∧] [∨] buttons
Select the next or previous tone or drum kit.

* When you click this area, the Tone/Drum Kit Browser appears.

Tone Basic Screen

[MONO] button

Specifies whether the tone will play monophonically (ON) or polyphonically (OFF).

[UNISON] button

Layers multiple instances of a sound.

If unison is ON, the number of notes specified by each tone are layered together.

[LEGATO] button

This is available when LEGATO is turned ON while MONO is ON. It makes the pitch change smoothly during legato performance (playing the next key before releasing the previous key).

[PORTAMENTO] button

Specifies whether the portamento effect is applied (ON) or not applied (OFF).

Right-click	LEARN MIDI CC Assigns a control change to each button.



[CUTOFF] knob

Adjusts how far the filter is open.

Higher values make the sound brighter, and lower values make the sound darker.

[RESO] knob

Boosts the components of the sound that are near the cutoff frequency, adding a distinctive character to the sound.

Raising this value excessively might cause oscillation, making the sound distorted.

Higher values produce a stronger character, and lower values produce a weaker character.

[ATTACK] knob

Specifies the time from when the key is pressed until the sound completes its attack.

Higher values produce a softer attack, and lower values produce a sharper attack.

[RELEASE] knob

Specifies the time from when the key is released until the sound disappears.

Higher values produce a longer release, and lower values produce a crisper release.

[VIBRATO] knob

Adjusts the depth of the vibrato effect (the depth of pitch modulation).

Higher values produce greater pitch modulation, and lower values produce less modulation.

How to operate the knobs

Right-click	LEARN MIDI CC Assigns a control change to the parameter selected by [CUTOFF]–[VIBRATO].
Drag	Tone edit Edits each parameter.
Mouse wheel	Adjusts the value in smaller units.
Up/down keys on the computer keyboard, after operating a knob	
Click and drag to a position away from the knob	
Hold down the Shift key on the computer keyboard and drag the mouse	

How to restore a parameter to its default value

Windows	ctrl key + click
macOS	cmd key + click

to Contents

Tone VISUAL/PRO Screen

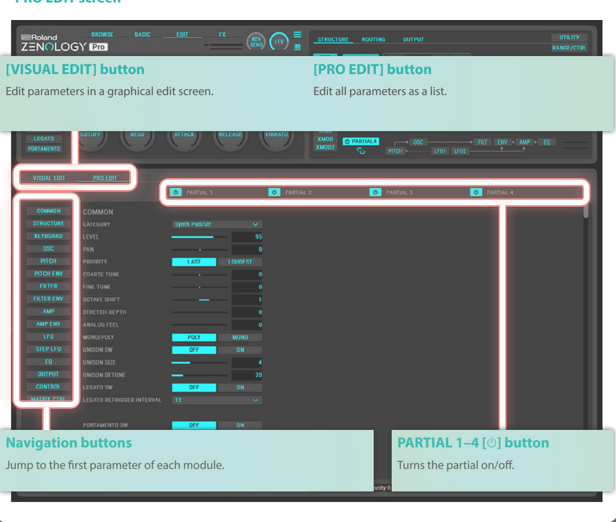
Switching between VISUAL EDIT and PRO EDIT

Press the [VISUAL EDIT] button to switch to the VISUAL EDIT screen, or the [PRO EDIT] button to switch to PRO EDIT.

VISUAL EDIT screen



PRO EDIT screen



VISUAL EDIT

You can use your mouse to change the position of the bordered area on the structure diagram and select a module that's visible in VISUAL EDIT. When you click one of the partials in STRUCTURE [PARTIAL 1–4], the layout shows the modules (PITCH, OSC, LFO, FILTER, AMP, EQ) for the partial in question.







* To display the same modules at the same time for partials 1–4, you can click the [⏻] button at top right to switch the partials on/off.

RANGE/CTRL

Within STRUCTURE, you can click one of the [RANGE CTRL] buttons to access a velocity range and matrix control edit screen for the corresponding partial.

KEYBOARD CONTROL

Specifies how partials are played according to your keyboard playing dynamics (velocity).

Specify the key range for each partial.

[P1]–[P4] buttons

Selects the partial to configure.

* You can also click the right mouse button and drag up and down in the KEYBOARD CONTROL area to select a partial.

Key Range

Make these settings when you want different key ranges to play different tones.

Specify the lowest note (Lower) and highest note (Upper) of the key range that you want to specify.

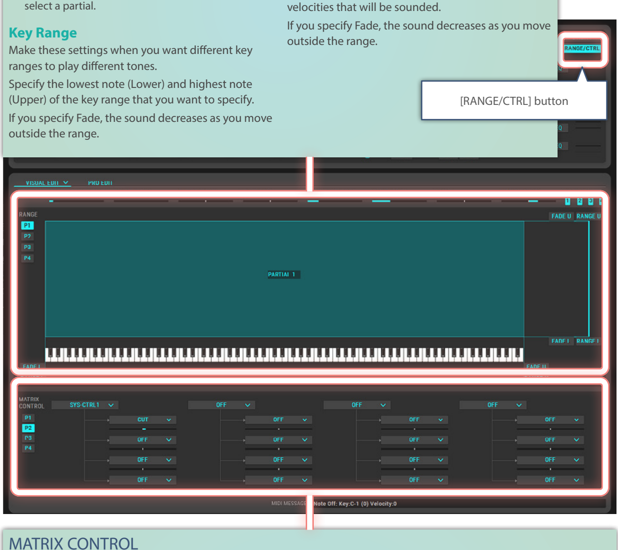
If you specify Fade, the sound decreases as you move outside the range.

Velocity Control

Make these settings when you want different partials to sound depending on keyboard playing dynamics.

Specify the softest (Lower) and strongest (Upper) velocities that will be sounded.

If you specify Fade, the sound decreases as you move outside the range.



MATRIX CONTROL

The function which allows you use MIDI messages to make these changes in realtime to the partial parameters is called the "Matrix Control". Up to four Matrix Controls (CTRL 1–4) can be used in a single tone. To use Matrix Control, you specify which MIDI message (Source) controls which parameter (Destination) and how deeply (Sens: sensitivity).

[P1]–[P4] buttons

Selects the partial to configure.

Source

Sets the MIDI message used to change the partial parameter with the Matrix Control.

Destination 1–4

Selects the partial parameter that is to be controlled when using the Matrix Control.

When not controlling parameters with the Matrix Control, set this to "OFF".

Up to four parameters can be specified for each Matrix Control, and controlled simultaneously.

Sens 1–4

Specify the effective depth of the matrix controls.

To make an increase in the currently selected value (to get higher values, move to the right, increase rates, and so on), select a positive (+) value; to make a decrease in the currently selected value (to get lower values, move to the left, decrease rates, and so on), select a negative (-) value.

For either positive or negative value, greater absolute values will allow greater amounts of change.

Set this to "0" if you don't want to apply the effect.

MIDI message



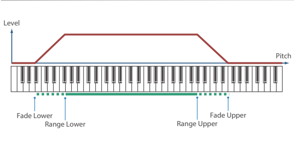
PRO EDIT parameters (KEYBOARD)

Velocity Control

OFF	Specifies how partials are played according to your keyboard playing dynamics (velocity).
ON	If this is "ON", different partials are sounded according to the playing velocity and the Velocity Range Lower/Upper and Velocity Fade Lower/Upper settings.
RANDOM	• If this is "RANDOM" or "CYCLE", each partial is sounded randomly or cyclically. • In the case of "RANDOM" or "CYCLE" when Structure 1-2 (3-4) has a setting other than OFF, partials 1 and 2 (3 and 4) are sounded as a pair, either randomly or in alternation.
CYCLE	• In the case of "RANDOM" or "CYCLE", velocity has no effect, but you'll need to make settings for each partial so that the Velocity Range does not conflict.

PMT Level Curve

EXP	When using Velocity Control to switch between partials, the crossfade level changes in a non-linear curve.
LINEAR	When using Velocity Control to switch between partials, the crossfade level changes in a linear curve.



Key Range Lower/Key Range Upper

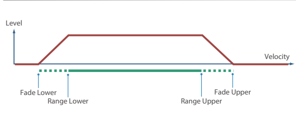
C-–G9	Specify the key range for each partial. Make these settings when you want different key ranges to play different tones. Specify the lower limit (Lower) and upper limit (Upper) of the key range.

Key Range Fade Lower

0–127	Specifies the degree to which the partial is sounded by notes played below the Keyboard Range Lower. If you don't want the tone to sound at all, set this parameter to "0".

Key Range Fade Upper

0–127	Specifies the degree to which the partial is sounded by notes played above the Keyboard Range Upper. If you don't want the tone to sound at all, set this parameter to "0".



Velocity Range Lower/Velocity Range Upper

1–127	Specify the lower limit (Lower) and upper limit (Upper) of the velocities that will sound the partial. Make these settings when you want different partials to sound depending on keyboard playing dynamics.

Velocity Fade Lower

0–127	Specifies the degree to which the partial is sounded by notes played more softly than Velocity Range Lower. If you don't want the tone to sound at all, set this parameter to "0".

Velocity Fade Upper

0–127	Specifies the degree to which the partial is sounded by notes played more strongly than Velocity Range Upper. If you don't want the tone to sound at all, set this parameter to "0".

PRO EDIT parameters (CONTROL)

Envelope Mode

NO-SUS, SUSTAIN	If this is set to SUSTAIN, the Envelope Level 3 is held from when the envelope Time 3 has elapsed until note-off. When note-off occurs, the envelope transitions from the current value to the Time 4 segment (release segment). If this is set to NO-SUS, the envelope transitions to the release segment after passing Time 3 regardless of the note-off timing, operating according to the times specified by the envelope.

Damper Free Note

OFF, 1–127	For notes above the specified note number, the Envelope Mode operates as NO-SUS. Use this to simulate the undamped region of a piano sound.

DF Decay Offset

-100–+100	Specifies a fine adjustment to the time over which the sound decays when the Damper Free Note effect is applied.

Receive Bender

OFF, ON	Specifies for each partial whether MIDI pitch bend messages are received (ON) or not received (OFF).

Receive Expression

OFF, ON	Specifies for each partial whether MIDI expression messages are received (ON) or not received (OFF).

Receive Hold-1

OFF, ON	Specifies for each partial whether MIDI hold 1 messages are received (ON) or not received (OFF).

Redamper Switch

OFF, ON	If Redamper Switch is ON, you can perform the Half Damper operations used for piano sounds. However, the following conditions must be satisfied in order to use this operation. • Envelope Mode is NO-SUS • Amp Envelope's Level 1 and 2 are 1 or greater • Amp Envelope's Times are Time 3 > Time4

Soft EQ Sens

0–100	Increases the proportion by which the EQ's High-Gain is lowered by the amount of pedal. With a setting of 0, this has no effect.

PRO EDIT parameters (MATRIX CONTROL)

A number of the more typical of the ZENOLOGY's partial parameters have been designed so they accept the use of Control Change (or other) MIDI messages for the purpose of making changes in their values. This provides you with a variety of means of changing the way tones are played.

For example, you can use the Modulation Bar to change the LFO cycle rate, or use the keyboard's touch to open and close a filter.

The function which allows you use MIDI messages to make these changes in realtime to the partial parameters is called the "Matrix Control".

Up to four Matrix Controls can be used in a single tone.

To use Matrix Control, you specify which MIDI message (Source) controls which parameter (Destination) and how deeply (Sens: sensitivity).

Source 1–4 (Matrix Control 1–4)

Sets the MIDI message used to change the partial parameter with the Matrix Control.

OFF	Matrix control will not be used.
CC01–31, CC33–95	Controller numbers 1–31, 33–95
BEND	Pitch bend
AFT	Aftertouch
SYS-CTRL1–4	The following MIDI messages control the parameters. SYS-CTRL1: CC01 SYS-CTRL2: Aftertouch SYS-CTRL3: CC02 SYS-CTRL4: CC04 • If using the "Tone/Drum Kit Manager Screen" command [EXPORT] - For Hardware/Zenbeats (ZC1) to play the settings on a hardware product, the system settings of each hardware product are used.
VELOCITY	Velocity (pressure you press a key with)
KEYFOLLOW	Keyfollow (keyboard position with C4 as 0)
TEMPO	Tempo specified by the DAW
LFO1, LFO2	LFO 1 LFO 2
PIT-ENV	Pitch envelope
FLT-ENV	Filter envelope
AMP-ENV	Amp Envelope

* Velocity and Keyfollow correspond to Note messages.

* Although there are no MIDI messages for LFO 1 through Amp Envelope, they can be used as Matrix Control. In this case, you can change the partial settings in realtime by playing tones.

NOTE

There are parameters that determine whether or not Pitch Bend, Controller Number 11 (Expression) and Controller Number 64 (Hold 1) are received (p. 5).

When these settings are "ON", and the MIDI messages are received, then when any change is made in the settings of the desired parameter, the Pitch Bend, Expression, and Hold 1 settings also change simultaneously. If you want to change the targeted parameters only, then set these to "OFF".

Destination 1–4 (MATRIX CONTROL 1–4)

Selects the partial parameter that is to be controlled when using the Matrix Control. The following parameters can be controlled.

When not controlling parameters with the Matrix Control, set this to "OFF".

Up to four parameters can be specified for each Matrix Control, and controlled simultaneously.

OFF	Matrix control will not be used.
PCH	Changes the pitch.
CUT	Changes the cutoff frequency.
RES	Emphasizes the overtones in the region of the cutoff frequency, adding character to the sound.
LEV	Changes the volume level.
PAN	Changes the pan.
CHO	Does not function on this product. If using the "Tone/Drum Kit Manager Screen" command [EXPORT]- For Hardware/Zenbeats (ZC1) to play the settings on another product, this changes the depth of that product's chorus.
REV	Does not function on this product. If using the "Tone/Drum Kit Manager Screen" command [EXPORT]- For Hardware/Zenbeats (ZC1) to play the settings on another product, this changes the depth of that product's reverb.
PIT-LFO1, PIT-LFO2	Changes the vibrato depth.
FLT-LFO1, FLT-LFO2	Changes the wah depth.
AMP-LFO1, AMP-LFO2	Changes the tremolo depth.
PAN-LFO1, PAN-LFO2	Changes the effect that the LFO will have on pan.
LFO1-RATE, LFO2-RATE	Changes the speed of the LFO cycles. The speed will not change if LFO Rate is set to "note".
PIT-ATK	Changes the Time 1 of the pitch envelope.
PIT-DCY	Changes the Time 2 and Env Time 3 of the pitch envelope.
PIT-REL	Changes the Time 4 of the pitch envelope.
FLT-ATK	Changes the Time 1 of the FLT envelope.
FLT-DCY	Changes the Time 2 and Env Time 3 of the FLT envelope.
FLT-REL	Changes the Time 4 of the FLT envelope.
AMP-ATK	Changes the Time 1 of the Amp Envelope.
AMP-DCY	Changes the Time 2 and Env Time 3 of the Amp Envelope.
AMP-REL	Changes the Time 4 of the Amp Envelope.
PMT	If the Matrix Control is used to split partials, set the PMT "Velocity Control" to "OFF". • If the Matrix Control is used to split partials, we recommend setting the to Sens 1–4 to "+63". Selecting a lower value may prevent switching of the partials. Furthermore, if you want to reverse the effect, set the value to "-63". • If you want to use matrix control to switch smoothly between partials, use the "Velocity Fade Lower" and "Velocity Fade Upper". The higher the values set, the smoother the switch is between the partials.
FXM	Changing the depth of frequency modulation produced by FXM
MFX-CTRL1, MFX-CTRL2, MFX-CTRL3, MFX-CTRL4	Applies a change to MFX CONTROL 1–4 Source. If this is specified for more than one partial, the result will be the summed values.
PW	Applies change to PW.
PWM	Applies change to PWM.
FAT	Applies change to FAT.
X-MOD	This setting is valid only for the carrier partial (Partial 1 or 3), and applies change to the CrossMod1-2Depth or CrossMod3-4Depth.
LFO1-STEP, LFO2-STEP	This is valid if the LFO1/LFO2 Waveform is STEP; it specifies the step position. In this case, the Sens value is ignored.
SSAW-DETN	This is effective if OSC Type is SuperSAW; it applies change to Super-SAW Detune.
PIT-DEPTH	Changes the depth of the Pitch envelope.
FLT-DEPTH	Changes the depth of the Filter envelope.
AMP-DEPTH	Changes the depth of the Amp Envelope.
XMOD2	This is effective when Structure 1-2 (3-4) is XMOD2; it applies change to XMOD2 1-2 (3-4) Depth.
ATT	Changes the OSC's OSC ATTENUATOR.
RING-OSC1-LEV	This is effective if Structure is RING. In the case of Partial 1: Changes the RING OSC 1 LEVEL of STRUCTURE. In the case of Partial 2: This setting has no effect. In the case of Partial 3: Changes the RING OSC 3 LEVEL of STRUCTURE. In the case of Partial 4: This setting has no effect.
RING-OSC2-LEV	This is effective if Structure is RING. In the case of Partial 1: Changes the RING OSC 2 LEVEL of STRUCTURE. In the case of Partial 2: This setting has no effect. In the case of Partial 3: Changes the RING OSC 4 LEVEL of STRUCTURE. In the case of Partial 4: This setting has no effect.
XMOD-OSC1-LEV	This is effective when Structure is XMOD or XMOD2. In the case of Partial 1: Changes the XMOD OSC 1 LEVEL of STRUCTURE. In the case of Partial 2: This setting has no effect. In the case of Partial 3: Changes the XMOD OSC 3 LEVEL of STRUCTURE. In the case of Partial 4: This setting has no effect.
XMOD-OSC2-LEV	This is effective when Structure is XMOD or XMOD2. In the case of Partial 1: Changes the XMOD OSC 2 LEVEL of STRUCTURE. In the case of Partial 2: This setting has no effect. In the case of Partial 3: Changes the XMOD OSC 4 LEVEL of STRUCTURE. In the case of Partial 4: This setting has no effect.

Sens 1–4 (MATRIX CONTROL 1–4)

-63–+63	Specify the effective depth of the matrix controls. To make an increase in the currently selected value (to get higher values, move to the right, increase rates, and so on), select a positive (+) value; to make a decrease in the currently selected value (to get lower values, move to the left, decrease rates, and so on), select a negative (-) value. For either positive or negative value, greater absolute values will allow greater amounts of change. Set this to "0" if you don't want to apply the effect.

FX

In the tone screen, press the [FX] button to access the MFX screen and the REVERB screen.

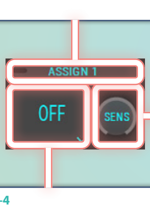


MFX CONTROL

You can make the MFX Control Destination 1–4 change according to Source 1–4. When multiple Sources are specified for a single Destination, the values are added together.

ASSIGN 1–4 (DESTINATION 1–4)

Use drag and drop to specify which of the multi-effect parameters are controlled using MFX CONTROL. The multi-effects parameters available for control will depend on the multi-effects type.



Source 1–4

Specifies the MIDI message that will control the corresponding MFX CONTROL parameter.

Sens 1–4

Specifies the depth of MFX CONTROL.

Specify a positive (+) value if you want to change the value of the assigned destination in a positive direction (larger, toward the right, faster, etc.), or specify a negative (-) value if you want to change the value in a negative direction (smaller, toward the left, slower, etc.). Larger values will allow a greater amount of control.

1 Tone screen

➡ "Tone Screen / Drum Kit Screen (Common Items)"
➡ "Tone Basic Screen"

2 Structure/Routing/Output

Structure lets you sound two partials as a set.
You can create a wide range of sounds by using partial 2 or 4 (the modulator) to modulate partial 1 or 3 (the carrier).
Since the Structure uses two partials as a pair, it provides parameters that are used in common by the carrier and modulator.

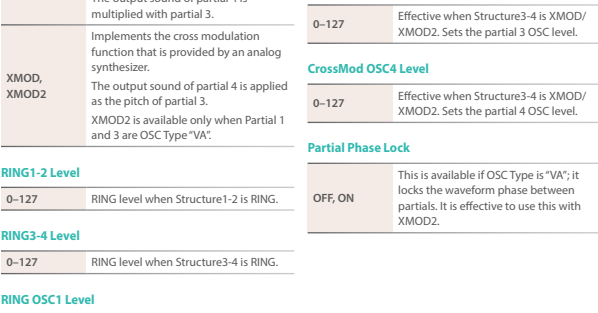
[UTILITY] button

Copy/paste parameters in entire units (Tone Partial 1–4, Drum Kit Key/Inst, Drum Kit Comp 1–6, MFX).

Copy	Copies the selected parameter from the currently selected tone or drum kit to the clipboard.
Paste	Pastes the selected parameter from the clipboard to the current tone or drum kit.
Initialize	Initializes the tone, partial or other element.

[RANGE/CTRL] button

Shows a layout in which the tone VISUAL EDIT screen shows the velocity range and matrix control edit screen of each partial.



[⏻ PARTIAL 1–4] button

Turns the partial on/off.

Partial Edit Link ( ) button

Use these buttons to select multiple partials to edit at the same time.

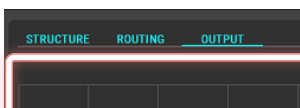
Partial volume

Shows the volume of each partial.

[OFF] button

The two partials are used individually (not as a pair).

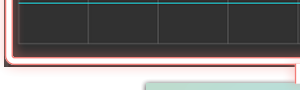
[SYNC] button



Implements the oscillator sync function that is provided by an analog synthesizer.
The partial 1 oscillator is reset at intervals of partial 2's pitch cycle.

* This is effective only if OSC Type is VA or PCM-Sync.

[RING] button



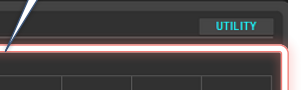
Implements the ring modulator function that is provided by an analog synthesizer.
The output sound of partial 2 is multiplied with partial 1.

[XMOD] [XMOD2] buttons

XMOD



XMOD2



Implements the cross modulation function that is provided by an analog synthesizer.
The output sound of partial 2 is applied as the pitch of partial 1.

* XMOD2 is available only when Partial 1 and 3 are OSC Type "VA".

PRO EDIT parameter (STRUCTURE)

Structure lets you sound two partials as a set.
You can create a wide range of sounds by using partial 2 or 4 (the modulator) to modulate partial 1 or 3 (the carrier).
Since the Structure uses two partials as a pair, it provides parameters that are used in common by the carrier and modulator.
For the following parameters, only the partial settings of the carrier are valid (the settings of the modulator are ignored).

KEYBOARD
- Keyboard Range Lower
- Keyboard Range Upper
- Keyboard Fade Width Lower
- Keyboard Fade Width Upper
- Velocity Range Lower
- Velocity Range Upper
- Velocity Fade Width Lower
- Velocity Fade Width Upper

SWITCH
- Partial Switch

OSC
- Delay Mode (note)
- Delay Mode
- Delay Time Sync
- Delay Time (note)
- Delay Time

CONTROL
- Envelope Mode
- Receive Hold-1
- Redamper Switch
- Damper Free Note

MATRIX CONTROL
- Destination: PMT
- Destination: CROSS-MOD

Structure1-2

The sound of partial 1 is modulated by partial 2.

OFF	OFF
SYNC	Implements the oscillator sync function that is provided by an analog synthesizer. The partial 1 oscillator is reset at intervals of partial 2's pitch cycle. This is effective only if OSC Type is VA or PCM-Sync.
RING	Implements the ring modulator function that is provided by an analog synthesizer. The output sound of partial 2 is multiplied with partial 1.
XMOD, XMOD2	Implements the cross modulation function that is provided by an analog synthesizer. The output sound of partial 2 is applied as the pitch of partial 1. XMOD2 is available only when Partial 1 and 3 are OSC Type "VA".

Structure3-4

The sound of partial 3 is modulated by partial 4.

OFF	OFF
SYNC	Implements the oscillator sync function that is provided by an analog synthesizer. The partial 3 oscillator is reset at intervals of partial 4's pitch cycle. This is effective only if OSC Type is VA or PCM-Sync.
RING	Implements the ring modulator function that is provided by an analog synthesizer. The output sound of partial 4 is multiplied with partial 3.
XMOD, XMOD2	Implements the cross modulation function that is provided by an analog synthesizer. The output sound of partial 4 is applied as the pitch of partial 3. XMOD2 is available only when Partial 1 and 3 are OSC Type "VA".

RING1-2 Level

0–127	RING level when Structure1-2 is RING.

RING3-4 Level

0–127	RING level when Structure3-4 is RING.

RING OSC1 Level

0–127	Effective when Structure1-2 is RING. Sets the partial 1 OSC level.

RING OSC2 Level

0–127	Effective when Structure1-2 is RING. Sets the partial 2 OSC level.

RING OSC3 Level

0–127	Effective when Structure3-4 is RING. Sets the partial 3 OSC level.

RING OSC4 Level

0–127	Effective when Structure3-4 is RING. Sets the partial 4 OSC level.

XMOD 1-2 Depth

0–10800 [cent]	Cross Modulation Depth when Structure1-2 is XMOD.

XMOD 3-4 Depth

0–10800 [cent]	Cross Modulation Depth when Structure3-4 is XMOD.

XMOD2 1-2 Depth

0–127	Cross Modulation Depth when Structure1-2 is XMOD2.

XMOD2 3-4 Depth

0–127	Cross Modulation Depth when Structure3-4 is XMOD2.

CrossMod OSC1 Level

0–127	Effective when Structure1-2 is XMOD/XMOD2. Sets the partial 1 OSC level.

CrossMod OSC2 Level

0–127	Effective when Structure1-2 is XMOD/XMOD2. Sets the partial 2 OSC level.

CrossMod OSC3 Level

0–127	Effective when Structure3-4 is XMOD/XMOD2. Sets the partial 3 OSC level.

CrossMod OSC4 Level

0–127	Effective when Structure3-4 is XMOD/XMOD2. Sets the partial 4 OSC level.

Partial Phase Lock

OFF, ON	This is available if OSC Type is "VA"; it locks the waveform phase between partials. It is effective to use this with XMOD2.

OUTPUT

Mouse operations

Drag (horizontal)	Zooms the waveform's time axis in/out.
Drag (vertical)	Zooms the waveform display's level axis in/out.
Mouse wheel	Zooms the waveform's time axis in/out.

ROUTING

[⏻ PARTIAL 1–4] button

Turns the partial on/off.

[PARTIAL LEVEL] knob

Adjusts the volume of the partial.

[TONE LEVEL] knob

Adjusts the overall volume for all tones.

[PARTIAL REV SEND] knob

Adjusts the reverb send amount for each partial.

[DRY/MFX] switch

Sets whether to output only the direct sound (DRY) or the sound with effects applied (MFX).

[LEVEL] knob

Adjusts the overall volume.

[⏻ MFX] button

Turns MFX on/off.

[MFX LEVEL] knob

Adjusts the volume of the MFX.

[MFX REV SEND] knob

Adjusts the reverb send amount for the MFX.

[REV SEND] knob

Adjusts the reverb send amount for the entire tone.

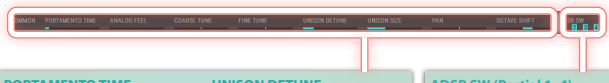
[⏻ REVERB] button

Turns reverb on/off.

[REV LEVEL] knob

Adjusts the volume of the reverb.

3 Overall settings (COMMON)



PORTAMENTO TIME
When portamento is used, this specifies the time over which the pitch will change.

ANALOG FEEL
Applies time-varying change to the pitch and volume of the tone that is producing sound, adding a sense of variability.

COARSE TUNE
Shifts the pitch in units of a semitone.

FINE TUNE
Finely adjusts the pitch in units of one cent.

UNISON DETUNE
Detunes each of the notes that are allocated by the Unison Size number, producing a detuned effect.

UNISON SIZE
If unison is on, this specifies the number of notes that are assigned to each key that is pressed.

PAN
Specifies the pan of the tone.

OCTAVE SHIFT
Adjusts the pitch of the tone's sound up or down in units of an octave (+/-3 octaves).

ADSR SW (Partial 1–4)
This imitates the operation of the ADSR envelope that is provided on an analog synthesizer.

If ADSR Env Switch is ON, the "Time 2" parameters of Pitch/Filter/Amp Env Time respectively are ignored, and only the "Level 3" parameters of Pitch/Filter/Amp Env Level are valid.

PRO EDIT parameters (COMMON)

Category

(Category name)	Selects the tone's category.

Level

0–127	Adjusts the overall volume of the tone. * This is a different parameter than the LEVEL and Common Level parameters in "Tone Screen / Drum Kit Screen (Common Items)". Common Level is also effective when using the "Tone/Drum Kit Manager Screen" command [EXPORT]- For Hardware/Zenbeats (ZC1) to play the settings on a hardware product. In contrast, the LEVEL parameter of the tone screen and drum kit screen is effective only on this product.

Pan

L64–0–63R	Specifies the pan of the tone. "L64" is far left, "0" is center, and "63R" is far right.

Priority
This determines how notes will be managed when the maximum polyphony is exceeded.

LAST	The last-played voices will be given priority, and currently sounding notes will be turned off in order, beginning with the first-played note.
LOUDEST	The voices with the loudest volume will be given priority, and currently sounding notes will be turned off, beginning with the lowestvolume voice.

Coarse Tune

-48–+48 [semitone]	Adjusts the pitch of the sound up or down in semitone steps (+/-4 octaves).

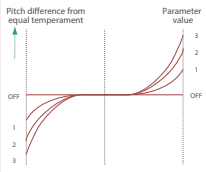
Fine Tune

-50–+50 [cent]	Adjusts the pitch of the sound up or down in 1-cent steps (+/-50 cents).

Octave Shift

-3–+3	Adjusts the pitch of the tone's sound up or down in units of an octave (+/-3 octaves).

Stretch Tune Depth

OFF, 1–3	This setting allows you to apply "stretched tuning" to the tone. (Stretched tuning is a system by which acoustic pianos are normally tuned, causing the lower range to be lower and the higher range to be higher than the mathematical tuning ratios would otherwise dictate.) With a setting of "OFF", the tone's tuning will be equal temperament. A setting of "3" will produce the greatest difference in the pitch of the low and high ranges. The diagram shows the pitch change relative to equal temperament that will occur in the low and high ranges. This setting will have a subtle effect on the way in which chords resonate. 

Analog Feel

0–127	Applies time-varying change to the pitch and volume of the tone that is producing sound, adding a sense of variability. As you increase this value toward the maximum, the variability becomes greater, producing instability.

Mono/Poly
Specifies whether the tone will play polyphonically (POLY) or monophonically (MONO).

MONO	Sound only the last-played key one at a time.
POLY	Two or more notes can be played simultaneously.

Unison Switch

OFF, ON	This layers a single sound. If the Unison Switch is on, the number of notes layered on one key will change according to the number of keys you play. • If the OSC Type is PCM, this is limited to mono playing. • If the Legato Switch is on, the Delay Time is ignored while playing legato. • Even if Legato Retrigger Interval is specified, it operates as OFF.

Unison Size

2–8	If unison is on, this specifies the number of notes that are assigned to each key that is pressed. Increasing the Unison Size increases the polyphony, making it more likely that notes will be cut off.

Unison Detune

0–100	Detunes each of the notes that are allocated by the Unison Size number, producing a detuned effect. As you increase this value, each note is detuned more greatly, producing a thicker sound.

Legato Switch

OFF, ON	This is effective when MONO/POLY is set to MONO and Legato Switch is turned ON. When you press the next key while still holding down the previous key (legato performance), the pitch changes smoothly. The way in which the change occurs depends on the Legato Retrigger Interval.

Legato Retrigger Interval

0–12, OFF	When Legato Switch is enabled and you play legato, this specifies whether retriggering occurs (0–12) or does not occur (OFF). If this is off, only the pitch of the currently-sounding tones changes according to the pitch of the key. If this is set to 1–12, retriggering occurs smoothly when the pitch difference during legato performance exceeds the specified value. For example, if this is set to 4, and using C4 as the reference pitch, playing notes Db4–E4 legato will change only the pitch without retriggering, but playing the F4 note (which is five semitones away from C4) legato will retrigger F4. When F4 is retriggered at this time, F4 now becomes the reference pitch. If this is set to 0, each note is retriggered every time regardless of the pitch difference. For acoustic-type sounds in particular, an unnatural impression can occur if only the pitch is changed, so you'll need to adjust the Legato Retrigger Interval.

Portamento Switch

OFF, ON	Specifies whether the portamento effect will be applied (ON) or not applied (OFF). * Portamento is an effect which smoothly changes the pitch from the first-played key to the next-played key. By applying portamento when the MONO/POLY parameter is "MONO", you can simulate slide performance techniques on a violin or similar instrument.

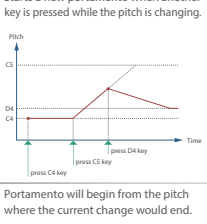
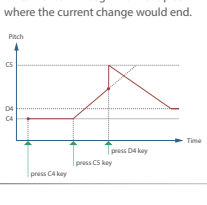
Portamento Mode
Specifies the performance conditions for which portamento will be applied.

NORMAL	Portamento will always be applied.
LEGATO	Applies portamento only when you play legato (i.e., when you press the next key before releasing the previous key).

Portamento Type
Specifies the type of portamento effect.

RATE	The time it takes will depend on the distance between the two pitches.
TIME	The time it takes will be constant.

Portamento Start
When another key is pressed during a pitch change produced by portamento, a new pitch change will begin. This setting specifies the pitch at which the change will begin.

Pitch	Starts a new portamento when another key is pressed while the pitch is changing. 
NOTE	Portamento will begin from the pitch where the current change would end. 

Portamento Time

0–1023	When portamento is used, this specifies the time over which the pitch will change. Higher settings will cause the pitch change to the next note to take more time.

Bend Range Up

0–48 [semitone]	Specifies the degree of pitch change in semitones when the Pitch Bend lever is all the way right. For example, if this parameter is set to "48", the pitch will rise four octave when the pitch bend lever is moved to the right-most position.

Bend Range Down

0–48 [semitone]	Specifies the degree of pitch change in semitones when the Pitch Bend lever is all the way left. For example if this is set to "48" and you move the pitch bend lever all the way to the left, the pitch will fall 4 octaves.

Bend Range Fine Up

0–100 [cent]	Finely adjusts the degree of pitch change in one-cent units when the Pitch Bend lever is moved to the right.

Bend Range Fine Down

0–100 [cent]	Finely adjusts the degree of pitch change in one-cent units when the Pitch Bend lever is moved to the left.

Bend Mode

NORMAL	The pitch bend lever works in the conventional way.
CATCH + LAST	The pitch bend effect applies only to the last-played note. If a note-on occurs while pitch bend is already applied, the new note sounds at the center pitch. The pitch starts changing only after the controller passes through the center position.

Soft Level Sens

0–100	Specifies the amount of volume change that occurs when you operate the soft pedal (CC#67). This is effective when specified for piano sounds.

ADSR Envelope Switch

OFF, ON	This imitates the operation of the ADSR envelope that is provided on an analog synthesizer. If ADSR Env Switch is ON, the "Time 2" parameters of Pitch/Filter/Amp Env Time respectively are ignored, and only the "Level 3" parameters of Pitch/Filter/Amp Env Level are valid.

Partial Switch

OFF, ON	Use these switch to turn the partials on/off.

4 OSC

OSC common

OSC Type

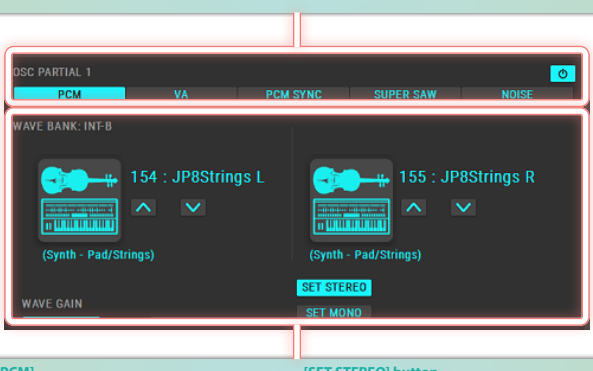
Specifies the oscillator type.

[PCM]	PCM is used. Click to open the Wave Browser. You can use bank and category to narrow the search results, or use keyword search to select a wave.
[VA]	A numerically calculated analog-modeled wave is generated.
[PCM SYNC]	A PCM wave that allows an oscillator sync effect with STRUCTURE = SYNC is used.
[SUPER SAW]	SuperSAW is used.
[NOISE]	White noise is used.

[⏻] button

Turn each partial on/off.

* These are shown only in the module layout.



[PCM]

PCM is used.

Click to open the Wave Browser. You can use bank and category to narrow the search results, or use keyword search to select a wave.

WAVE GAIN

Specifies the gain (amplitude) of the waveform.

The value will change in 6 dB (decibel) steps.

Each 6 dB increase doubles the gain.

[SET STEREO] button

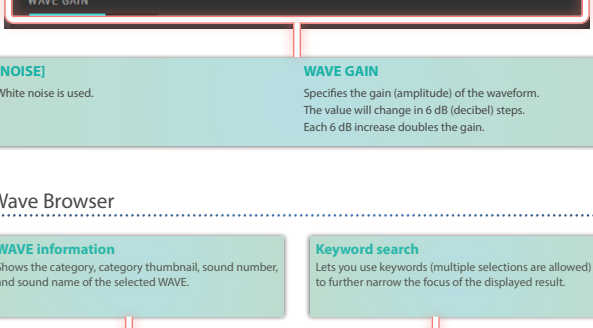
Turn this on if you want to use the wave in stereo. Wave Number R is specified automatically (the wave that follows Wave Number L).

This turns off if you select [SET MONO] or if you select a wave for R that is other than L+1.

[SET MONO] button

Selects monophonic performance (MONO).

Sound only the last-played key one at a time.



[VA]

A numerically calculated analog-modeled wave is generated.

[⋀⋀]	Sawtooth wave
[⊓⊔]	Square wave
[◺◺]	Triangle wave
[∿]	Sine wave
[RAMP]	Ramp wave
[JUNO]	Modulated sawtooth wave
[◺◺2]	Triangle wave variation
[◺◺3]	Triangle wave variation
[∿2]	Sine wave variation

WAVE GAIN

Specifies the gain (amplitude) of the waveform.

The value will change in 6 dB (decibel) steps.

Each 6 dB increase doubles the gain.

PULSE WIDTH

This effect is produced when the waveform is deformed by varying the duty cycle of the pulse width.

It is also effective with waveforms other than SQR (square wave).

* If the value is 64, the pulse width has a 50%:50% duty cycle.

PWM DEPTH (LFO2)

Specifies the amount (depth) of LFO applied to PW (Pulse Width).

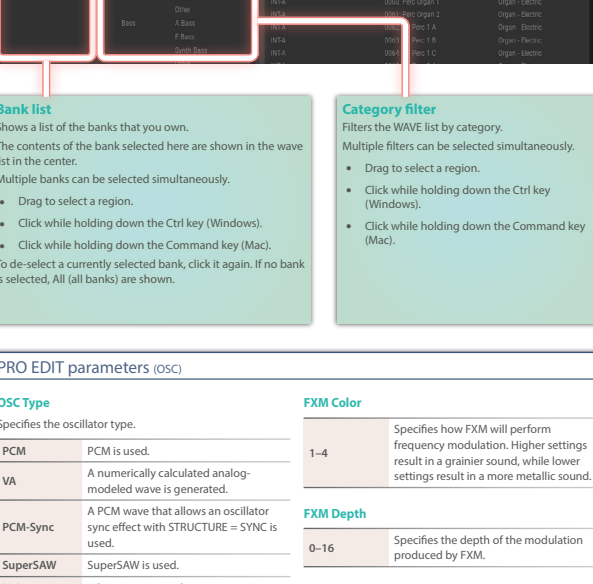
PW is modulated according to the LFO2 setting.

FAT

Boosts the low-frequency region.

INVERT

If this is ON, the phase of the VA waveform is inverted.



[PCM SYNC]

When "PCM-Sync" is selected for the OSC Type, set the wave to use here.

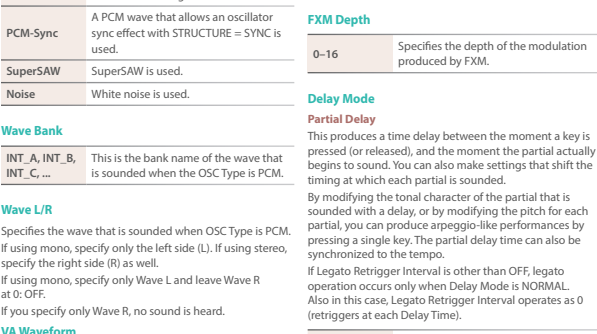
PCM-Sync is an effective oscillator type when "SYNC" is selected for the structure, when partial 1 is set for Structure 1-2 and when partial 3 is set for Structure 3-4.

WAVE GAIN

Specifies the gain (amplitude) of the waveform.

The value will change in 6 dB (decibel) steps.

Each 6 dB increase doubles the gain.



[SUPER SAW]

SuperSAW is used.

SUPER SAW DETUNE

Adjusts the Detune depth for SuperSAW.

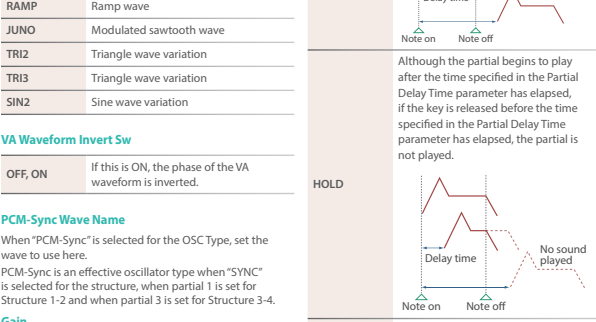
Higher values produce a deeper Detune effect.

WAVE GAIN

Specifies the gain (amplitude) of the waveform.

The value will change in 6 dB (decibel) steps.

Each 6 dB increase doubles the gain.



[NOISE]

White noise is used.

WAVE GAIN

Specifies the gain (amplitude) of the waveform.

The value will change in 6 dB (decibel) steps.

Each 6 dB increase doubles the gain.

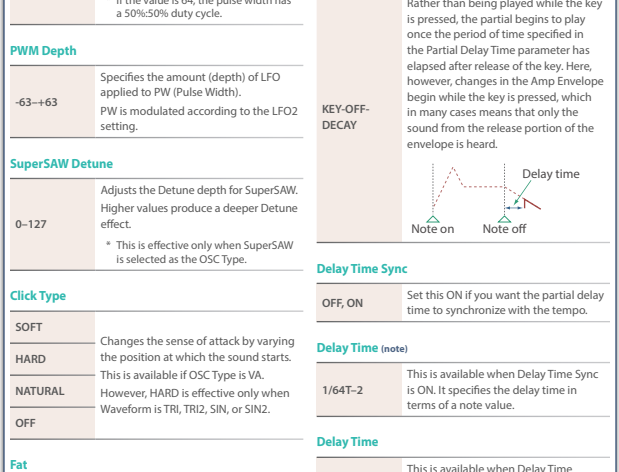
Wave Browser

WAVE information

Shows the category, category thumbnail, sound number, and sound name of the selected WAVE.

Keyword search

Lets you use keywords (multiple selections are allowed) to further narrow the focus of the displayed result.



Bank list

Shows a list of the banks that you own.

The contents of the bank selected here are shown in the wave list in the center.

Multiple banks can be selected simultaneously.

- Drag to select a region.
- Click while holding down the Ctrl key (Windows).
- Click while holding down the Command key (Mac).

To de-select a currently selected bank, click it again. If no bank is selected, All (all banks) are shown.

Category filter

Filters the WAVE list by category.

Multiple filters can be selected simultaneously.

- Drag to select a region.
- Click while holding down the Ctrl key (Windows).
- Click while holding down the Command key (Mac).

PRO EDIT parameters (OSC)

OSC Type

Specifies the oscillator type.

PCM	PCM is used.
VA	A numerically calculated analog-modeled wave is generated.
PCM-Sync	A PCM wave that allows an oscillator sync effect with STRUCTURE = SYNC is used.
SuperSAW	SuperSAW is used.
Noise	White noise is used.

Wave Bank

INT_A, INT_B, INT_C, ...	This is the bank name of the wave that is sounded when the OSC Type is PCM.

Wave L/R

Specifies the wave that is sounded when OSC Type is PCM.

If using mono, specify only the left side (L). If using stereo, specify the right side (R) as well.

If using mono, specify only Wave L and leave Wave R at 0: OFF.

If you specify only Wave R, no sound is heard.

VA Waveform

Specifies the wave that is used when OSC Type is VA.

SAW	Sawtooth wave
SQR	Square wave
TRI	Triangle wave
SIN	sine wave
RAMP	Ramp wave
JUNO	Modulated sawtooth wave
TRI2	Triangle wave variation
TRI3	Triangle wave variation
SIN2	Sine wave variation

VA Waveform Invert Sw

OFF, ON	If this is ON, the phase of the VA waveform is inverted.

PCM-Sync Wave Name

When "PCM-Sync" is selected for the OSC Type, set the wave to use here.

PCM-Sync is an effective oscillator type when "SYNC" is selected for the structure, when partial 1 is set for Structure 1-2 and when partial 3 is set for Structure 3-4.

Gain

-18–+12 [dB]	Specifies the gain (amplitude) of the waveform. The value will change in 6 dB (decibel) steps. Each 6 dB increase doubles the gain.

Pulse Width

0–127	This effect is produced when the waveform is deformed by varying the duty cycle of the pulse width. It is effective when OSC Type is VA, and is also effective with waveforms other than SQR (square wave). * If the value is 64, the pulse width has a 50%:50% duty cycle.

PWM Depth

-63–+63	Specifies the amount (depth) of LFO applied to PW (Pulse Width). PW is modulated according to the LFO2 setting.

SuperSAW Detune

0–127	Adjusts the Detune depth for SuperSAW. Higher values produce a deeper Detune effect. * This is effective only when SuperSAW is selected as the OSC Type.

Click Type

SOFT HARD NATURAL OFF	Changes the sense of attack by varying the position at which the sound starts. This is available if OSC Type is VA. However, HARD is effective only when Waveform is TRI, TRI2, SIN, or SIN2.

Fat

0–127	Boosts the low-frequency region. This is effective if OSC Type is VA.

OSC Attenuator

0–255	Specifies the OSC level. 255 is the reference value. If you want only the self-oscillation of the filter to be heard, set this to 0.

FXM Switch

OFF, ON	This sets whether FXM will be used (ON) or not (OFF). * FXM (Frequency Cross Modulation) uses a specified waveform to apply frequency modulation to the currently selected waveform, creating complex overtones. This is useful for creating dramatic sounds or sound effects.

FXM Color

1–4	Specifies how FXM will perform frequency modulation. Higher settings result in a grainier sound, while lower settings result in a more metallic sound.

FXM Depth

0–16	Specifies the depth of the modulation produced by FXM.

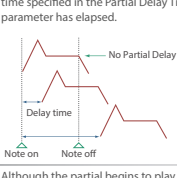
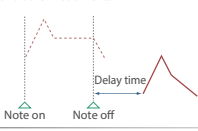
Delay Mode

Partial Delay

This produces a time delay between the moment a key is pressed (or released), and the moment the partial actually begins to sound. You can also make settings that shift the timing at which each partial is sounded.

By modifying the tonal character of the partial that is sounded with a delay, or by modifying the pitch for each partial, you can produce arpeggio-like performances by pressing a single key. The partial delay time can also be synchronized to the tempo.

If Legato Retrigger Interval is other than OFF, legato operation occurs only when Delay Mode is NORMAL. Also in this case, Legato Retrigger Interval operates as 0 (retriggers at each Delay Time).

NORMAL	The partial begins to play after the time specified in the Partial Delay Time parameter has elapsed. 
HOLD	Although the partial begins to play after the time specified in the Partial Delay Time parameter has elapsed, if the key is released before the time specified in the Partial Delay Time parameter has elapsed, the partial is not played.
KEY-OFF-NORMAL	Rather than being played while the key is pressed, the partial begins to play once the period of time specified in the Partial Delay Time parameter has elapsed after release of the key. This is effective in situations such as when simulating noises from guitars and other instruments. 
KEY-OFF-DECAY	Rather than being played while the key is pressed, the partial begins to play once the period of time specified in the Partial Delay Time parameter has elapsed after release of the key. Here, however, changes in the Amp Envelope begin while the key is pressed, which in many cases means that only the sound from the release portion of the envelope is heard.

Delay Time Sync

OFF, ON	Set this ON if you want the partial delay time to synchronize with the tempo.

Delay Time (note)

1/64T–2	This is available when Delay Time Sync is ON. It specifies the delay time in terms of a note value.

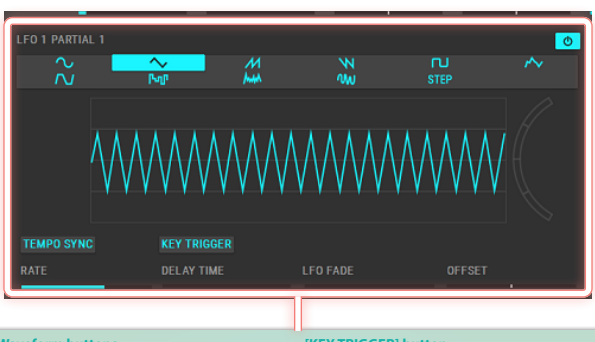
Delay Time

0–1023	This is available when Delay Time Sync is OFF. It specifies the delay time without regard to the tempo.

Wave Tempo Sync

OFF, ON	Adjust wave playback to the tempo. Valid only when you select a Wave with BPM. When this feature is enabled, the parameters associated with pitch and FXM are disabled, and for the carrier side of the XMOD, the XMOD effect is disabled.

5 LFO1/2



Waveform buttons
Selects the waveform of the LFO.

	Sine wave
	Triangle wave
	Sawtooth wave
	Sawtooth wave (negative polarity)
	Square wave
	Random wave
	Trapezoidal wave
	Sample & Hold wave (one time per cycle, LFO value is changed)
	Chaos wave
	Modified sine wave. The amplitude of asine wave is randomly varied once eachcycle.
STEP	A waveform generated by the data specified by LFO Step 1–16. This produces stepped change with a fixed pattern similar to a step modulator.

[TEMPO SYNC] button
Set this ON if you want the LFO rate to synchronize with the tempo.

[KEY TRIGGER] button
Specifies whether the LFO cycle will be synchronized to begin when the key is pressed (ON) or not (OFF).

RATE
If Rate Sync is OFF, this specifies the LFO rate independently of the tempo. Increasing this value shortens the cycle of the LFO.
If Rate Sync is ON, this specifies the LFO rate as a note value.

DELAY TIME
Specifies the time elapsed before the LFO effect is applied (the effect continues) after the key is pressed (or released).
* After referring to "How to Apply the LFO", change the setting until the desired effect is achieved.

FADE TIME
Specifies the time over which the LFO amplitude will reach the maximum (minimum).
* After referring to "How to Apply the LFO", change the setting until the desired effect is achieved.

OFFSET
Raises or lowers the LFO waveform relative to the central value (pitch or cutoff frequency). Positive (+) value will move the waveform so that modulation will occur from the central value upward. Negative (-) value will move the waveform so that modulation will occur from the central value downward.

[⏻] button
Turn each partial on/off.
* These are shown only in the module layout.

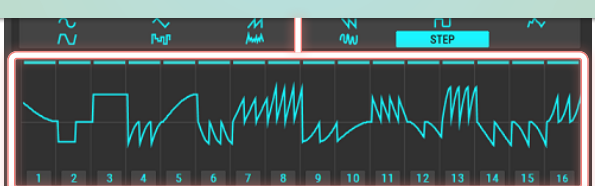
If STEP is selected for LFO

LENGTH (upper bar)
Specifies the number of steps. The active steps are highlighted.

Waveform display for each step
When you click the ■ (step number) below the waveform, a popup appears, allowing you to select the waveform of that step.



You can change the Step Level by dragging the waveform up/down.



[TEMPO SYNC] button
Set this ON if you want the LFO rate to synchronize with the tempo.

[KEY TRIGGER] button
Specifies whether the LFO cycle will be synchronized to begin when the key is pressed (ON) or not (OFF).

RATE
If Rate Sync is OFF, the LFO rate is specified independently of the tempo. Increasing this value shortens the cycle of the LFO.
If Rate Sync is ON, this specifies the LFO rate as a note value.

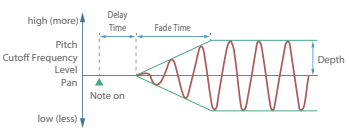
DELAY TIME
Specifies the time elapsed before the LFO effect is applied (the effect continues) after the key is pressed (or released).
* After referring to "How to Apply the LFO", change the setting until the desired effect is achieved.

FADE TIME
Specifies the time over which the LFO amplitude will reach the maximum (minimum).
* After referring to "How to Apply the LFO", change the setting until the desired effect is achieved.

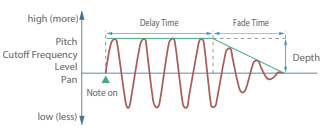
OFFSET
Raises or lowers the LFO waveform relative to the central value (pitch or cutoff frequency). Positive (+) value will move the waveform so that modulation will occur from the central value upward. Negative (-) value will move the waveform so that modulation will occur from the central value downward.

How to Apply the LFO

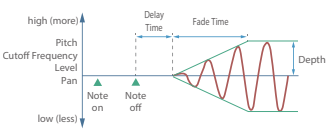
Apply the LFO gradually after the key is pressed
Fade Mod (Fade Mode) : ON-IN



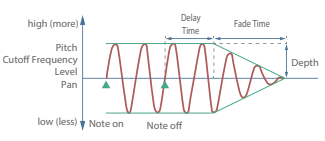
Apply the LFO immediately when the key is pressed, and then gradually begin to decrease the effect
Fade Mod (Fade Mode) : ON-OUT



Apply the LFO gradually after the key is released
Fade Mod (Fade Mode) : OFF-IN



Apply the LFO from when the key is pressed until it is released, and gradually begin to decrease the effect when the key is released
Fade Mod (Fade Mode) : OFF-OUT



PRO EDIT parameters (LFO1/LFO2)

Waveform
Selects the waveform of the LFO.

SIN	Sine wave
TRI	Triangle wave
SAW-UP	Sawtooth wave
SAW-DW	Sawtooth wave (negative polarity)
SQR	Square wave
RND	Random wave
TRP	Trapezoidal wave
S&H	Sample & Hold wave (one time per cycle, LFO value is changed)
CHS	Sample & Hold wave (one time per cycle, LFO value is changed)
VSIN	Modified sine wave. The amplitude of a sine wave is randomly varied once each cycle.
STEP	A waveform generated by the data specified by LFO Step 1–16. This produces stepped change with a fixed pattern similar to a step modulator.

Tempo Sync Sw

OFF, ON	Set this ON if you want the LFO rate to synchronize with the tempo.

Rate Note

1/64T–4	This is effective if Rate Sync is ON. Specifies the LFO rate in terms of a note value.

Rate

0–1023	This is effective if Rate Sync is OFF. Specifies the LFO rate without regard to the tempo. Higher values produce a faster LFO rate (a shorter cycle).

Offset

-100–+100	Raises or lowers the LFO waveform relative to the central value (pitch or cutoff frequency). Positive (+) value will move the waveform so that modulation will occur from the central value upward. Negative (-) value will move the waveform so that modulation will occur from the central value downward.

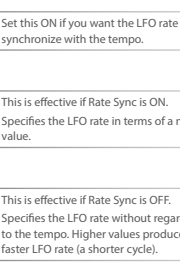
Rate Detune

0–127	Subtly changes the LFO cycle speed (Rate parameter) each time you press a key. Higher values produce greater change. This parameter is invalid if Tempo Sync is ON.

Delay Time

0–1023	Specifies the time elapsed before the LFO effect is applied (the effect continues) after the key is pressed (or released). * After referring to "How to Apply the LFO", change the setting until the desired effect is achieved.

Delay Time Keyfollow

-100–+100	Adjusts the value for the Delay Time parameter depending on the key position, relative to the C4 key (center C). To decrease the time that elapses before the LFO effect is applied (the effect is continuous) with each higher key that is pressed in the upper registers, select a positive (+) value; to increase the elapsed time, select a negative (-) value. Higher values will produce greater change. If you do not want the elapsed time before the LFO effect is applied (the effect is continuous) to change according to the key pressed, set this to "0". 

Fade Mode

ON-IN	Specifies how the LFO will be applied. * After referring to "How to Apply the LFO", change the setting until the desired effect is achieved.
ON-OUT	
OFF-IN	
OFF-OUT	

Fade Time

0–1023	Specifies the time over which the LFO amplitude will reach the maximum (minimum). * After referring to "How to Apply the LFO", change the setting until the desired effect is achieved.

Key Trigger Sw

OFF, ON	Specifies whether the LFO cycle will be synchronized to begin when the key is pressed (ON) or not (OFF).

Pitch Depth

-100–+100	Specifies how deeply the LFO will affect pitch. * If OSC Type is other than VA, the range is limited to -63–+63.

Filter Depth

-100–+100	Specifies how deeply the LFO will affect the cutoff frequency.

Amp Depth

-100–+100	Specifies how deeply the LFO will affect the volume.

Pan Depth

-63–+63	Specifies how deeply the LFO will affect the pan. **MEMO** Positive (+) and negative (-) value for the Depth parameter result in differing kinds of change in pitch and volume. For example, if you set the Depth parameter to a positive (+) value for one partial, and set another partial to the same numerical value, but make it negative (-), the modulation phase for the two partials will be the reverse of each other. This allows you to shift back and forth between two different partials, or combine it with the Pan setting to cyclically change the location of the sound image.

Phase Position
Specifies the LFO's starting phase value when Key Trigger is ON.
* This has no effect if Waveform is RND, S&H, or CHS.

0	1 cycle
1	1/4 cycle
2	1/2 cycle
3	3/4 cycle

PRO EDIT parameters (STEP LFO1/STEP LFO2)

Step Length

1–16	This is effective if Waveform is STEP. Specifies the step size that is looped.

Step 1–16

-72–+72	This is effective if Waveform is STEP. Specify the Depth value of each step. If you want to specify this in pitch scale degrees (100 cents), the settings are as follows. 1 Pitch Depth: 51, Step: multiples of 6 … up to one octave of change 2 Pitch Depth: 74, Step: multiples of 3 … up to two octaves of change 3 Pitch Depth: 89, Step: multiples of 2 … up to three octaves of change * If OSC Type is not VA, the Pitch Depth setting range is limited to -63–+63, so only "1" above is possible.

Step Curve 1–16

0–36	Specifies the type of curve at each step. ➡ "Step curve types"

Step curve types

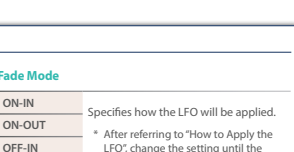
Curve Type 0



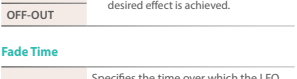
Curve Type 1–6 (variations of square wave)

Curve Type 7–10 (variations of ascending saw)

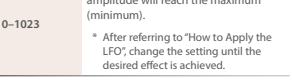
Curve Type 11–15 (variations of descending saw)



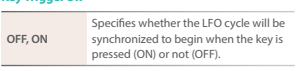
Curve Type 16–19 (variations of ascending exponential)



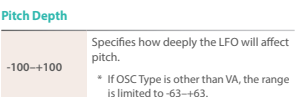
Curve Type 20–23 (variations of descending exponential)



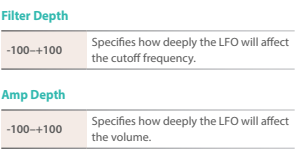
Curve Type 24–27 (variations of ascending charging curve)



Curve Type 28–31 (variations of descending charging curve)

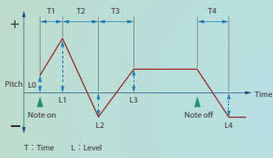


Curve Type 32–36 (other variations)



6 Pitch

Pitch Envelope



Specify the pitch envelope times (Time 1–Time 4).
Higher settings will result in a longer time until the next pitch is reached. (For example, Time 2 is the time over which the pitch changes from Level 1 to Level 2.)

* If ADSR Env Sw is ON, the Time 2 has no effect.

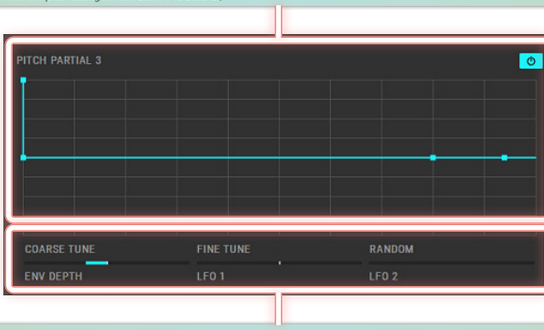
Specify the pitch envelope levels (Level 0–Level 4).
It determines how much the pitch changes from the reference pitch (the value set with Coarse Tune or Fine Tune on the Pitch screen) at each point.
Positive (+) value will cause the pitch to be higher than the standard pitch, and negative (-) value will cause it to be lower.

* If ADSR Env Sw is ON, only Level 3 (Sustain) has an effect. Also in this case, settings with a negative value are ignored.

[⏻] button

Turn each partial on/off.

* These are shown only in the module layout.



COARSE TUNE

Shifts the pitch in units of a semitone.

FINE TUNE

Finely adjusts the pitch in units of one cent.

RANDOM

This specifies the width of random pitch deviation that will occur each time a key is pressed. If you do not want the pitch to change randomly, set this to "0".

* These values are in units of cents (1/100th of a semitone).

ENV DEPTH

Adjusts the amount by which the pitch envelope modulates the OSC.

LFO 1, LFO 2

Adjust the amount by which LFO 1/2 modulate the OSC.

PRO EDIT parameters (Pitch)

Coarse Tune

-48–+48 [semitone]	Adjusts the pitch of the sound up or down in semitone steps (+/-4 octaves).

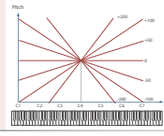
Fine Tune

-50–+50 [cent]	Adjusts the pitch of the sound up or down in 1-cent steps (+/-50 cents).

Random Depth

0–1200 [cent]	This specifies the width of random pitch deviation that will occur each time a key is pressed. If you do not want the pitch to change randomly, set this to "0". * These values are in units of cents (1/100th of a semitone).

Pitch Keyfollow

-200–+200	This specifies the amount of pitch change that will occur when you play a key one octave higher (i.e., 12 keys upward on the keyboard). If you want the pitch to rise one octave as on a conventional keyboard, set this to "+100". If you want the pitch to rise two octaves, set this to "+200". Conversely, set this to a negative (-) value if you want the pitch to fall. With a setting of "0", all keys will produce the same pitch. 

Vibrato Pitch Sens

-100–+100	Specifies the amount of change in the LFO1's Pitch Depth according to the [VIBRATO] knob of the "Tone Basic Screen".

Stereo Detune

-50–+ 50 [cent]	Specifies the detune between L ⇔ R when outputting in stereo.

PRO EDIT parameters (PITCH ENV)

Depth

-100–+100	Adjusts the effect of the Pitch Envelope. Higher settings will cause the pitch envelope to produce greater change. Negative (-) value will invert the shape of the envelope. If OSC Type is other than VA, this is limited to ±63.

Velocity Sens

-100–+100	Keyboard playing dynamics can be used to control the depth of the pitch envelope. If you want the pitch envelope to have more effect for strongly played notes, set this parameter to a positive (+) value. If you want the pitch envelope to have less effect for strongly played notes, set this to a negative (-) value.

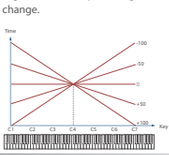
T1 Velocity Sens

-100–+100	This allows keyboard dynamics to affect the Time 1 of the Pitch envelope. If you want Time 1 to be speeded up for strongly played notes, set this parameter to a positive "+" value. If you want it to be slowed down, set this to a negative "-" value.

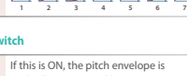
T4 Velocity Sens

-100–+100	Use this parameter when you want key release speed to affect the Time 4 value of the pitch envelope. If you want Time 4 to be speeded up for quickly released notes, set this parameter to a positive (+) value. If you want it to be slowed down, set this to a negative (-) value.

Time Keyfollow

-100–+100	Use this setting if you want the pitch envelope times (Time 2–Time 4) to be affected by the keyboard location. Based on the pitch envelope times for the C4 key, positive (+) value will cause notes higher than C4 to have increasingly shorter times, and negative (-) value will cause them to have increasingly longer times. Higher values will produce greater change. 

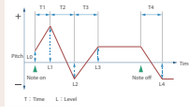
Velocity Curve

FIXED, 1–7	Selects one of the following 7 curves that will determine how keyboard playing dynamics will affect the pitch envelope. Set this to "FIXED" if you don't want the pitch envelope be affected by the keyboard velocity. 

LFO Trigger Switch

OFF, ON	If this is ON, the pitch envelope is cyclically retriggered by LFO1. * This is effective when Envelope Mode is SUSTAIN.

T1/Attack, T2, T3/Decay, T4/Release

0–1023	Specify the pitch envelope times (Time 1–Time 4). Higher settings will result in a longer time until the next pitch is reached. (For example, Time 2 is the time over which the pitch changes from Level 1 to Level 2.) * If ADSR Env Sw is ON, the Time 2 has no effect. 

L0, L1, L2, L3/Sustain, L4

-511–+511	Specify the pitch envelope levels (Level 0–Level 4). It determines how much the pitch changes from the reference pitch (the value set with Coarse Tune or Fine Tune on the Pitch screen) at each point. Positive (+) value will cause the pitch to be higher than the standard pitch, and negative (-) value will cause it to be lower. * If ADSR Env Sw is ON, only Level 3 (Sustain) has an effect. Also in this case, settings with a negative value are ignored.

7 Filter

FILTER

Filter Type

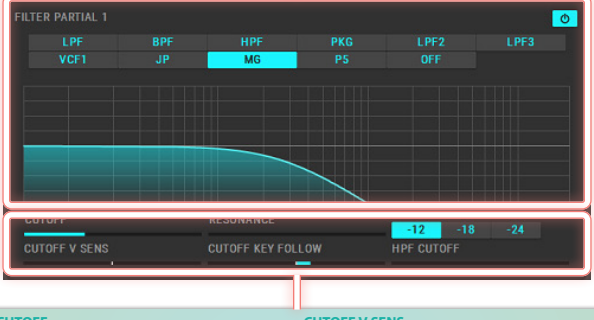
Selects the type of filter.

OFF	No filter is used.
LPF	Low Pass Filter. This cuts the frequencies in the region above the cutoff frequency (Cutoff Frequency). Since this cuts the high-frequency region, the sound becomes more mellow. This is the most common filter used in synthesizers.
BPF	Band Pass Filter. This leaves only the frequencies in the region of the cutoff frequency (Cutoff Frequency), and cuts the rest. This can be useful when creating distinctive sounds.
HPF	High Pass Filter. This cuts the frequencies in the region below the cutoff frequency (Cutoff Frequency). This is suitable for creating percussive sounds emphasizing their higher tones.
PKG	Peaking Filter. This emphasizes the frequencies in the region of the cutoff frequency (Cutoff Frequency). You can use this to create wah-wah effects by employing an LFO to change the cutoff frequency cyclically.
LPF2	Low Pass Filter 2. Although frequency components above the Cutoff frequency (Cutoff Frequency) are cut, the sensitivity of this filter is half that of the LPF. This makes it a comparatively warmer low pass filter. This filter is good for use with simulated instrument sounds such as the acoustic piano. * If you set "LPF2", the setting for the Resonance parameter will be ignored.
LPF3	Low Pass Filter 3. Although frequency components above the Cutoff frequency (Cutoff Frequency) are cut, the sensitivity of this filter changes according to the Cutoff frequency. While this filter is also good for use with simulated acoustic instrument sounds, the nuance it exhibits differs from that of the LPF2, even with the same Filter Envelope settings. * If you set "LPF3", the setting for the Resonance parameter will be ignored.
VCF1 JP MG P5	Each setting simulates the operation of an analog synthesizer's LPF. In particular, MG, JP, and P5 are types that are suitable for reproducing synthesizer sounds of the past.

[⏻] button

Turn each partial on/off.

* These are shown only in the module layout.



CUTOFF

Selects the frequency at which the filter begins to have an effect on the waveform's frequency components.

RESONANCE

Emphasizes the portion of the sound in the region of the cutoff frequency, adding character to the sound. Excessively high settings can produce oscillation, causing the sound to distort.

Filter Slope ([-12] [-18] [-24] buttons)

This button selects the slope (steepness) of the filter.

For VCF, you can choose -12, -18, or -24.

For TVF, only -12 or -24 can be selected.

CUTOFF V SENS

Use this parameter when changing the cutoff frequency to be applied as a result of changes in playing velocity.

CUTOFF KEY FOLLOW

Use this parameter if you want the cutoff frequency to change according to the key that is pressed.

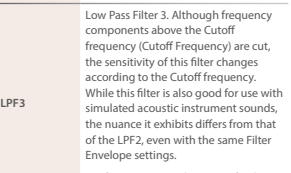
HPF CUTOFF

Specifies the cutoff frequency of the -6 dB high-pass filter.

* This parameter is effective when Filter Type is VCF.

ENVELOPE

Filter Envelope



Specify the filter envelope times (Time 1–Time 4). Higher settings will lengthen the time until the next cutoff frequency level is reached. (For example, Time 2 is the time over which Level 1 will change to Level 2.)

* If ADSR Env Sw is ON, the Time 2 has no effect.

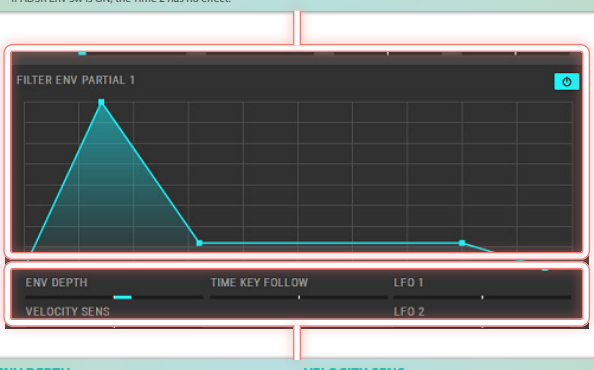
Specify the filter envelope levels (Level 0–Level 4). Specify the amount of cutoff frequency change at each point relative to the reference cutoff frequency (the cutoff frequency value specified in the Filter screen).

* If ADSR Env Sw is ON, only Level 3 (Sustain) has an effect.

[⏻] button

Turn each partial on/off.

* These are shown only in the module layout.



ENV DEPTH

Specifies the depth of the Filter envelope.

Higher settings increase the change produced by the Filter envelope.

Negative (-) value will invert the shape of the envelope.

TIME KEY FOLLOW

Set this to make the cutoff frequency change according to the keys you play.

VELOCITY SENS

Sets how much the cutoff frequency changes according to how hard you play the keys.

LFO 1/LFO 2

Specifies how deeply the LFO 1/LFO 2 will affect the cutoff frequency.

PRO EDIT parameters (FILTER)

Filter Type

TVF, VCF	Selects the type of filter. * TVF stands for Time Variant Filter, a filter that lets you specify in detail how the frequency components of the sound change over time. If you select VCF, the polyphony will be lower than if you select TVF.

TVF Filter Type

Selects the type of TVF filter.

* If Filter Type is set to VCF, this will be LPF.

OFF	No filter is used.
LPF	Low Pass Filter. This cuts the frequencies in the region above the cutoff frequency (Cutoff Frequency). Since this cuts the highfrequency region, the sound becomes more mellow. This is the most common filter used in synthesizers.
BPF	Band Pass Filter. This leaves only the frequencies in the region of the cutoff frequency (Cutoff Frequency), and cuts the rest. This can be useful when creating distinctive sounds.
HPF	High Pass Filter. This cuts the frequencies in the region below the cutoff frequency (Cutoff Frequency). This is suitable for creating percussive sounds emphasizing their higher tones.
PKG	Peaking Filter. This emphasizes the frequencies in the region of the cutoff frequency (Cutoff Frequency). You can use this to create wah-wah effects by employing an LFO to change the cutoff frequency cyclically.
LPF2	Low Pass Filter 2. Although frequency components above the Cutoff frequency (Cutoff Frequency) are cut, the sensitivity of this filter is half that of the LPF. This makes it a comparatively warmer low pass filter. This filter is good for use with simulated instrument sounds such as the acoustic piano. * If you set "LPF2", the setting for the Resonance parameter will be ignored.
LPF3	Low Pass Filter 3. Although frequency components above the Cutoff frequency (Cutoff Frequency) are cut, the sensitivity of this filter changes according to the Cutoff frequency. While this filter is also good for use with simulated acoustic instrument sounds, the nuance it exhibits differs from that of the LPF2, even with the same Filter Envelope settings. * If you set "LPF3", the setting for the Resonance parameter will be ignored.

VCF Type

VCF1 JP MG P5	This parameter is effective when Filter Type is VCF. Each setting simulates the operation of an analog synthesizer's LPF. In particular, MG, JP, and P5 are types that are suitable for reproducing synthesizer sounds of the past.

Filter Slope

-12, -18, -24 [dB/Oct]	This button selects the slope (steepness) of the filter. For VCF, you can choose -12, -18, or -24. For TVF, only -12 or -24 can be selected. If Filter Type is TVF, the following limitations apply. • You can specify only -12 dB or -24 dB. If you specify -18 dB, the sound generator operates internally with the -12 dB setting. • If you specify -24 dB, the polyphony will be lower than if you specify -12 dB.

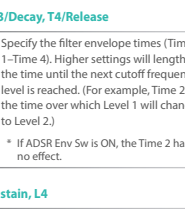
HPF Cutoff

0–1023	Specifies the cutoff frequency of the -6 dB high-pass filter. * This parameter is effective when Filter Type is VCF.

Cutoff

0–1023	Selects the frequency at which the filter begins to have an effect on the waveform's frequency components. With "LPF/LPF2/LPF3" selected for the TVF Filter Type parameter, lower cutoff frequency settings reduce a tone's upper harmonics for a more rounded, warmer sound. Higher settings make it sound brighter. If "BPF" is selected for the Filter Type, harmonic components will change depending on the TVF Cutoff Frequency setting. This can be useful when creating distinctive sounds. With "HPF" selected, higher Cutoff Frequency settings will reduce lower harmonics to emphasize just the brighter components of the sound. With "PKG" selected, the harmonics to be emphasized will vary depending on Cutoff Frequency setting.

Cutoff Keyfollow

-200–+200	Use this parameter if you want the cutoff frequency to change according to the key that is pressed. Relative to the cutoff frequency at the key specified by Cutoff Keyfollow Base Point, positive "+" values cause the cutoff frequency to become higher as you play above the reference key, and negative "–" values cause the cutoff frequency to become lower. Higher values will produce greater change. 

Cutoff Velocity Curve

FIXED, 1–7	Selects one of the following seven curves that determine how keyboard playing dynamics (velocity) influence the cutoff frequency. Set this to "FIXED" if you don't want the Cutoff frequency to be affected by the keyboard velocity.

Cutoff Velocity Sens

-100–+100	Use this parameter when changing the cutoff frequency to be applied as a result of changes in playing velocity. Specify a positive "+" value if you want the cutoff frequency to raise when you play strongly, or a negative "-" value if you want it to lower.

Cutoff Keyfollow Base Point

0–127	Specifies the reference key when using Keyfollow to modify the cutoff frequency. If this is 60, the C4 key (middle C) is the reference key.

Resonance

0–1023	Emphasizes the portion of the sound in the region of the cutoff frequency, adding character to the sound. Excessively high settings can produce oscillation, causing the sound to distort.

Resonance Velocity Sens

-100–+100	Use this parameter when changing the resonance to be applied as a result of changes in playing velocity. Specify a positive "+" value if you want resonance to increase when you play strongly, or a negative "-" value if you want it to decrease.

Vibrato Cutoff Sens

-100–+100	Specifies the amount of change in the LFO1's Filter Depth according to the [VIBRATO] knob of the "Tone Basic Screen".

PRO EDIT parameters (FILTER ENV)

Depth

-63–+63	Specifies the depth of the Filter envelope. Higher settings increase the change produced by the Filter envelope. Negative (-) value will invert the shape of the envelope.

Fine Depth

-63–+63	Finely adjusts the depth of the filter envelope.

Velocity Curve

FIXED, 1–7	Selects one of the following seven types of curve by which keyboard playing dynamics affect the depth of the filter envelope. If you don't want keyboard playing dynamics to affect the filter envelope depth, specify "FIXED".

Velocity Sens

-100–+100	Specify this if you want keyboard playing dynamics to affect the filter envelope depth. Specify a positive "+" value if you want the filter envelope to apply more deeply as you play more strongly, or a negative "-" value if you want it to apply less deeply.

T1 Velocity Sens

-100–+100	Specify this if you want keyboard playing dynamics to affect Time 1 of the filter envelope. If you want Time 1 to be speeded up for strongly played notes, set this parameter to a positive "+" value. If you want it to be slowed down, set this to a negative "-" value.

T4 Velocity Sens

-100–+100	Specify this if you want key release velocity to affect Time 4 of the filter envelope. If you want Time 4 to be speeded up for quickly released notes, set this parameter to a positive (+) value. If you want it to be slowed down, set this to a negative (-) value.

Time Keyfollow

-100–+100	Specify this if you want the filter envelope times (Time 2–Time 4) to vary depending on the keyboard position you play. Relative to the filter envelope times at the C4 key (middle C), positive "+" values shorten the times for notes played in the region above C4, and negative "–" values lengthen the times. Higher values will produce greater change.

LFO Trigger Switch

OFF, ON	If this is ON, the filter envelope is cyclically retriggered by LFO1. * This is effective only when Envelope Mode is SUSTAIN.

T1/Attack, T2, T3/Decay, T4/Release

0–1023	Specify the filter envelope times (Time 1–Time 4). Higher settings will lengthen the time until the next cutoff frequency level is reached. (For example, Time 2 is the time over which Level 1 will change to Level 2.) * If ADSR Env Sw is ON, the Time 2 has no effect.

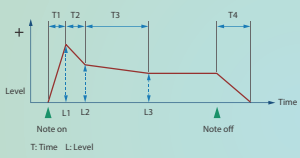
L0, L1, L2, L3/Sustain, L4

0–1023	Specify the filter envelope levels (Level 0–Level 4). Specify the amount of cutoff frequency change at each point relative to the reference cutoff frequency (the cutoff frequency value specified in the Filter screen). * If ADSR Env Sw is ON, only Level 3 (Sustain) has an effect.

8 Amp

AMP

Amp Envelope



Specify the Amp Envelope times (Time 1–Time 4). Higher settings lengthen the time until the next volume level is reached. (For example, Time 2 is the time over which Level 1 will change to Level 2.)

* If ADSR Env Sw is ON, the Time 2 has no effect.

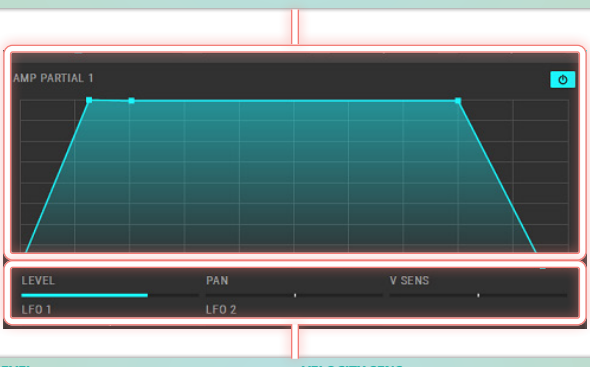
Specify the Amp Envelope levels (Level 1–Level 3). These specify the amount of change at each point relative to the reference volume (the partial level value specified in the Amp screen).

* If ADSR Env Sw is ON, only Level 3 (Sustain) has an effect.

[⏻] button

Turn each partial on/off.

* These are shown only in the module layout.



LEVEL

Adjusts the volume of the tone.

PAN

Specifies the pan of the tone.

VELOCITY SENS

Specifies how keyboard playing dynamics affects the volume of the partial.

LFO 1/LFO 2

Specify the amount by which LFO 1 and LFO 2 affect the amp.

EQ (PARTIAL EQ)

EQ PARTIAL 1–4 [⏻] switch

Turns each partial's equalizer on/off.

[EQ] button

Shows the PARTIAL EQ edit screen.

[⏻] buttons

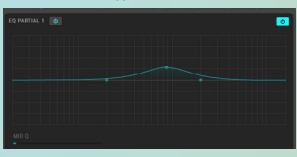
Turn each partial on/off.

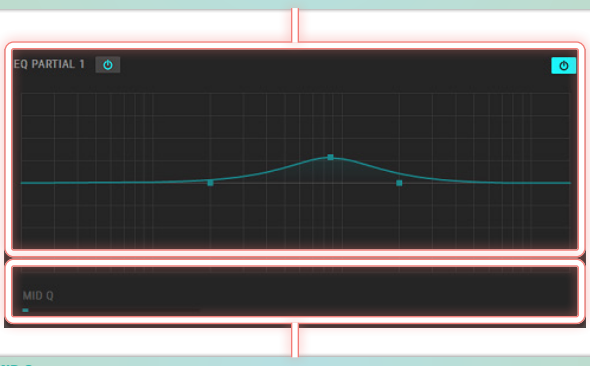
* These are shown only in the module layout.

PARTIAL EQ

This is a three-band equalizer.

You can specify the reference frequency and gain of each band (low, mid, and high). Information for the selected band is shown in the upper left of the screen.





MID Q

Width of the middle range.

Set a higher value to narrow the range to be affected.

PRO EDIT parameters (AMP)

Level

0–127	Sets the volume of the partial. This setting is useful primarily for adjusting the volume balance between partials.

Velocity Curve

FIXED, 1–7	Selects one of the following seven curves that determine how keyboard dynamics will affect the volume. Set this to "FIXED" if you don't want the volume of the partial to be affected by the keyboard velocity. 

Velocity Sens

-100–+100	Set this when you want the volume of the partial to change depending on the force with which you press the keys. Set this to a positive (+) value to have the changes in partial volume increase the more forcefully the keys are played; to make the partial play more softly as you play harder, set this to a negative (-) value.

Bias Level

-100–+100	Adjusts the angle of the volume change that will occur in the selected Bias Direction. Higher values will produce greater change. Negative (-) values will invert the change direction.

Bias Position

0–127	Specifies the key relative to which the volume will be modified. A setting of 64 is the C4 key (middle C).

Bias Direction

Selects the direction in which change will occur starting from the Bias Position.

LOWER	The volume will be modified for the keyboard area below the Bias Point.
UPPER	The volume will be modified for the keyboard area above the Bias Point.
LOWER &UPPER	The volume will be modified symmetrically toward the left and right of the Bias Point.
ALL	The volume changes linearly with the bias point at the center.

Pan

L64–63R	Sets the pan of the partial. "L64" is far left, "0" is center, and "63R" is far right.

Pan Keyfollow

-100–+100	Use this parameter if you want key position to affect panning. Positive (+) value will cause notes higher than C4 key (center C) to be panned increasingly further toward the right, and negative (-) value will cause notes higher than C4 key (center C) to be panned toward the left. Higher values will produce greater change. 

Random Pan Depth

0–63	Use this parameter when you want the stereo location to change randomly each time you press a key. Higher values will produce a greater amount of change.

Alternate Pan Depth

L63–63R	This setting causes panning to be alternated between left and right each time a key is pressed. Higher values will produce a greater amount of change. "L" or "R" settings will reverse the order in which the pan will alternate between left and right. For example if two partials are set to "L" and "R" respectively, the panning of the two tones will alternate each time they are played.

Vibrato Level Sens

-100–+100	Specifies the amount of change in the LFO1's Amp Depth according to the [VIBRATO] knob of the "Tone Basic Screen".

Stereo Width

0–100	Adjusts the amount of width when outputting in stereo. This has no effect when outputting in mono.

PRO EDIT parameters (AMP ENV)

T1 Velocity Sens

-100–+100	Specify this if you want keyboard dynamics to affect the Amp Envelope's Time 1. If you want Time 1 to be speeded up for strongly played notes, set this parameter to a positive (+) value. If you want it to be slowed down, set this to a negative (-) value.

T4 Velocity Sens

-100–+100	Specify this if you want key release velocity to affect the Amp Envelope's Time 4. If you want Time 4 to be speeded up for quickly released notes, set this parameter to a positive (+) value. If you want it to be slowed down, set this to a negative (-) value.

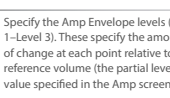
LFO Trigger Switch

OFF, ON	If this is ON, the Amp Envelope is cyclically retriggered by LFO1. * This is effective when Envelope Mode is SUSTAIN.

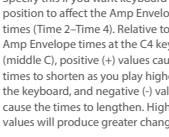
T1/Attack, T2, T3/Decay, T4/Release

0–1023	Specify the Amp Envelope times (Time 1–Time 4). Higher settings lengthen the time until the next volume level is reached. (For example, Time 2 is the time over which Level 1 will change to Level 2.) * If ADSR Env Sw is ON, the Time 2 has no effect.

L1, L2, L3/Sustain

0–1023	Specify the Amp Envelope levels (Level 1–Level 3). These specify the amount of change at each point relative to the reference volume (the partial level value specified in the Amp screen).  * If ADSR Env Sw is ON, only Level 3 (Sustain) has an effect.

Time Keyfollow

-100–+100	Specify this if you want keyboard position to affect the Amp Envelope's times (Time 2–Time 4). Relative to the Amp Envelope times at the C4 key (middle C), positive (+) values cause the times to shorten as you play higher on the keyboard, and negative (-) values cause the times to lengthen. Higher values will produce greater change. 

PRO EDIT parameters (PARTIAL EQ)

Switch

OFF, ON	Turns the equalizer on/off for each partial.

Low Gain

-24.0–+24.0 [dB]	Gain of the low range.

Mid Gain

-24.0–+24.0 [dB]	Gain of the middle range.

High Gain

-24.0–+24.0 [dB]	Gain of the high range.

Low Frequency

20–16000 [Hz]	Frequency of the low range.

Mid Frequency

20–16000 [Hz]	Frequency of the middle range.

High Frequency

20–16000 [Hz]	Frequency of the high range.

Mid Q

0.5–16.0	Width of the middle range. Set a higher value to narrow the range to be affected.

PRO EDIT parameters (OUTPUT)

Output Assign

DRY, MFX	Specifies how the sound of each partial will be output.

to Contents

Drum Kit Screen

A different drum instrument is assigned to each of the 16 pads.
You can click these pads to play the sound, or drag them to edit the instrument parameters.
Instruments that are not assigned to a pad can also be played or selected from the keyboard.

Select a drum edit parameter.

[LEVEL] button
Specifies the volume.

[PAN] button
Specifies the stereo position.

[ATTACK] button
Specifies the time from when the note begins until the sound completes its attack.
Higher values produce a softer attack, and lower values produce a sharper attack.

[DECAY] button
Specifies the time from when the sound completes its attack until the sound disappears.
Higher values produce a longer decay, and lower values produce a shorter decay.

[RELEASE] button
Specifies the time from when the note is released until the sound disappears.
Higher values produce a longer release, and lower values produce a crisper release.

[KEY OFSET] button
Shifts the pitch in units of a semitone.

[REV SEND] button
Sets the reverb send amount.



The pad corresponding to the selected drum instrument is highlighted.

Pads

A different drum instrument is assigned to each of the 16 pads.

Left-click	Selects a drum instrument and plays it.
Right-click	LEARN MIDI CC Assigns a control change to the parameter selected by [LEVEL]–[RELEASE].
Drug/wheel	Edits the parameter selected by drum edit [LEVEL]–[RELEASE].

Drum Inst information

Shows information about the selected drum instrument.

* Click this area to access the Drum Inst Browser for the instrument that is shown.

[LOCK] button

* The instrument shown changes according to what you're playing.
* If you don't want the instrument to change that's shown while the DAW plays or when played via MIDI, turn the [LOCK] button on.

Drum Kit VISUAL/PRO Screen

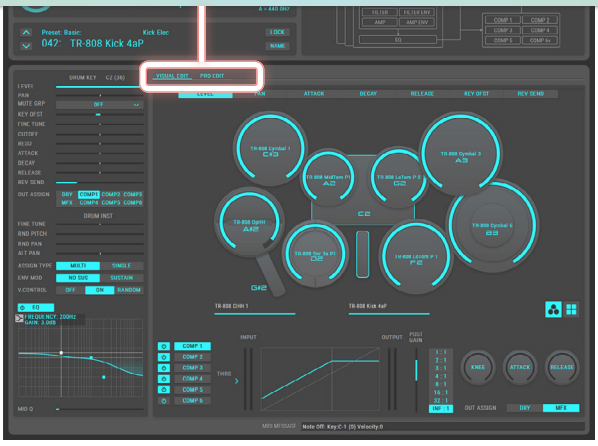
Switching between VISUAL EDIT and PRO EDIT

Press the **[VISUAL EDIT] button** to switch to the VISUAL EDIT screen, or the **[PRO EDIT] button** to switch to PRO EDIT.

VISUAL EDIT screen

[VISUAL EDIT] button
Edit parameters in a graphical edit screen.

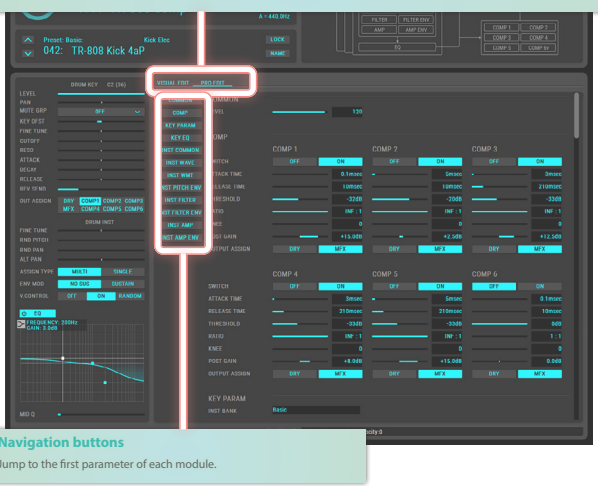
[PRO EDIT] button
Edit all parameters as a list.



PRO EDIT screen

[VISUAL EDIT] button
Edit parameters in a graphical edit screen.

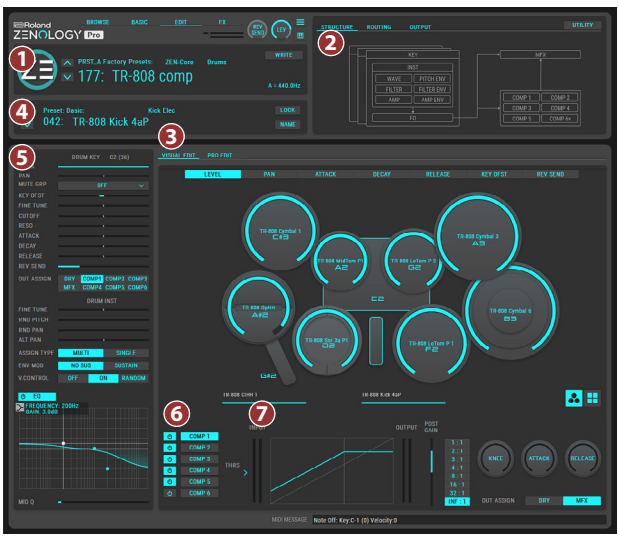
[PRO EDIT] button
Edit all parameters as a list.



Navigation buttons
Jump to the first parameter of each module.

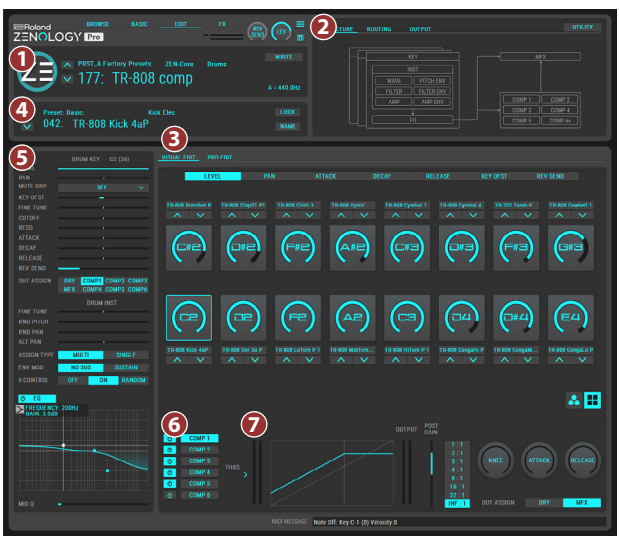
VISUAL Edit (drum instrument layout)

Click the [ ] button to see the instruments laid out as a set of acoustic drums.



VISUAL Edit (drum pad layout)

Click the [ ] button to see the instruments laid out as drum pads.



❶ Drum Kit screen

➡ “Tone Screen / Drum Kit Screen (Common Items)”
➡ “Tone Basic Screen”

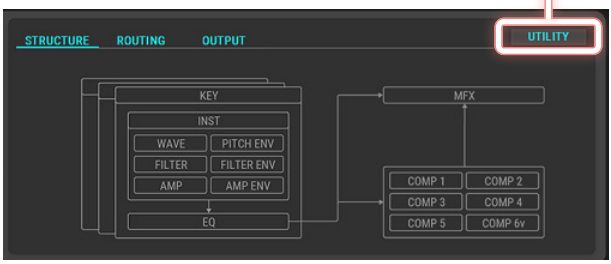
2 Structure/Routing/Output

This diagram shows the structure of the drum kit.

[UTILITY] button

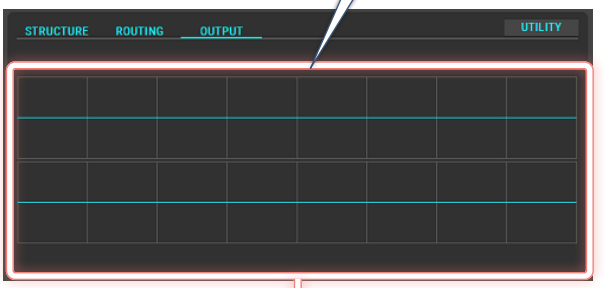
Use this to copy and paste the parameters for each unit (Tone Partial 1–4, Drum Kit Key/Inst, Drum Kit Comp 1–6, MFX).

Copy	Copies the selected parameter from the currently selected tone or drum kit to the clipboard.
Paste	Pastes the selected parameter from the clipboard to the current tone or drum kit.



OUTPUT

Displays the waveform to output.

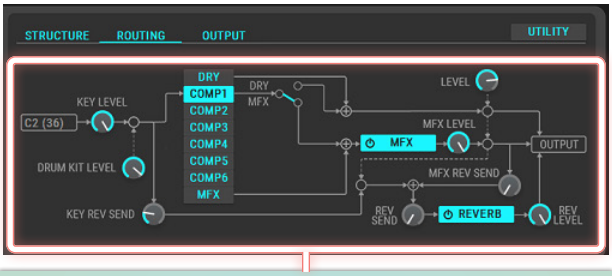


Mouse operations

Drag (horizontal)	Zooms the waveform's time axis in/out.
Drag (vertical)	Zooms the waveform display's level axis in/out.
Mouse wheel	Zooms the waveform's time axis in/out.

ROUTING

Use this to configure the routing.



[KEY LEVEL] knob

Adjusts the key volume.

[DRUM KIT LEVEL] knob

Adjusts the volume of the entire drum kit.

[KEY REV SEND] knob

Adjusts the reverb send amount for each key.

DRY/MFX/COMP selector

Selects the effect you want to use.

[DRY/MFX] switch

Sets whether to output only the direct sound (DRY) or the sound with effects applied (MFX).

[LEVEL] knob

Adjusts the overall volume.

[⏻ MFX] button

Turns MFX on/off.

[MFX LEVEL] knob

Adjusts the volume of the MFX.

[MFX REV SEND] knob

Adjusts the reverb send amount for the MFX.

[REV SEND] knob

Adjusts the reverb send amount for the entire drum kit.

[⏻ REVERB] button

Turns reverb on/off.

[REV LEVEL] knob

Adjusts the volume of the reverb.

3 Edit area

Drum Instrument Layout/Drum Instrument View

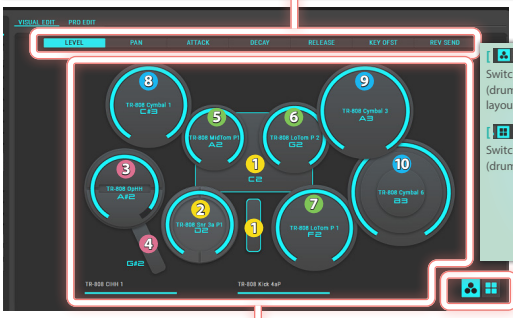
[LEVEL] button
Specifies the volume.

[PAN] button
Specifies the stereo position.

[ATTACK] button
Specifies the time from when the note begins until the sound completes its attack.
Higher values produce a softer attack, and lower values produce a sharper attack.

[DECAY] button
Specifies the time from when the sound completes its attack until the sound disappears.
Higher values produce a longer decay, and lower values produce a shorter decay.

[RELEASE] button
Specifies the time from when the note is released until the sound disappears.
Higher values produce a longer release, and lower values produce a crisper release.



[ ] button
Switches to Full Edit (drum instrument layout).

[ ] button
Switches to Full Edit (drum pad layout).

Drum Instruments

Drum instruments are assigned as follows.

1 Bass Drum (kick pedal)
Bass drum

2 Snare Drum
Snare drum
Interior: head shot
Left rim: open rim shot
Right rim: closed rim shot

3 Hi-hat
Hi-hat
Upper side: open hi-hat
Lower side: closed hi-hat

4 Hi-hat pedal
Pedal hi-hat

5 Tom1
Tom 1

6 Tom2
Tom 2

7 Tom3
Tom 3

8 Crash Cymbal 1
Crash cymbal 1

9 Crash Cymbal 2
Crash cymbal 2

10 Ride Cymbal
Ride cymbal
Rim: edge
Intermediate: bow
Interior: bell

Drum Pad Layout/Drum Pad View



Drum Instrument Name
Click this to access the Drum Inst Browser and select a drum instrument.
You can also use the [▲] [▼] buttons to select a drum instrument directly.

Pads
A different drum instrument is assigned to each of the 16 pads.
The note name is shown in the upper left.

Left-click	Selects a drum instrument and plays it.
Right-click	LEARN MIDI CC Assigns a control change to the parameter selected by [LEVEL]–[RELEASE].
Drug/wheel	Edits the parameter selected by drum edit [LEVEL]–[RELEASE].

to Contents

4 DRUM INST information

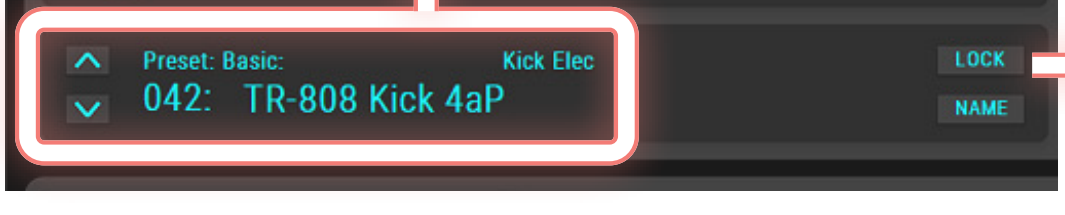
Shows information about the selected drum instrument.

* Click this area to access the Drum Inst Browser for the instrument that is shown.

DRUM INST information

Shows information about the currently selected drum instrument.

* You can select an instrument by using [Λ] [V] located at the left of the instrument name.



[LOCK] button

* The instrument shown changes according to what you're playing.

* If you don't want the instrument to change that's shown while the DAW plays or when played via MIDI, turn the [LOCK] button on.

to Contents

5 DRUM KEY/DRUM INST/EQ

Shows the parameters of the currently selected drum instrument.

DRUM KEY

LEVEL

Adjusts the volume of the key.

PAN

Adjusts the stereo location of the key.

MUTE GRP (Mute Group)

On an actual acoustic drum set, an open hi-hat and a closed hi-hat sound can never occur simultaneously.

To reproduce the reality of this situation, you can set up a Mute Group.

The Mute Group function allows you to designate two or more keys that are not allowed to sound simultaneously. Up to 31 Mute Groups can be used.

Keys that are not belong to any such group should be set to "OFF".

KEY OFST (Key Offset)

Shifts the pitch in units of a semitone.

FINE TUNE (Fine Tune Offset)

Finely adjusts the pitch in units of one cent.

CUTOFF (Cutoff Offset)

Adjusts how far the filter is open.

Higher values make the sound brighter, and lower values make the sound darker.

RESO (Resonance Offset)

Emphasizes the portion of the sound in the region of the cutoff frequency, adding character to the sound. Excessively high settings can produce oscillation, causing the sound to distort.

Increasing this value strengthens the character, and decreasing it weakens the character.

ATTACK (Attack Time Offset)

Adjusts the time over which the sound reaches its maximum volume after you press the key.

Larger settings of this value make the attack gentler, and smaller settings make the attack sharper.

DECEY (Decay Time Offset)

Adjusts the time over which the volume decreases from its maximum value.

Larger settings of this value make the decay longer, and smaller settings make the decay shorter.

RELEASE (Release Time Offset)

The time it takes after the key is released for a sound to become inaudible.

If Envelope Mode is NO-SUS, this is the time until the sounded note becomes inaudible.

Larger settings of this value make the sound linger, and smaller settings make the sound end more sharply.

REV SEND (Reverb Send)

Adjusts the overall reverb send amount.

OUT ASGN (Output Assign)

Specifies the output destination for each key.



DRUM INST

FINE TUNE

Adjusts the pitch of the sound up or down in 1-cent steps (+/-50 cents).

RND PITCH (Random Pitch Depth)

Specifies the width in which the pitch is randomly changed each time the note is sounded.

If you do not want the pitch to change randomly, set this to "0".

RND PAN (Random Pan Depth)

Use this parameter when you want the stereo location to change randomly each time you press a key.

Higher values will produce a greater amount of change.

ALT PAN (Alternate Pan Depth)

This setting causes panning to be alternated between left and right each time a key is pressed.

ASGN TYPE (Assign Type)

Sets the way sounds are played when the same key is pressed a number of times.

MULTI: Layer the sound of the same keys.

SINGLE: Only one sound can be played at a time when the same key is pressed.

ENV Mode (Envelope Mode)

When a loop waveform is selected, the sound will normally continue as long as the key is pressed. If you want the sound to decay naturally even if the key remains pressed, set this to "NO-SUS".

* If a one-shot type Wave is selected, it will not sustain even if this parameter is set to "SUSTAIN".

V. CONTROL (WMT Velocity Control)

Determines whether a different wave is played (ON) or not (OFF) depending on the force with which the key is played.

When set to "RANDOM", the tone's constituent wave will sound randomly, regardless of any velocity messages.

EQ (KEY EQ)

This is a three-band equalizer that can be individually specified for each key.

You can specify the reference frequency and gain of each band (low, mid, high). Information for the selected band is shown in the upper left of the screen.

[EQ] button

Turns KEY EQ on/off.

MID Q

Width of the middle range.

Set a higher value to narrow the range to be affected.

to Contents

6 KIT COMP 1–6 (switch)



[⏻] button

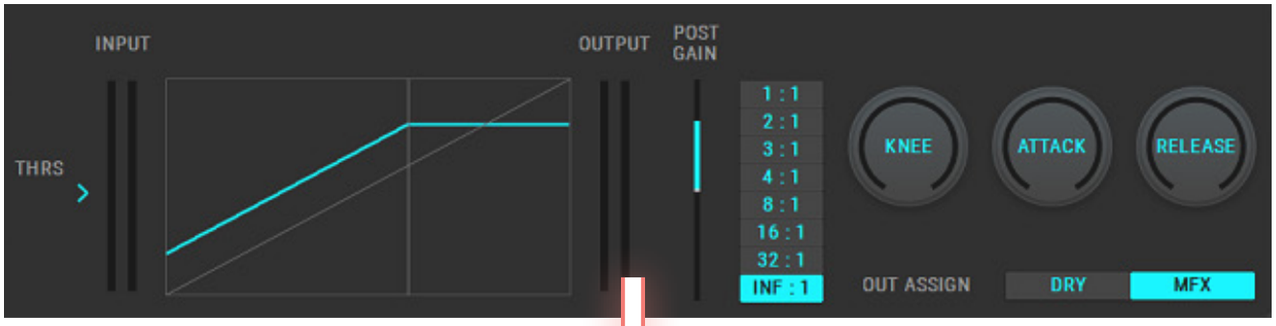
Turns the compressor on/off.

[COMP1–6] button

Selects the compressor that is shown in the edit area.

to Contents

7 KIT COMP 1–6 (Edit area)



Threshold

Specifies the level at which compression starts being applied.

INPUT meter

Provides a realtime indication of the input level.

Input/output graph

Shows the relationship between input level (horizontal axis) and output level (vertical axis). Drag horizontally on the graph to change the Threshold, or drag vertically to change the Post Gain.

OUTPUT meter

Provides a realtime indication of the output level.

POST GAIN

Specifies the level of the output sound.

Ratio

Compression ratio

KNEE

This is a function that smooths the onset of compression from the uncompressed state; it gradually applies compression starting earlier than Threshold. Higher values produce a smoother transition.

ATTACK (Attack Time)

Time from when the input exceeds the threshold until compression begins

RELEASE (Release Time)

Time from when the input falls below the threshold until compression is turned off

OUT ASSIGN

Selects whether to output the original sound (DRY) or use the effect (MFX).

to Contents

PRO EDIT parameters (COMMON)

Level

0–127	Adjusts the overall volume of the drum kit. * This is a different parameter than the LEVEL and Common Level parameters in "Tone Screen / Drum Kit Screen (Common Items)". Common Level is also effective when using the "Tone/Drum Kit Manager Screen" command [EXPORT]- For Hardware/Zenbeats (ZC1) to play the settings on a hardware product. In contrast, the LEVEL parameter of the tone screen and drum kit screen is effective only on this product.

PRO EDIT parameters (COMP1–6)

Switch

OFF, ON	Compressor on/off

Attack Time

0.1–100ms	Time from when the input exceeds the threshold until compression begins

Release Time

10–1000ms	Time from when the input falls below the threshold until compression is turned off

Threshold

-60–0 [dB]	Level at which compression is applied

Ratio

1: 1–inf: 1	Compression ratio

Knee

0–30 [dB]	This is a function that smooths the onset of compression from the uncompressed state; it gradually applies compression starting earlier than Threshold. Higher values produce a smoother transition.

Output Gain

-24–+24 [dB]	Adjusts the output gain.

Output Assign

DRY, MFX	Specifies the compressor output destination.

PRO EDIT parameters (KEY PARAM)

Inst Bank

(Inst bank name)	Name of the instrument's bank.

Inst

(Inst name)	Selects the Inst to be assigned to the key.

Level

0–127	Adjusts the volume of the key.

Pan

L64–0–63R	Adjusts the stereo location of the key.

Rev Send

0–127	Adjusts the overall reverb send amount.

Mute Group

OFF, 1–31	On an actual acoustic drum set, an open hi-hat and a closed hi-hat sound can never occur simultaneously. To reproduce the reality of this situation, you can set up a Mute Group. The Mute Group function allows you to designate two or more keys that are not allowed to sound simultaneously. Up to 31 Mute Groups can be used. Keys that are not belong to any such group should be set to "OFF".

Output Assign

DRY, MFX, COMP1–6	Specifies the output destination for each key.

Key Offset

-24–+24	Shifts the pitch in units of a semitone.

Fine Tune Offset

-50–+50 [cent]	Finely adjusts the pitch in units of one cent.

Cutoff Offset

-100–+100	Adjusts how far the filter is open. Increasing this value makes the sound brighter, and decreasing it makes the sound darker.

Resonance Offset

-100–+100	Emphasizes the portion of the sound in the region of the cutoff frequency, adding character to the sound. Excessively high settings can produce oscillation, causing the sound to distort. Increasing this value strengthens the character, and decreasing it weakens the character.

Attack Time Offset

-100–+100	Adjusts the time over which the sound reaches its maximum volume after you press the key. Larger settings of this value make the attack gentler, and smaller settings make the attack sharper.

Decay Time Offset

-100–+100	Adjusts the time over which the volume decreases from its maximum value. Larger settings of this value make the decay longer, and smaller settings make the decay shorter.

Release Time Offset

-100–+100	The time it takes after the key is released for a sound to become inaudible. If Envelope Mode is NO-SUS, this is the time until the sounded note becomes inaudible. Larger settings of this value make the sound linger, and smaller settings make the sound end more sharply.

PRO EDIT parameters (KEY EQ)

Switch

OFF, ON	Turns the equalizer on/off for each key.

Low Gain

-24.0–+24.0 [dB]	Gain of the low range.

Mid Gain

-24.0–+24.0 [dB]	Gain of the middle range.

High Gain

-24.0–+24.0 [dB]	Gain of the high range

Low Frequency

20–16000 [Hz]	Frequency of the low range.

Mid Frequency

20–16000 [Hz]	Frequency of the middle range.

High Frequency

20–16000 [Hz]	Frequency of the high range.

Mid Q

0.5–16.0 (0.1step)	Width of the middle range. Set a higher value to narrow the range to be affected.

PRO EDIT parameters (INST COMMON)

Category

0–21	Selects the Inst's category.

Level

0–127	Adjusts the volume of the Inst.

Source Key

0–127	Specifies the pitch in semitone steps relative to 60 (the original pitch of the instrument).

Fine Tune

-50–+50 [cent]	Adjusts the pitch of the sound up or down in 1-cent steps (+/-50 cents).

Random Pitch Depth

0–1200 [cent]	Specifies the width in which the pitch is randomly changed each time the note is sounded. If you do not want the pitch to change randomly, set this to "0".

Assign Type

Sets the way sounds are played when the same key is pressed a number of times.

MULTI	Layer the sound of the same keys. Even with continuous sounds where the sound plays for an extended time, such as with crash cymbals, the sounds are layered, without previously played sounds being eliminated.
SINGLE	Only one sound can be played at a time when the same key is pressed. With continuous sounds where the sound plays for an extended time, the previous sound is stopped when the following sound is played.

Envelope Mode

NO-SUS, SUSTAIN	When a loop waveform is selected, the sound will normally continue as long as the key is pressed. If you want the sound to decay naturally even if the key remains pressed, set this to "NO-SUS". * If a one-shot type Wave is selected, it will not sustain even if this parameter is set to "SUSTAIN".

WMT Velocity Control

OFF, ON, RANDOM	Determines whether a different wave is played (ON) or not (OFF) depending on the force with which the key is played. When set to "RANDOM", the tone's constituent wave will sound randomly, regardless of any velocity messages.

Tempo Sync

OFF, ON	Matches the wave playback to the tempo. This is valid only if a wave with a specified BPM is selected. If this function is enabled, parameters related to pitch and FXM are ignored.

PRO EDIT parameters (INST WAVE)

Each instrument consists of four waves (WAVE 1–4).
You can edit the following parameters for each wave.

Switch

OFF, ON	Turns the corresponding wave on/off.

Wave L/R

(Wave number)	Specifies the wave number within the group specified by Wave Group. Click this to open the Wave Browser. You can use bank and category to narrow the search results, or use keyword search to select a wave. If using mono, specify only the left side (L). If using stereo, specify the right side (R) as well. If using mono, specify only Wave L and leave Wave R at 0: OFF. If you specify only Wave R, no sound is heard.

Gain

-18–+12 [dB]	Specifies the gain (amplitude) of the waveform. The value will change in 6 dB (decibel) steps. Each 6 dB increase doubles the gain.

FXM Switch

OFF, ON	This sets whether FXM will be used (ON) or not (OFF). * FXM (Frequency Cross Modulation) uses a specified waveform to apply frequency modulation to the currently selected waveform, creating complex overtones. This is useful for creating dramatic sounds or sound effects.

FXM Color

1–4	Specifies how FXM will perform frequency modulation. Higher settings result in a grainier sound, while lower settings result in a more metallic sound.

FXM Depth

0–16	Specifies the depth of the modulation produced by FXM.

Coarse Tune

-48–+48	Adjusts the pitch of each wave's sound up or down in semitone steps (+/-4 octaves). MEMO The Coarse Tune of the entire drum partial is set by the "Source Key".

Fine Tune

-50–+50	Adjusts the pitch of each Wave's sound up or down in 1-cent steps (+/-50 cents). * One cent is 1/100th of a semitone. MEMO The Fine Tune of the entire drum partial is set by the "Fine Tune Offset".

Level

0–127	Adjusts the level of each Wave. MEMO The volume level of each drum partial is set with the Partial Level; the volume levels of the entire drum kit is set with the "Level".

Pan

L64–63R	This specifies the pan of the waveform. "L64" is far left, "0" is center, and "63R" is far right.

Random Pan Sw

OFF, ON	Use this setting to cause the waveform's panning to change randomly each time a key is pressed (ON) or not (OFF). * The range of the panning change is set by the "Random Pan Depth".

Alternate Pan Sw

OFF, ON, REVS	This setting causes panning of the waveform to be alternated between left and right each time a key is pressed. Set this to "ON" to pan the Wave according to the Alternate Pan Depth settings, or to "REVS" when you want the panning reversed. If you do not want the panning to change each time a key is pressed, set this to "OFF".

PRO EDIT parameters (INST WMT)

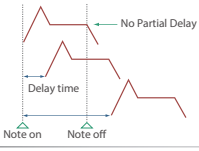
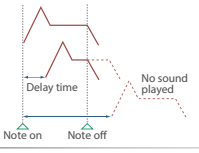
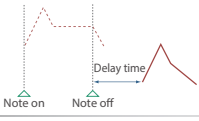
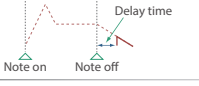
Each instrument consists of four waves (WAVE 1–4).
You can edit the following parameters for each wave.

Wave Delay Mode

Wave delay

This produces a time delay between the moment a key is pressed (or released), and the moment the Wave actually begins to sound. You can also make settings that shift the timing at which each Wave is sounded.

By modifying the tonal character of the wave that is sounded with a delay, or by modifying the pitch of each wave, you can produce arpeggio-like performances by pressing a single key. The wave delay time can also be synchronized to the tempo.

NORMAL	The Wave begins to play after the time specified in the Wave Delay Time parameter has elapsed. 
HOLD	Although the Wave begins to play after the time specified in the Wave Delay Time parameter has elapsed, if the key is released before the time specified in the Wave Delay Time parameter has elapsed, the Wave is not played. 
KEY-OFF-NORMAL	Rather than being played while the key is pressed, the Wave begins to play once the period of time specified in the Wave Delay Time parameter has elapsed after release of the key. This is effective in situations such as when simulating noises from guitars and other instruments. 
KEY-OFF-DECAY	Rather than being played while the key is pressed, the Wave begins to play once the period of time specified in the Wave Delay Time parameter has elapsed after release of the key. Here, however, changes in the Amp Envelope begin while the key is pressed, which in many cases means that only the sound from the release portion of the envelope is heard. 

Wave Delay Time Sync

OFF, ON	Set this ON if you want the Wave delay time to synchronize with the tempo.

Wave Delay Time (note)

1/64T–2	This is available when Wave Delay Time Sync is ON. It specifies the delay time in terms of a note value.

Wave Delay Time

0–1023	This is available when Wave Delay Time Sync is OFF. It specifies the delay time without regard to the tempo. 

Velocity Range Lower/Velocity Range Upper

1–127	Specifies the lower limit (Lower) and upper limit (Upper) of the velocities that will sound the Wave. Make these settings when you want to play different Waves depending on your keyboard dynamics.

Velocity Fade Lower

0–127	Specifies the degree to which the Wave is sounded by notes played more softly than Velocity Range Lower. If you don't want the tone to sound at all, set this parameter to "0".

Velocity Fade Upper

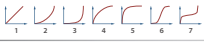
0–127	Specifies the degree to which the Wave is sounded by notes played more strongly than Velocity Range Upper. If you don't want the tone to sound at all, set this parameter to "0".

PRO EDIT parameters (INST PITCH ENV)

Depth

-100–+100	Adjusts the effect of the Pitch Envelope. Higher settings will cause the pitch envelope to produce greater change. Negative (-) value will invert the shape of the envelope.

Velocity Curve

FIXED, 1–7	Selects one of the following seven types of curve by which keyboard playing dynamics affect the depth of the pitch envelope. If you don't want keyboard playing dynamics to affect the pitch envelope depth, specify "FIXED". 

Velocity Sens

-100–+100	Keyboard playing dynamics can be used to control the depth of the pitch envelope. If you want the pitch envelope to have more effect for strongly played notes, set this parameter to a positive (+) value. If you want the pitch envelope to have less effect for strongly played notes, set this to a negative (-) value.

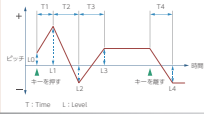
Time 1 Velocity Sens

-100–+100	This allows keyboard dynamics to affect the Time 1 of the Pitch envelope. If you want Time 1 to be speeded up for strongly played notes, set this parameter to a positive (+) value. If you want it to be slowed down, set this to a negative (-) value.

Time 4 Velocity Sens

-100–+100	Use this parameter when you want key release speed to affect the Time 4 value of the pitch envelope. If you want Time 4 to be speeded up for quickly released notes, set this parameter to a positive (+) value. If you want it to be slowed down, set this to a negative (-) value.

Time 1–4

0–1023	Specify the pitch envelope times (Time 1–Time 4). Higher settings will result in a longer time until the next pitch is reached. (For example, Time 2 is the time over which the pitch changes from Level 1 to Level 2.) 

Level 0–4

-511–+511	Specify the pitch envelope levels (Level 0–Level 4). It determines how much the pitch changes from the reference pitch (the value set with Coarse Tune or Fine Tune on the Pitch screen) at each point. Positive (+) value will cause the pitch to be higher than the standard pitch, and negative (-) value will cause it to be lower.

PRO EDIT parameters (INST FILTER)

Filter Type

Selects the type of filter.

OFF	No filter is used.
LPF	Low Pass Filter. This cuts the frequencies in the region above the cutoff frequency (Cutoff Frequency). Since this cuts the high-frequency region, the sound becomes more mellow. This is the most common filter used in synthesizers.
BPF	Band Pass Filter. This leaves only the frequencies in the region of the cutoff frequency (Cutoff Frequency), and cuts the rest. This can be useful when creating distinctive sounds.
HPF	High Pass Filter. This cuts the frequencies in the region below the cutoff frequency (Cutoff Frequency). This is suitable for creating percussive sounds emphasizing their higher tones.
PKG	Peaking Filter. This emphasizes the frequencies in the region of the cutoff frequency (Cutoff Frequency). This can be used to portray the resonance peak of a drum.
LPF2	Low Pass Filter 2. Although frequency components above the Cutoff frequency (Cutoff Frequency) are cut, the sensitivity of this filter is half that of the LPF. This makes it a comparatively warmer low pass filter. This filter is good for use with simulated instrument sounds such as the acoustic piano. * If you set "LPF2", the setting for the "Resonance" parameter will be ignored.
LPF3	Low Pass Filter 3. Although frequency components above the Cutoff frequency (Cutoff Frequency) are cut, the sensitivity of this filter changes according to the Cutoff frequency. While this filter is also good for use with simulated acoustic instrument sounds, the nuance it exhibits differs from that of the LPF2, even with the same TVF Envelope settings. * If you set "LPF3", the setting for the "Resonance" parameter will be ignored.

Cutoff Frequency

0–1023	Selects the frequency at which the filter begins to have an effect on the waveform's frequency components. With "LPF/LPF2/LPF3" selected for the Filter Type parameter, lower cutoff frequency settings reduce a tone's upper harmonics for a more rounded, warmer sound. Higher settings make it sound brighter. If "BPF" is selected for the Filter Type, harmonic components will change depending on the TVF Cutoff Frequency setting. This can be useful when creating distinctive sounds. With "HPF" selected, higher Cutoff Frequency settings will reduce lower harmonics to emphasize just the brighter components of the sound. With "PKG" selected, the harmonics to be emphasized will vary depending on Cutoff Frequency setting.

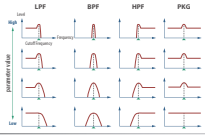
Cutoff Velocity Curve

FIXED, 1–7	Selects one of the following seven curves that determine how keyboard playing dynamics (velocity) influence the cutoff frequency. Set this to "FIXED" if you don't want the Cutoff frequency to be affected by the keyboard velocity. 

Cutoff Velocity Sens

-100–+100	Use this parameter when changing the cutoff frequency to be applied as a result of changes in playing velocity. Specify a positive "+" value if you want the cutoff frequency to raise when you play strongly, or a negative "-" value if you want it to lower.

Resonance

0–1023	Emphasizes the portion of the sound in the region of the cutoff frequency, adding character to the sound. Excessively high settings can produce oscillation, causing the sound to distort. 

Resonance Velocity Sens

-100–+100	Use this parameter when changing the resonance to be applied as a result of changes in playing velocity. Specify a positive "+" value if you want resonance to increase when you play strongly, or a negative "-" value if you want it to decrease.

PRO EDIT parameters (INST FILTER ENV)

Depth

-63–+63	Specifies the depth of the Filter envelope. Higher settings increase the change produced by the Filter envelope. Negative (-) value will invert the shape of the envelope.

Velocity Curve

FIXED, 1–7	Selects one of the following seven types of curve by which keyboard playing dynamics affect the depth of the filter envelope. If you don't want keyboard playing dynamics to affect the filter envelope depth, specify "FIXED". 

Velocity Sens

-100–+100	Specify this if you want keyboard playing dynamics to affect the filter envelope depth. Specify a positive "+" value if you want the filter envelope to apply more deeply as you play more strongly, or a negative "-" value if you want it to apply less deeply.

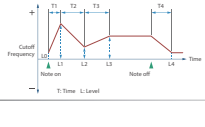
Time 1 Velocity Sens

-100–+100	Specify this if you want keyboard playing dynamics to affect Time 1 of the filter envelope. If you want Time 1 to be speeded up for strongly played notes, set this parameter to a positive (+) value. If you want it to be slowed down, set this to a negative (-) value.

Time 4 Velocity Sens

-100–+100	Specify this if you want key release velocity to affect Time 4 of the filter envelope. If you want Time 4 to be speeded up for quickly released notes, set this parameter to a positive (+) value. If you want it to be slowed down, set this to a negative (-) value.

Time 1–4

0–1023	Specify the filter envelope times (Time 1–Time 4). Higher settings will lengthen the time until the next cutoff frequency level is reached. (For example, Time 2 is the time over which Level 1 will change to Level 2.) 

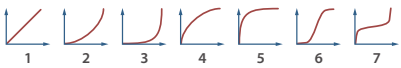
Level 0–4

0–1023	Specify the filter envelope levels (Level 0–Level 4). Specify the amount of cutoff frequency change at each point relative to the reference cutoff frequency (the cutoff frequency value specified in the Filter screen).

to Contents

PRO EDIT parameters (INST AMP)

Velocity Curve

FIXED, 1–7	Selects one of the following seven curves that determine how keyboard dynamics will affect the volume. Set this to "FIXED" if you don't want the volume of the partial to be affected by the keyboard velocity. 

Velocity Sens

-100–+100	Set this when you want the volume of the partial to change depending on the force with which you press the keys. Set this to a positive (+) value to have the changes in partial volume increase the more forcefully the keys are played; to make the partial play more softly as you play harder, set this to a negative (-) value.

Random Pan Depth

0–63	Use this parameter when you want the stereo location to change randomly each time you press a key. Higher values will produce a greater amount of change.

Alternate Pan Depth

L64–63R	This setting causes panning to be alternated between left and right each time a key is pressed. Higher values will produce a greater amount of change. "L" or "R" settings will reverse the order in which the pan will alternate between left and right. For example, if the INST WAVE setting Wave Alter Pan Sw is ON or REVS for the two waves, the pan will alternate each time the key is pressed.

PRO EDIT parameters (INST AMP ENV)

Time 1 Velocity Sens

-100–+100	Specify this if you want keyboard dynamics to affect the Amp Envelope's Time 1. If you want Time 1 to be speeded up for strongly played notes, set this parameter to a positive (+) value. If you want it to be slowed down, set this to a negative (-) value.

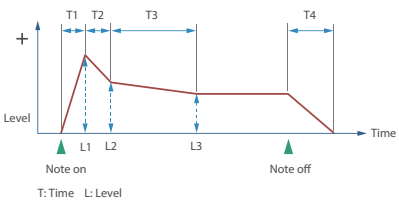
Time 4 Velocity Sens

-100–+100	Specify this if you want key release velocity to affect the Amp Envelope's Time 4. If you want Time 4 to be speeded up for quickly released notes, set this parameter to a positive (+) value. If you want it to be slowed down, set this to a negative (-) value.

Time 1–4

0–1023	Specify the Amp Envelope times (Time 1–Time 4). Higher settings lengthen the time until the next volume level is reached. (For example, Time 2 is the time over which Level 1 will change to Level 2.)

Level 1–3

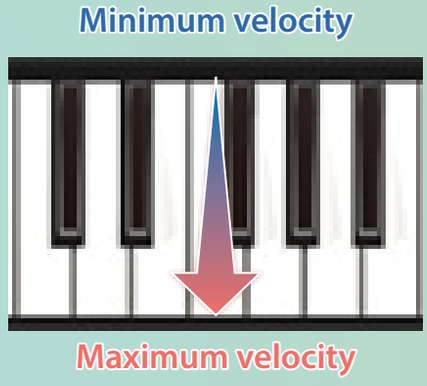
Env Level 1–3	Specify the Amp Envelope levels (Level 1–Level 3). These specify the amount of change at each point relative to the reference volume (the partial level value specified in the Amp screen). 

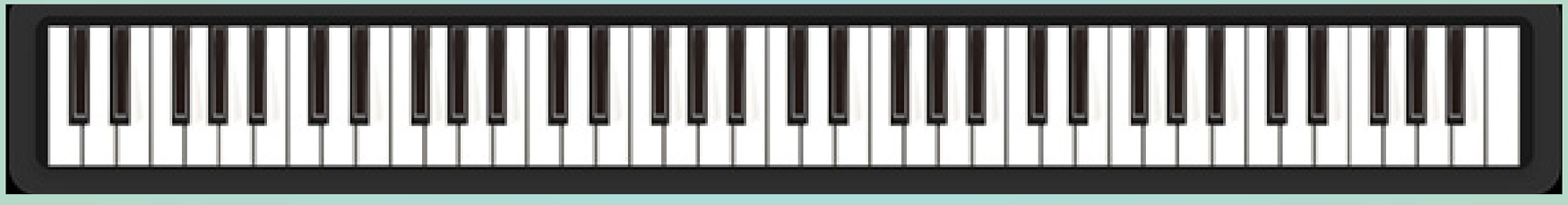
to Contents

KEYBOARD Panel

Playing and controlling dynamics

Click the keyboard to play notes.
The velocity increases as you click toward the front of the key.
Clicking the very front of the key produces the maximum velocity.





Octave Shift

Use the mouse wheel to change the octave shift of the keyboard.
When you change the octave shift, the setting is shown on the keyboard for a few seconds.



to Contents

MFX Panel

MFX [⏻] button

Turns MFX on/off.

MFX type indication

Shows the currently selected MFX name.

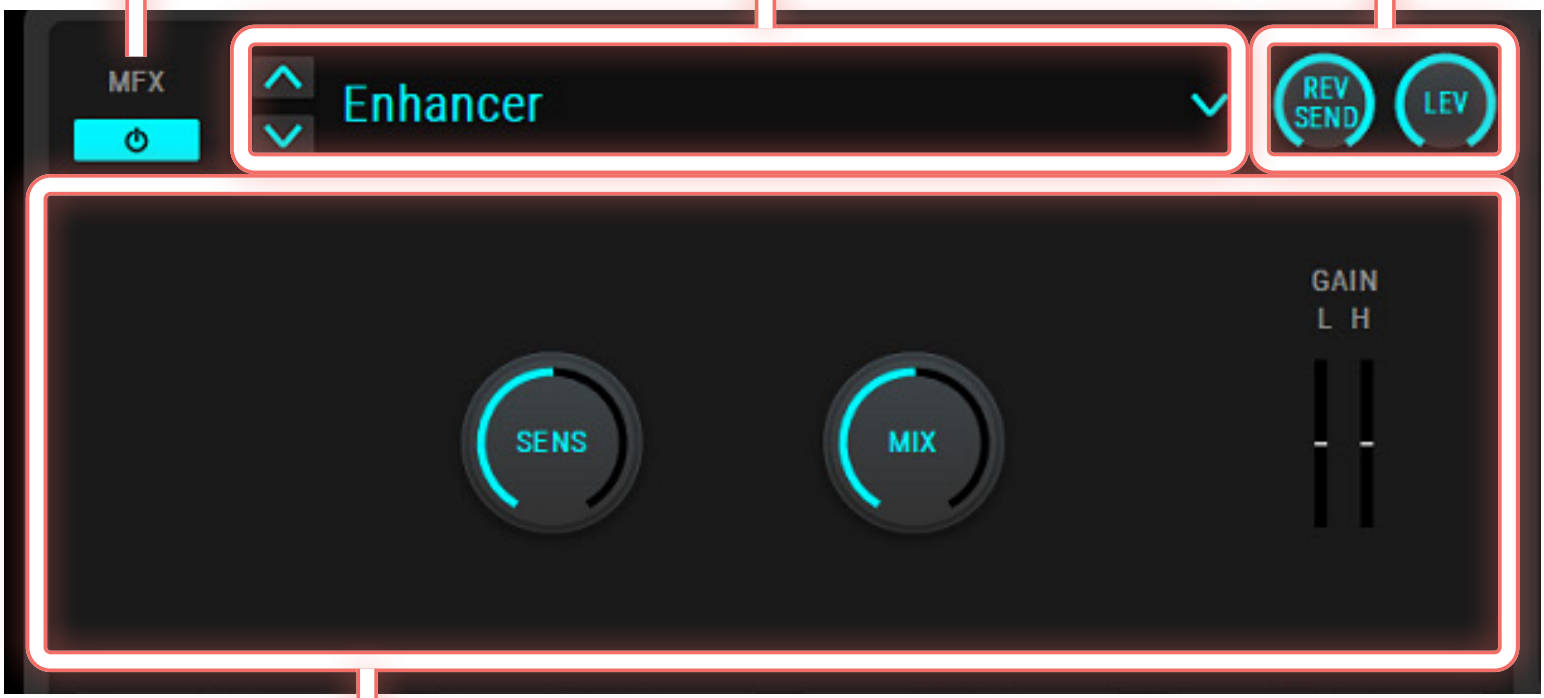
To change the MFX, click the MFX name and choose from the list that appears.

[REV SEND] knob

Adjusts the reverb send amount for the MFX.

[LEV] knob

Adjusts the MFX output level.



MFX parameters

The edit screen is different for each MFX type.

➡ For details, refer to "MFX Parameters".

to Contents

REVERB Panel

REVERB [⏻] button

Turns REVERB on/off.

REVERB type indication

Shows the currently selected reverb name.

You can click the [LIST] button to switch between reverbs, as shown in the list.

[LEV] knob

Adjusts the REVERB output level.



REVERB parameters

The edit screen is different for each REVERB type.

➡ For details, refer to "REVERBMFX Parameters".

Tone/Drum Kit Browser Screen

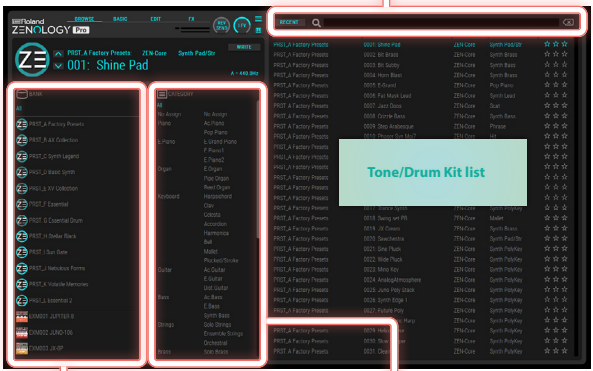
[Recent] button

Shows recently selected tones and drum kits in chronological order (ON/OFF).

You can also narrow the focus of the search result by bank and category.

Keyword search

Lets you use keywords (multiple selections are allowed) to further narrow the focus of the displayed result.



Bank list

Shows a list of the banks that you own.

There are preset banks (recall-only) and user banks (recall or save).

The contents of the bank selected here is shown in the tone/drum kit list located in the center of the screen.

Multiple banks can be selected simultaneously.

- Drag to select a region.
- Click while holding down the Ctrl key (Windows).
- Click while holding down the Command key (Mac).

To de-select a currently selected bank, click it again. If no bank is selected, All (all banks) are shown.

Category filter

Filters the Tone/Drum Kit list by category.

Multiple filters can be selected simultaneously.

- Drag to select a region.
- Click while holding down the Ctrl key (Windows).
- Click while holding down the Command key (Mac).

to Contents

Tone/Drum Kit List

Sorting the list

By clicking a tab in the tone/drum kit list, you can sort the list using that tab as the key.
By clicking again, you can switch between ascending and descending order.



Rating

To each tone or drum kit you can assign a four-step rating (number of ☆s: 0-3).

You can use this rating to sort the tone/drum kit list.

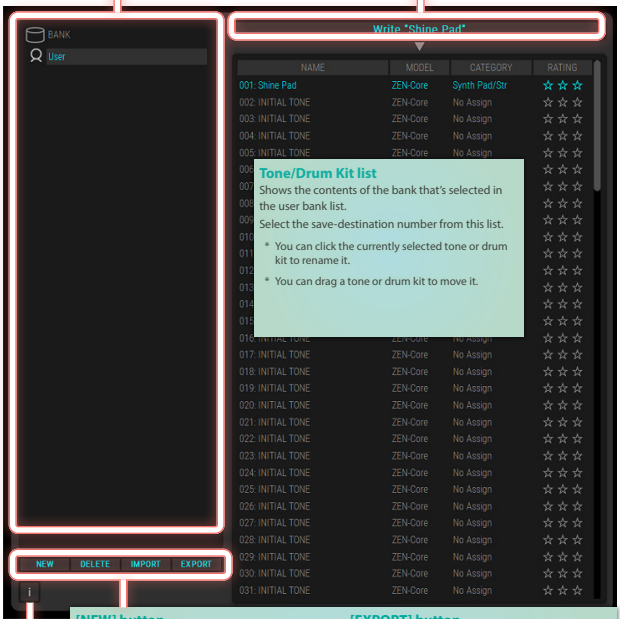
Tone/Drum Kit Manager Screen

User bank list
Shows a list of the user banks.

Select the save-destination bank.

* You can click the currently selected bank to rename it.
* Multiple banks cannot be selected.

[Write] button
When you click this button, the tone or drum kit is saved to the specified location.



Tone/Drum Kit list
Shows the contents of the bank that's selected in the user bank list.

Select the save-destination number from this list.

* You can click the currently selected tone or drum kit to rename it.
* You can drag a tone or drum kit to move it.

[NEW] button
Creates a new user bank.

[DELETE] button
Deletes the selected user bank.

[IMPORT] button
Imports a user bank file.

[EXPORT] button
Opens the following menu.

For Plug-in
Save as a ZENOLOGY backup file.

For Hardware/Zenbeats (ZC1)
Saves data compatible with hardware products that use the ZEN-Core Synthesis System such as the FANTOM, JUPITER-X and so on, as well as Zenbeats (ZC1).

* The Reverb parameter settings are not included in "For Hardware/ZC1".

"i" symbol
When you place the mouse cursor (mouse pointer) over this, a list of shortcuts appears.

to Contents

Drum Inst Browser Screen

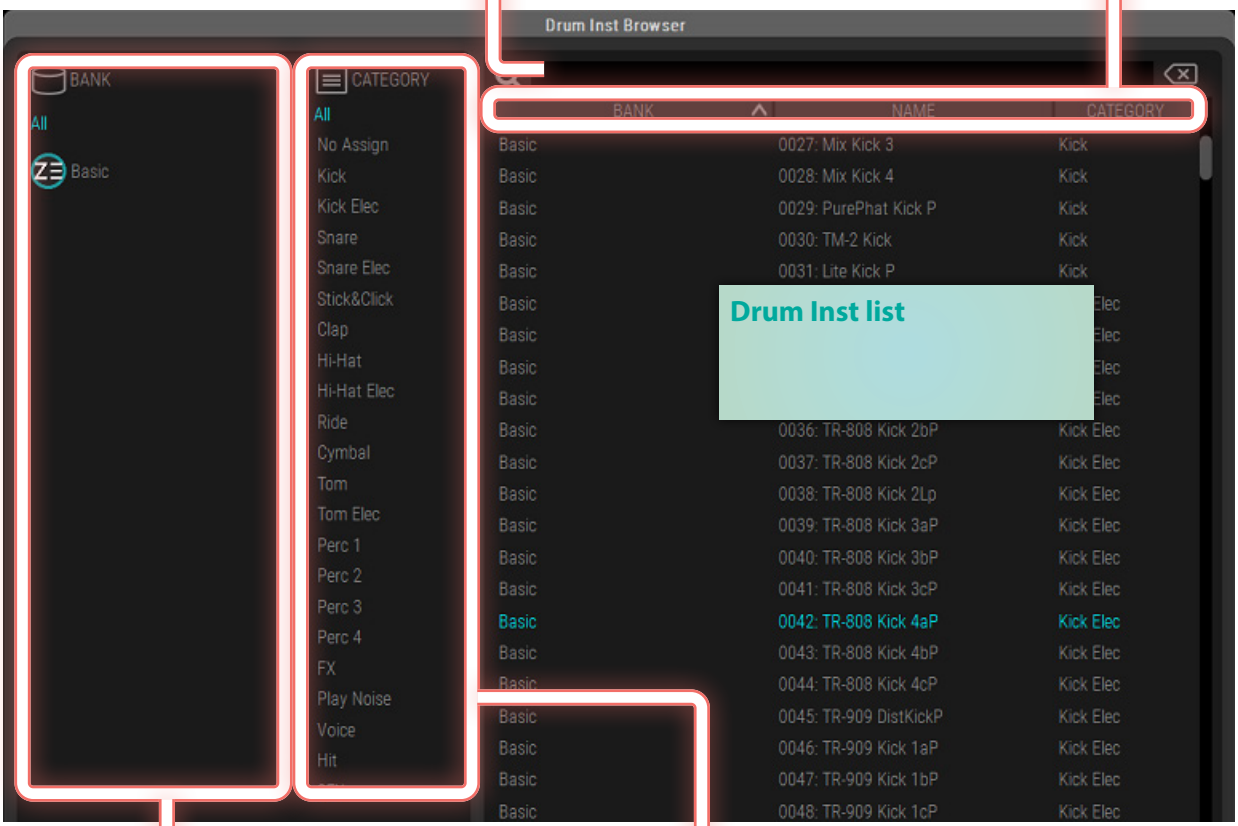
Keyword search

Lets you use keywords (multiple selections are allowed) to further narrow the focus of the displayed result.

Sorting the list

By clicking a tab in the drum instrument list, you can sort the list using that tab as the key.

By clicking again, you can switch between ascending and descending order.



Bank list

Shows a list of the banks that you own.

The contents of the bank selected here are shown in the drum instrument list located in the center of the screen.

Multiple banks can be selected simultaneously.

- Drag to select a region.
- Click while holding down the Ctrl key (Windows).
- Click while holding down the Command key (Mac).

To de-select a currently selected bank, click it again. If no bank is selected, All (all banks) are shown.

Category

Filters the drum instrument list by category.

Multiple categories can be selected simultaneously.

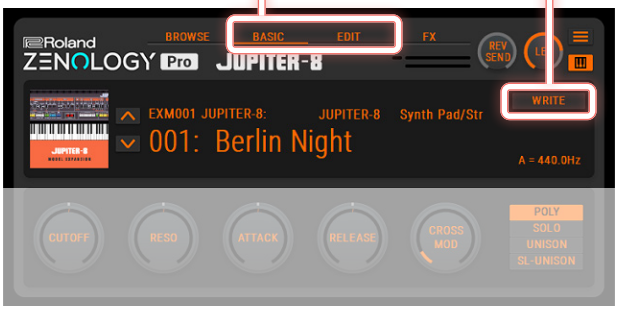
- Drag to select a region.
- Click while holding down the Ctrl key (Windows).
- Click while holding down the Command key (Mac).

Model Screen (JUPITER-8)

BASIC
Shows the operating screen in a compact format.

EDIT
Shows the detailed settings screen.

[WRITE] button
Accesses the Tone/Drum Kit Manager, allowing you to save a tone or drum kit.



KEY MODE

[POLY] button
Sound is produced polyphonically.

[SOLO] button
Sound is produced monophonically.

[UNISON] button
Sound is produced in unison.

[SL-UNISON] button
Sound is produced in monophonic unison.

Right-click	LEARN MIDI CC Assigns a control change to each button.



[CUTOFF] knob
Adjusts how far the filter is open.

Higher values make the sound brighter, and lower values make the sound darker.

[RESO] knob
Emphasizes the portion of the sound in the region of the cutoff frequency, adding character to the sound. Excessively high settings can produce oscillation, causing the sound to distort.

Increasing this value strengthens the character, and decreasing it weakens the character.

[ATTACK] knob
Specifies the time from when the key is pressed until the sound completes its attack.

Higher values produce a softer attack, and lower values produce a sharper attack.

[RELEASE] knob
Specifies the time from when the key is released until the sound disappears.

Higher values produce a longer release, and lower values produce a crisper release.

[CROSS MOD] knob
Uses the OSC2 waveform to change the frequency of OSC1. Higher values cause the sound of OSC1 to be more complex, allowing you to create metallic sounds or sound effects.

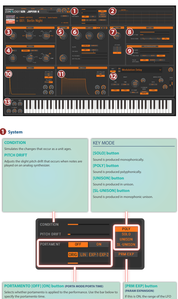
How to operate the knobs

Right-click	LEARN MIDI CC Assigns a control change to the parameter selected by [CUTOFF]–[CROSS MOD].
Drag	Tone edit Edits each parameter.
Mouse wheel	Adjusts the value in smaller units.
Up/down keys on the computer keyboard, after operating a knob	
Click and drag to a position away from the knob	
Hold down the Shift key on the computer keyboard and drag the mouse	

How to restore a parameter to its default value

Windows	ctrl key + click
macOS	cmd key + click

Detailed Settings Screen (JUPITER-8)



1 System

OSCILLATION

Simulates the changes that occur as a unit ages.

PITCH SHIFT

Adjusts the slight pitch drift that occurs when notes are played on an analog synthesizer.

KEY MODE

DUO(D) button

Sound is produced monophonically.

2POLY button

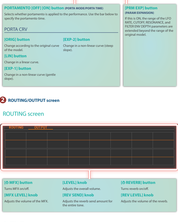
Sound is produced polyphonically.

UNISON(U) button

Sound is produced in unison.

DU. UNISON(DU) button

Sound is produced in monophonic unison.



PORTAMENTO (OFF) (ON) button (PORTA MODE/PORTA TIME)

Selects whether portamento is applied to the performance. Use the bar below to specify the portamento time.

PORTA (CP) button

(PARAM EXTENSION)

Turns Mode on/off. By the usage of the CP/U-101 EXPP, MIDI CONTROL, and CV/GATE, you can control the portamento beyond the range of the original sound.

PORTA CURVE

(EXP.) button

Changes in a non-linear curve (exponential).

(LOG.) button

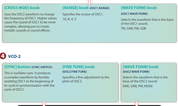
Changes in a non-linear curve (logarithmic).

(EXP.-1) button

Changes in a non-linear curve (parabolic shape).

2 ROUTING/OUTPUT screen

ROUTING screen



D-BEAT button

Turns BEAT on/off.

(BEAT LEVEL) knob

Adjusts the volume of the MFX.

S.LEVEL) knob

Adjusts the overall volume.

(REV SEND) knob

Adjusts the reverb send amount for the entire tone.

(D-REVERB) button

Turns reverb on/off.

(REV LEVEL) knob

Adjusts the volume of the reverb.

OUTPUT screen



Mouse operations

Drag horizontal	Zooms the waveform's time axis around the center.
Drag vertical	Zooms the waveform's display's level axis in/out.
Mouse wheel	Zooms the waveform's time axis around the center.

3 VCO-1



(CROSS MOD) knob

Uses the VCO-2 waveform to change the waveform of VCO-1. The higher you raise the sound will be, the more complex, allowing you to create metallic sounds or sound effects.

(RANGE) knob (REV: RANGE)

Changes in a step the octave of VCO-1. 16', 8', 4'

(WAVE FORM) knob

(REV.) WAVE FORM)

Selects the waveform that is the basis of the VCO-1 sound. TRI, SAW, PW, NOISE

4 VCO-2



(SYNC) button (SYNC SWITCH)

This is oscillator sync. It produces harmonics by resetting VCO-1 to the beginning of its waveform in synchronization with the cycle of VCO-2.

(FINE TUNE) knob

(FINE) (TUNE TUNE)

Specifies the fine adjustment to the pitch of VCO-2.

(WAVE FORM) knob

(VCO-2 WAVE FORM)

Selects the waveform that is the basis of the VCO-2 sound. SAW, SQR, PW, NOISE

5 OSC MODE



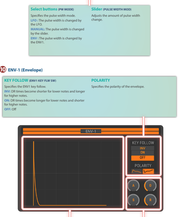
(NORMAL) button

OSC 2 operates as NORMAL. The pitch of VCO-2 is not affected by the KEY FOLLOW (KYBD) knob to set the frequency to 1.0 Hz.

(LOW FREQ) button

OSC 2 operates as LFO. Use the FINE TUNE knob to set the low (LOW FREQ) knob to set the frequency. 0 - 10

6 MIXER



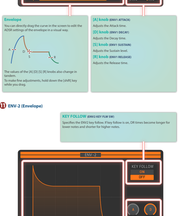
VCO-1 knob (MIX: LEVEL)

Adjusts the volume balance of OSC1.

VCO-2 knob (MIX LEVEL)

Adjusts the volume balance of OSC2.

7 VCF



(CUT) knob

Adjusts the cutoff frequency of the high pass filter.

(FREQ) knob (CUTOFF)

Specifies the cutoff frequency of the low pass filter. Frequencies in this region above the specified frequency are cut, producing a more mellow tonal quality.

(RES) knob (RESONANCE)

Accents the region of the filter's frequency that is specified by the CUTOFF FREQ knob, giving the sound a distinctly synthesizer-like character.

(HPF) (CUTOFF) buttons (KEYBOARD KEY TYPE)

Selects the keyboard key mode to which the cutoff frequency changes based on the key pitch. With -HPF button, the cutoff frequency becomes lower as you play higher notes.

(KEY FOLLOW) button (KEY FOLLOW)

Selects the keyboard key mode to which the cutoff frequency changes based on the key pitch. With -HPF button, the cutoff frequency becomes lower as you play higher notes.

(RC.) (RC.2) buttons (CHORUS (2) TYPE)

Selects the chorus type. The sound is selected, and each time you press the button the type of chorus changes.

RC.1: Provides a Roland chorus, and RC.2 provides a wider stereo image synthesizers made by other companies.

SLOPE (FILTER SLOPE)

Selects the slope of slope for the low-pass filter. (-)(KYBD) (-)(VELOCITY)

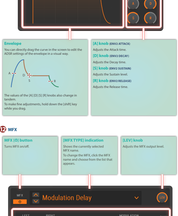
ENV-1 (-) (ENV) (-) buttons (VCF ENV MODE)

Selects the envelope that is used to control the ENV-1 (VCF envelope generator).

ENV MOD (VCF ENV DEPTH)

Adjusts the amount by which the cutoff frequency is controlled by the envelope.

8 VCA



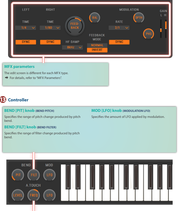
(LEVEL) knob (AMP LEVEL)

Adjusts the volume of the tone.

LFO MOD (AMP MOD DEPTH)

Sets the LFO's way the AMP volume (tremolo effect). Higher values produce a greater effect.

9 LFO



RATE (LFO RATE)

Specifies the rate of the LFO's cycle.

DELAY TIME (LFO DELAY TIME)

Adjusts the time from when a key is pressed until the LFO starts to apply modulation.

WAVEFORM (LFO WAVEFORM)

Selects the waveform of the LFO. SAW, SAW-SQR, SQR

10 VCO MODULATOR



LFO MOD

Adjusts the depth at which the LFO modulates the VCO.

ENV MOD (VCF ENV DEPTH)

Adjusts the depth at which the ENV modulates the VCO.

FREQ MOD (KEY SELECT)

Specifies the KEY SELECT that is modulated by LFO MOD.

Select buttons (FM MODE)

Specifies the cross-width mode. (2)>1: The pulse width is changed by the slider.

(MANUAL): The pulse width is changed by the slider.

(AUTO): The pulse width is changed by the LFO.

SHAPE (PULSE WIDTH/PW MOD)

Adjusts the amount of pulse width change.

11 ENV-1 (Envelope)

KEY FOLLOW (ENV1 KEY FLW SW)

(KEY FOLLOW) (ENV1 KEY FLW SW)

Specifies the ENV1 key follow. If key follow is on, ON times become longer for lower notes and shorter for higher notes.

POLARITY

Specifies the polarity of the envelope.

Envelope

You can directly drag the curve in the screen to edit the ADSR settings of the envelope in a visual way.

The values of the A1 [D1] [S1] [R1] knobs are displayed.

To make fine adjustments, hold down the [SHIFT] key while you drag.

(A) knob (ENV1 ATTACK)

Adjusts the Attack time.

(D) knob (ENV1 DEC.)

Adjusts the Decay time.

(S) knob (ENV1 SUSTAIN)

Adjusts the Sustain level.

(R) knob (ENV1 RELEASE)

Adjusts the Release time.

12 ENV-2 (Envelope)

KEY FOLLOW (ENV2 KEY FLW SW)

Specifies the ENV2 key follow. If key follow is on, ON times become longer for lower notes and shorter for higher notes.

Envelope

You can directly drag the curve in the screen to edit the ADSR settings of the envelope in a visual way.

The values of the A2 [D2] [S2] [R2] knobs are displayed.

To make fine adjustments, hold down the [SHIFT] key while you drag.

(A) knob (ENV2 ATTACK)

Adjusts the Attack time.

(D) knob (ENV2 DEC.)

Adjusts the Decay time.

(S) knob (ENV2 SUSTAIN)

Adjusts the Sustain level.

(R) knob (ENV2 RELEASE)

Adjusts the Release time.

13 MFX

MFX (ZI) button

Turns MFX on/off.

(MFX TYPE) indication

Selects the MFX type.

To change the MFX, click the MFX TYPE indication and choose from the list that appears.

S.EFC) knob

Adjusts the MFX output level.

MFX parameters

The edit screen is different for each MFX type. For details, refer to "MFX Parameters".

14 Controller

MODE (LFO) knob (MODULATION LFO)

Specifies the amount of LFO applied by modulation.

A.TOUCH (LEVEL) knob

Specifies how the volume of the tone is affected by aftertouch.

A.TOUCH (FREQ) knob

Specifies how the frequency of the tone you filter is affected by aftertouch.

A.TOUCH (LFO) knob

Specifies how the LFO depth is affected by aftertouch.

Model Screen (JUNO-106)

BASIC
Shows the operating screen in a compact format.

EDIT
Shows the detailed settings screen.

[WRITE] button
Accesses the Tone/Drum Kit Manager, allowing you to save a tone or drum kit.



KEY MODE

[SOLO] button
Sound is produced monophonically.

[POLY] button
Sound is produced polyphonically.

[UNISON] button
Sound is produced in unison.

[SL-UNISON] button
Sound is produced in monophonic unison.

Right-click	LEARN MIDI CC Assigns a control change to each button.



[CUTOFF] knob
Adjusts how far the filter is open.
Higher values make the sound brighter, and lower values make the sound darker.

[RESO] knob
Emphasizes the portion of the sound in the region of the cutoff frequency, adding character to the sound. Excessively high settings can produce oscillation, causing the sound to distort.
Increasing this value strengthens the character, and decreasing it weakens the character.

[ATTACK] knob
Specifies the time from when the key is pressed until the sound completes its attack.
Higher values produce a softer attack, and lower values produce a sharper attack.

[RELEASE] knob
Specifies the time from when the key is released until the sound disappears.
Higher values produce a longer release, and lower values produce a crisper release.

[SUB OSC] knob
Adjusts the volume of the sub oscillator.

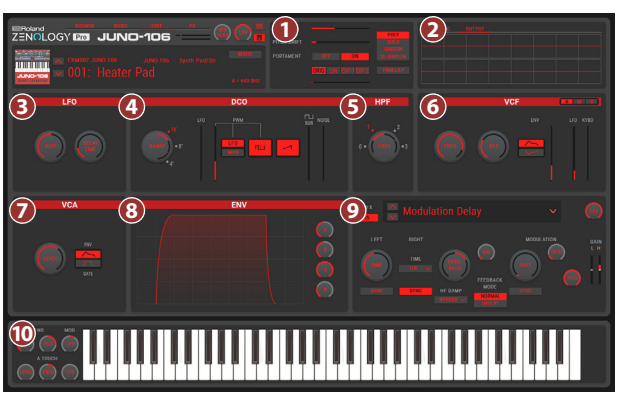
How to operate the knobs

Right-click	LEARN MIDI CC Assigns a control change to the parameter selected by [CUTOFF]–[SUB OSC].
Drag	Tone edit Edits each parameter.
Mouse wheel	Adjusts the value in smaller units.
Up/down keys on the computer keyboard, after operating a knob	
Click and drag to a position away from the knob	
Hold down the Shift key on the computer keyboard and drag the mouse	

How to restore a parameter to its default value

Windows	ctrl key + click
macOS	cmd key + click

Detailed Settings Screen (JUNO-106)



1 System

CONDITION
Simulates the changes that occur as a unit ages.

PITCH DRIFT
Adjusts the slight pitch drift that occurs when notes are played on an analog synthesizer.

KEY MODE

[SOLO] button
Sound is produced monophonically.

[POLY] button
Sound is produced polyphonically.

[UNISON] button
Sound is produced in unison.

[SL-UNISON] button
Sound is produced in monophonic unison.



PORTAMENTO [OFF] [ON] button (PORTA MODE/PORTA TIME)
Selects whether portamento is applied to the performance. Use the bar below to specify the portamento time.

PORTA CRV

[ORIG] button
Change according to the original curve of the model.

[LIN] button
Change in a linear curve.

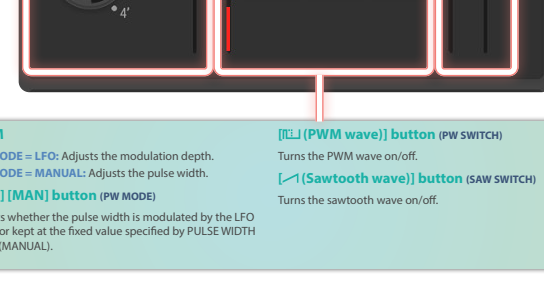
[EXP-1] button
Change in a non-linear curve (gentle slope).

[EXP-2] button
Change in a non-linear curve (steep slope).

[PRM EXP] button (PARAM EXPANSION)
If this is ON, the range of the LFO RATE, CUTOFF, RESONANCE, and FILTER ENV DEPTH parameters are extended beyond the range of the original model.

2 ROUTING/OUTPUT screen

ROUTING screen



[⏻ MFX] button
Turns MFX on/off.

[MFX LEVEL] knob
Adjusts the volume of the MFX.

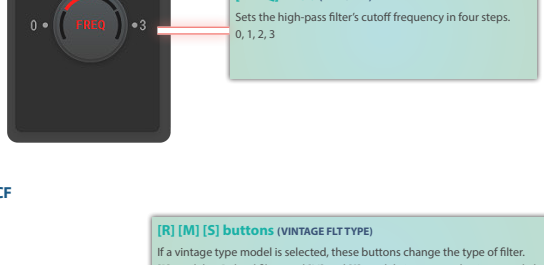
[LEVEL] knob
Adjusts the overall volume.

[REV SEND] knob
Adjusts the reverb send amount for the entire tone.

[⏻ REVERB] button
Turns reverb on/off.

[REV LEVEL] knob
Adjusts the volume of the reverb.

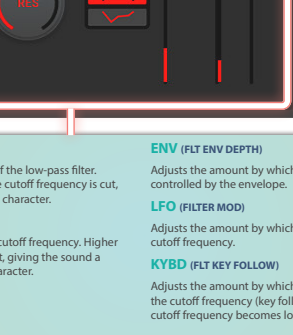
OUTPUT screen



Mouse operations

Drag (horizontal)	Zooms the waveform's time axis in/out.	Mouse wheel	Zooms the waveform's time axis in/out.
Drag (vertical)	Zooms the waveform display's level axis in/out.		

3 LFO



[RATE] knob (LFO RATE)
Specifies the rate of the LFO cycle.

[DELAY TIME] knob (FLO DELAY TIME)
Adjusts the time from when the key is pressed until the LFO starts to apply modulation.

4 DCO

[RANGE] knob (OSC RANGE)
Specifies the octave of the oscillator.
16', 8', 4', 2'

LFO (OSC LFO MOD)
Uses the LFO to vary the pitch (vibrato).

SUB (SUB LEVEL)
Adjusts the volume of the sub oscillator.

NOISE (NOISE LEVEL)
Adjusts the volume of the noise.



PWM
PM MODE = LFO: Adjusts the modulation depth.
PM MODE = MANUAL: Adjusts the pulse width.

[LFO] [MAN] button (PW MODE)
Selects whether the pulse width is modulated by the LFO (LFO) or kept at the fixed value specified by PULSE WIDTH MOD (MANUAL).

[(PWM wave)] button (PW SWITCH)
Turns the PWM wave on/off.

[(Sawtooth wave)] button (SAW SWITCH)
Turns the sawtooth wave on/off.

5 HPF

[FREQ] knob (HPF STEP)
Sets the high-pass filter's cutoff frequency in four steps.
0, 1, 2, 3

6 VCF

[R] [M] [S] buttons (VINTAGE FLT TYPE)
If a vintage type model is selected, these buttons change the type of filter.
[R] models a Roland filter, and [M] and [S] model vintage synthesizers made by other companies.

[FREQ] knob (CUTOFF)
Specifies the cutoff frequency of the low-pass filter. The frequency region above the cutoff frequency is cut, producing a more mellow tonal character.

[RES] knob (RESONANCE)
Boosts the region of the filter's cutoff frequency. Higher values produce a stronger result, giving the sound a distinctively synthesizer-like character.

Polarity buttons
Specify the polarity of the filter.

ENV (FLT ENV DEPTH)
Adjusts the amount by which the cutoff frequency is controlled by the envelope.

LFO (FILTER MOD)
Adjusts the amount by which the LFO modulates the cutoff frequency.

KYBD (FLT KEY FOLLOW)
Adjusts the amount by which the keyboard pitch affects the cutoff frequency (key follow). With smaller values, the cutoff frequency becomes lower as you play higher notes.

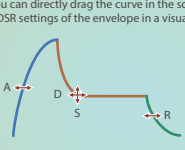
7 VCA

[LEVEL] knob (AMP LEVEL)
Adjusts the volume of the tone.

[ENV] [GATE] button (AMP ENV SEL)
Specifies whether the volume is controlled by the ENV (ENV) or by the gate signal (GATE).

8 ENV

Envelope
You can directly drag the curve in the screen to edit the ADSR settings of the envelope in a visual way.



The values of the [A] [D] [S] [R] knobs also change in tandem.
To make fine adjustments, hold down the [shift] key while you drag.

[A] knob (ENV ATTACK)
Adjusts the Attack time.

[D] knob (ENV DECAY)
Adjusts the Decay time.

[S] knob (ENV SUSTAIN)
Adjusts the Sustain level.

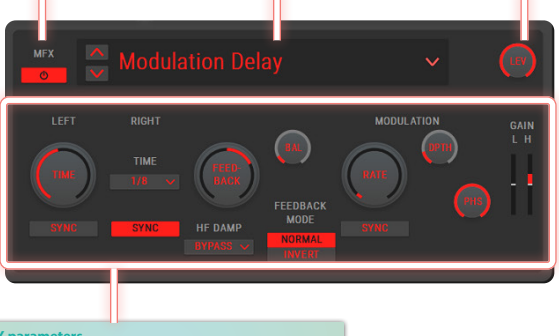
[R] knob (ENV RELEASE)
Adjusts the Release time.

9 MFX

MFX [⏻] button
Turns MFX on/off.

[MFX TYPE] indication
Shows the currently selected MFX name.
To change the MFX, click the MFX name and choose from the list that appears.

[LEV] knob
Adjusts the MFX output level.



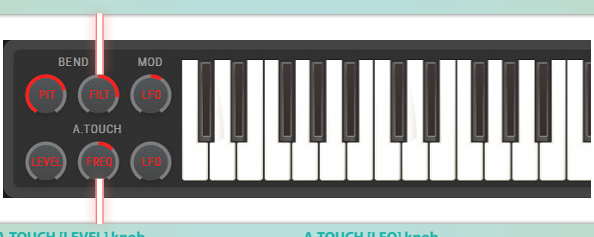
MFX parameters
The edit screen is different for each MFX type.
➡ For details, refer to "MFX Parameters".

10 Controller

BEND [PIT] knob (BEND PITCH)
Specifies the range of pitch change produced by pitch bend.

BEND [FILT] knob (BEND FILTER)
Specifies the range of filter change produced by pitch bend.

MOD [LFO] knob (MODULATION LFO)
Specifies the amount of LFO applied by modulation.



A.TOUCH [LEVEL] knob
Specifies how the volume of the tone is affected by aftertouch.

A.TOUCH [FREQ] knob
Specifies how the frequency of the low-pass filter is affected by aftertouch.

A.TOUCH [LFO] knob
Specifies how the LFO depth is affected by aftertouch.

Model Screen (JX-8P)

BASIC
Shows the operating screen in a compact format.

EDIT
Shows the detailed settings screen.

[WRITE] button
Accesses the Tone/Drum Kit Manager, allowing you to save a tone or drum kit.

[OVERWRITE] button
Overwrite-saves the settings.



KEY MODE

[SOLO] button
Sound is produced monophonically.

[POLY] button
Sound is produced polyphonically.

[UNISON] button
Sound is produced in unison.

[SL-UNISON] button
Sound is produced in monophonic unison.

Right-click	LEARN MIDI CC Assigns a control change to each button.



[CUTOFF] knob
Adjusts how far the filter is open.
Higher values make the sound brighter, and lower values make the sound darker.

[RESO] knob
Emphasizes the portion of the sound in the region of the cutoff frequency, adding character to the sound. Excessively high settings can produce oscillation, causing the sound to distort.
Increasing this value strengthens the character, and decreasing it weakens the character.

[ATTACK] knob
Specifies the time from when the key is pressed until the sound completes its attack.
Higher values produce a softer attack, and lower values produce a sharper attack.

[RELEASE] knob
Specifies the time from when the key is released until the sound disappears.
Higher values produce a longer release, and lower values produce a crisper release.

[CROSS MOD] button (OSC2 MOD MODE)
Selects the MOD MODE type (OFF, SYNC, X-MOD).

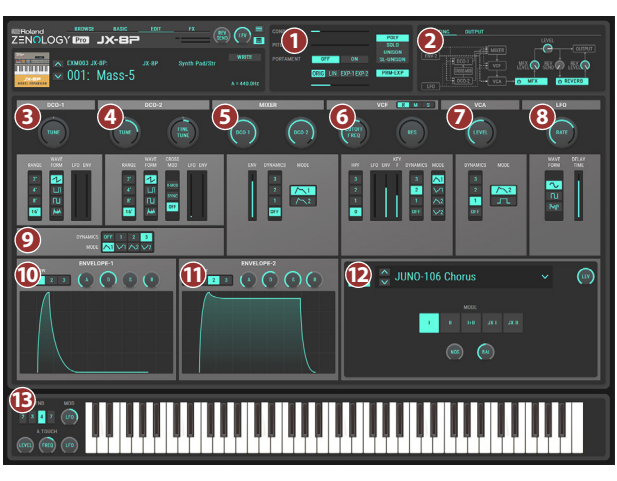
How to operate the knobs

Right-click	LEARN MIDI CC Assigns a control change to the parameter selected by [CUTOFF]–[CROSS MOD].
Drag	Tone edit Edits each parameter.
Mouse wheel	Adjusts the value in smaller units.
Up/down keys on the computer keyboard, after operating a knob	
Click and drag to a position away from the knob	
Hold down the Shift key on the computer keyboard and drag the mouse	

How to restore a parameter to its default value

Windows	ctrl key + click
macOS	cmd key + click

Detailed Settings Screen (JX-8P)



1 System

CONDITION

Simulates the changes that occur as a unit ages.

PITCH DRIFT

Adjusts the slight pitch drift that occurs when notes are played on an analog synthesizer.

KEY MODE

[SOLO] button

Sound is produced monophonically.

[POLY] button

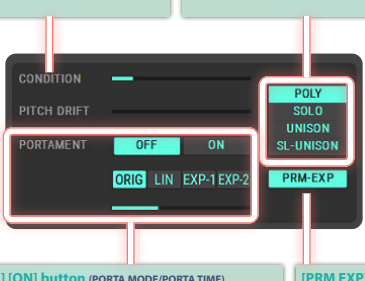
Sound is produced polyphonically.

[UNISON] button

Sound is produced in unison.

[SL-UNISON] button

Sound is produced in monophonic unison.



PORTAMENTO [OFF] [ON] button (PORTA MODE/PORTA TIME)

Selects whether portamento is applied to the performance. Use the bar below to specify the portamento time.

PORTA CRV

[ORG] button

Change according to the original curve of the model.

[LINER] button

Change in a linear curve.

[EXP-1] button

Change in a non-linear curve (gentle slope).

[EXP-2] button

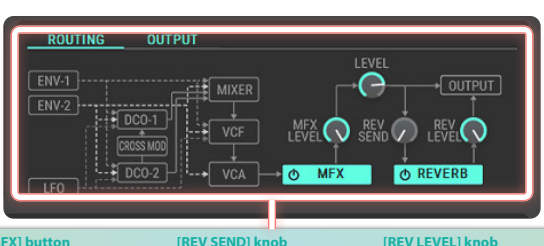
Change in a non-linear curve (steep slope).

[PRM EXP] button (PARAM EXPANSION)

If this is ON, the range of the LFO RATE, CUTOFF, RESONANCE, and FILTER ENV DEPTH parameters are extended beyond the range of the original model.

2 ROUTING/OUTPUT screen

ROUTING screen



[⏻ MFX] button

Turns MFX on/off.

[MFX LEVEL] knob

Adjusts the volume of the MFX.

[LEVEL] knob

Adjusts the overall volume.

[REV SEND] knob

Adjusts the reverb send amount for the entire tone.

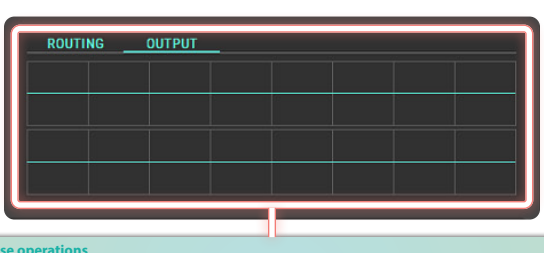
[⏻ REVERB] button

Turns reverb on/off.

[REV LEVEL] knob

Adjusts the volume of the reverb.

OUTPUT screen



Mouse operations

Drag (horizontal)	Zooms the waveform's time axis in/out.	Mouse wheel	Zooms the waveform's time axis in/out.
Drag (vertical)	Zooms the waveform display's level axis in/out.		

3 DCO-1



[TUNE] knob (OSC1 TUNE)

Adjusts the OSC1 pitch.

LFO (OSC1 LFO MOD)

Adjusts the depth to which LFO modulates OSC1.

ENV (OSC1 PIT ENV)

Adjusts the depth to which the ENV specified by OSC ENV MODE affects the OSC1 pitch envelope.

[RANGE] button (OSC1 RANGE)

Specifies the octave of OSC1.
16', 8', 4', 2'

[WAVEFORM] button (OSC1WAVEFORM)

Selects the waveform that is the basis of the OSC1 sound.
SAW, PULSE, SQR, NOISE

4 DCO-2



[TUNE] knob (OSC2 TUNE)

Adjusts the OSC2 pitch.

[FINE TUNE] knob (OSC2 FINE TUNE)

Finely adjusts the OSC2 pitch.

LFO (OSC2 LFO MOD)

Adjusts the depth to which the LFO modulates OSC2.

ENV (OSC2 PIT ENV)

Adjusts the depth to which the ENV specified by OSC ENV MODE affects the OSC2 pitch envelope.

[RANGE] button (OSC2 RANGE)

Specifies the octave of OSC2.
16', 8', 4', 2'

[WAVEFORM] button (OSC2 WAVEFROM)

Selects the waveform that is the basis of the OSC2 sound.
SAW, PULSE, SQR, NOISE

[CROSS MOD] button (OSC2 MOD MODE)

Selects the MOD MODE type (OFF, SYNC, X-MOD).

5 MIXER



[DCO-1] knob (OSC1 LEVEL)

Adjusts the volume balance of OSC1.

[DCO-2] knob (OSC2 LEVEL)

Adjusts the volume balance of OSC2.

ENV (MIXER ENV DEPTH)

Adjusts the depth to which the envelope specified by MIXER ENV MODE controls the OSC2 level.

[DYNAMICS] button (MIXER DYNAMICS)

Adjusts the sensitivity at which the velocity controls the depth of MIXER ENV.

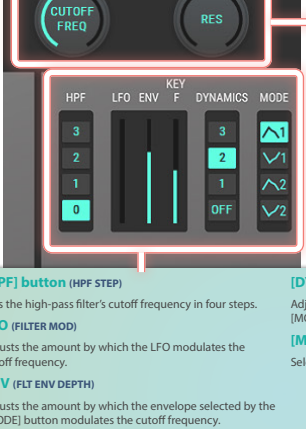
[MODE] button (MIXER ENV MODE)

Selects the envelope that is used as MIXER ENV.

6 VCF

[R] [M] [S] buttons (VINTAGE FLT TYPE)

If a vintage type model is selected, these buttons change the type of filter.
[R] models a Roland filter, and [M] and [S] model vintage synthesizers made by other companies.



[CUTOFF FREQ] knob (CUTOFF)

Specifies the cutoff frequency of the low-pass filter. The frequency region above the cutoff frequency is cut, producing a more mellow tonal character.

[RES] knob (RESOANCE)

Boosts the region of the filter's cutoff frequency. Higher values produce a stronger result, giving the sound a distinctively synthesizer-like character.

[HPF] button (HPF STEP)

Sets the high-pass filter's cutoff frequency in four steps.

LFO (FILTER MOD)

Adjusts the amount by which the LFO modulates the cutoff frequency.

ENV (FLT ENV DEPTH)

Adjusts the amount by which the envelope selected by the [MODE] button modulates the cutoff frequency.

KEY F (FLT KEY FOLLOW)

Adjusts the amount by which the keyboard pitch affects the cutoff frequency (key follow). With smaller values, the cutoff frequency becomes lower as you play higher notes.

[DYNAMICS] button (FILTER DYNAMICS)

Adjusts the amount by which the envelope selected by the [MODE] button affects the velocity.

[MODE] button (FLT ENV MODE)

Select the envelope and polarity used to control the filter.

7 VCA



[LEVEL] knob (AMP LEVEL)

Adjusts the volume of the tone.

[MODE] button (AMP ENV MODE)

Selects whether the volume is controlled by ENVELOPE-2 (ENV2) or stays at a fixed volume as long as the key is held down (GATE).

[DYNAMICS] button (AMP DYNAMICS)

Adjusts the sensitivity at which velocity controls the AMP ENV depth.

8 LFO

[RATE] knob (LFO RATE)

Specifies the rate of the LFO cycle.

[WAVEFORM] button (LFO WAVEFORM)

Selects the waveform of the LFO.
SINE, SQR, S&H

DELAY TIME (LFO DELAY TIME)

Adjusts the time from when the key is pressed until the LFO starts to apply modulation.

9 DYNAMICS



[DYNAMICS] button (PITCH DYNAMICS)

Adjusts the sensitivity at which the velocity controls the depth of the pitch envelope.

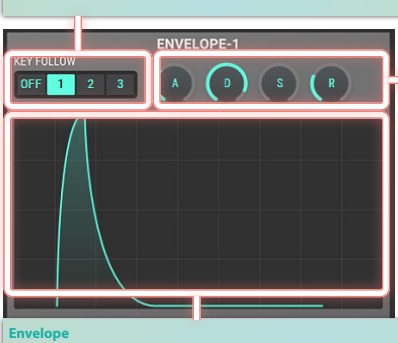
[MODE] button (OSC ENV MODE)

Selects the envelope and polarity used to control OSC.

10 ENVELOPE-1

KEY [FOLLOW] button (ENV1 KEY FOLLOW-S)

Specifies the ENV1 key follow in four levels. With higher values, ADR times become longer as you play lower on the keyboard, and shorter as you play higher.



[A] knob (ENV1 ATTACK)

Adjusts the Attack time.

[D] knob (ENV1 DECAY)

Adjusts the Decay time.

[S] knob (ENV1 SUSTAIN)

Adjusts the Sustain level.

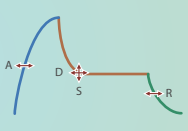
[R] knob (ENV1 RELEASE)

Adjusts the Release time.

Envelope

You can directly drag the curve in the screen to edit the ADSR settings of the envelope in a visual way.

The values of the [A] [D] [S] [R] knobs also change in tandem.
To make fine adjustments, hold down the [shift] key while you drag.



11 ENVELOPE-2

KEY [FOLLOW] button (ENV2 KEY FOLLOW-S)

Specifies the ENV2 key follow in four levels. With higher values, ADR times become longer as you play lower on the keyboard, and shorter as you play higher.

[A] knob (ENV2 ATTACK)

Adjusts the Attack time.

[D] knob (ENV2 DECAY)

Adjusts the Decay time.

[S] knob (ENV2 SUSTAIN)

Adjusts the Sustain level.

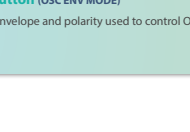
[R] knob (ENV2 RELEASE)

Adjusts the Release time.

Envelope

You can directly drag the curve in the screen to edit the ADSR settings of the envelope in a visual way.

The values of the [A] [D] [S] [R] knobs also change in tandem.
To make fine adjustments, hold down the [shift] key while you drag.



12 MFX

MFX [⏻] button

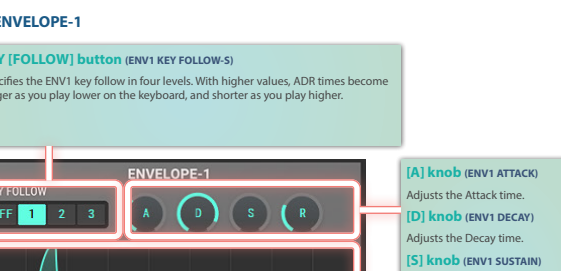
Turns MFX on/off.

[MFX TYPE] indication

Shows the currently selected MFX name.
To change the MFX, click the MFX name and choose from the list that appears.

[LEV] knob

Adjusts the MFX output level.



MFX parameters

The edit screen is different for each MFX type.
➡ For details, refer to "MFX Parameters".

13 Controller

BEND [2] [3] [4] [7] buttons (BEND PITCH-STEP)

Specifies the range of pitch change produced by pitch bend in four levels: 2, 3, 4, or 7 semitones.

MOD [LFO] knob (MODULATION LFO)

Specifies the amount of LFO applied by modulation.

A.TOUCH [LEVEL] knob

Specifies how the volume of the tone is affected by aftertouch.

A.TOUCH [FREQ] knob

Specifies how the frequency of the low-pass filter is affected by aftertouch.

A.TOUCH [LFO] knob

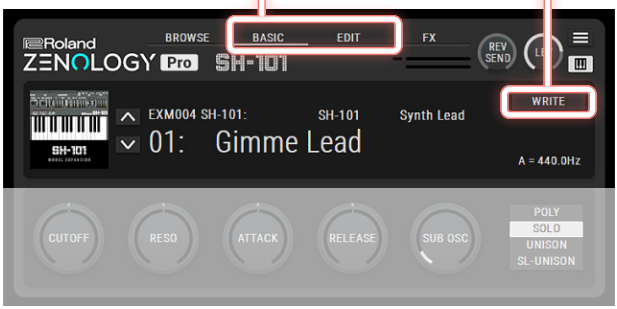
Specifies how the LFO depth is affected by aftertouch.

Model Screen (SH-101)

BASIC
Shows the operating screen in a compact format.

EDIT
Shows the detailed settings screen.

[WRITE] button
Accesses the Tone/Drum Kit Manager, allowing you to save a tone or drum kit.



KEY MODE

[SOLO] button
Sound is produced monophonically.

[POLY] button
Sound is produced polyphonically.

[UNISON] button
Sound is produced in unison.

[SL-UNISON] button
Sound is produced in monophonic unison.

Right-click	LEARN MIDI CC Assigns a control change to each button.



[CUTOFF] knob
Adjusts how far the filter is open.
Higher values make the sound brighter, and lower values make the sound darker.

[RESO] knob
Emphasizes the portion of the sound in the region of the cutoff frequency, adding character to the sound. Excessively high settings can produce oscillation, causing the sound to distort.
Increasing this value strengthens the character, and decreasing it weakens the character.

[ATTACK] knob
Specifies the time from when the key is pressed until the sound completes its attack.
Higher values produce a softer attack, and lower values produce a sharper attack.

[RELEASE] knob
Specifies the time from when the key is released until the sound disappears.
Higher values produce a longer release, and lower values produce a crisper release.

[SUB OSC] knob
Adjusts the volume of the sub oscillator.

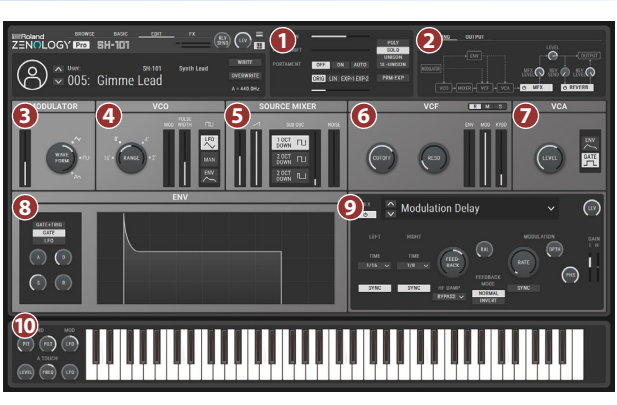
How to operate the knobs

Right-click	LEARN MIDI CC Assigns a control change to the parameter selected by [CUTOFF]–[SUB OSC].
Drag	Tone edit Edits each parameter.
Mouse wheel	Adjusts the value in smaller units.
Up/down keys on the computer keyboard, after operating a knob	
Click and drag to a position away from the knob	
Hold down the Shift key on the computer keyboard and drag the mouse	

How to restore a parameter to its default value

Windows	ctrl key + click
macOS	cmd key + click

Detailed Settings Screen (SH-101)



1 System

CONDITION

Simulates the changes that occur as a unit ages.

PITCH DRIFT

Adjusts the slight pitch drift that occurs when notes are played on an analog synthesizer.

KEY MODE

[SOLO] button

Sound is produced monophonically.

[POLY] button

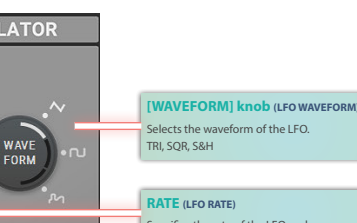
Sound is produced polyphonically.

[UNISON] button

Sound is produced in unison.

[SL-UNISON] button

Sound is produced in monophonic unison.



PORTAMENTO [OFF] [ON] [AUTO] buttons (PORTA MODE)

Turns portamento on/off. If this is on, the pitch will change smoothly from one note to the next-played note.

OFF: Regardless of the portamento time setting, portamento is not applied.

ON: Portamento is always applied.

AUTO: Portamento is applied only when you play legato (pressing the next key before completely releasing the previously-played key). This lets you use your playing technique to control portamento on/off.

[ORIG] button

Change according to the original curve of the model.

[LIN] button

Change in a linear curve.

[EXP-1] button

Change in a non-linear curve (gentle slope).

[EXP-2] button

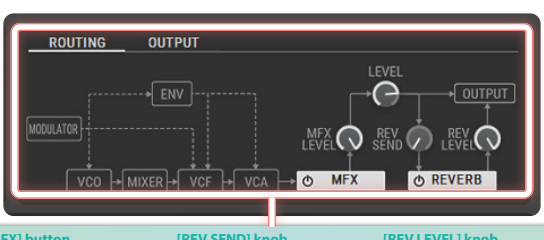
Change in a non-linear curve (steep slope).

[PRM EXP] button (PARAM EXPANSION)

If this is ON, the range of the LFO RATE, CUTOFF, RESONANCE, and FILTER ENV DEPTH parameters are extended beyond the range of the original model.

2 ROUTING/OUTPUT screen

ROUTING screen



[⏻ MFX] button

Turns MFX on/off.

[MFX LEVEL] knob

Adjusts the volume of the MFX.

[LEVEL] knob

Adjusts the overall volume.

[REV SEND] knob

Adjusts the reverb send amount for the entire tone.

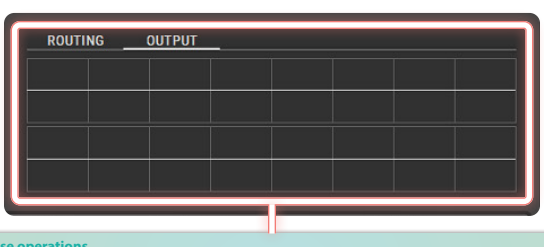
[⏻ REVERB] button

Turns reverb on/off.

[REV LEVEL] knob

Adjusts the volume of the reverb.

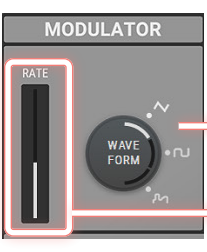
OUTPUT screen



Mouse operations

Drag (horizontal)	Zooms the waveform's time axis in/out.	Mouse wheel	Zooms the waveform's time axis in/out.
Drag (vertical)	Zooms the waveform display's level axis in/out.		

3 MODULATOR



[WAVEFORM] knob (LFO WAVEFORM)

Selects the waveform of the LFO.
TRI, SQR, S&H

RATE (LFO RATE)

Specifies the rate of the LFO cycle.

4 VCO

[RANGE] knob (OSC RANGE)

Specifies the octave of the oscillator.
16', 8', 4', 2'



MOD (OSC LFO MOD)

Adjusts the depth at which the LFO modulates the OSC.

PULSE WIDTH (PULSE WIDTH MOD)

PW MODE = MAN: Adjusts the pulse width.
PW MODE = LFO/ENV: Adjusts the modulation depth.

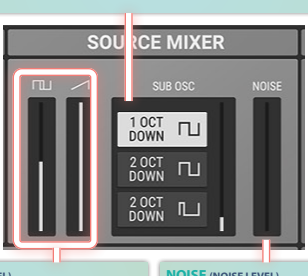
(PW MODE)

Specifies the pulse width mode.
LFO: The pulse width is changed by the LFO.
MAN: The pulse width is changed by PULSE WIDTH MOD.
ENV: The pulse width is changed by the ENV1.

5 SOURCE MIXER

[1OCT DOWN] [2OCT DOWN] [2OCT DOWN (small pulse width)] buttons (SUB OSC)

Specifies the SUB OSC type.



(PWM wave) (PW LEVEL)

Adjusts the volume of the PWM wave.

(Sawtooth wave) (SAW LEVEL)

Adjusts the volume of the sawtooth wave.

NOISE (NOISE LEVEL)

Adjusts the volume of the noise.

6 VCF



[R] [M] [S] buttons (VINTAGE FLT TYPE)

If a vintage type model is selected, these buttons change the type of filter.
[R] models a Roland filter, and [M] and [S] model vintage synthesizers made by other companies.

[CUTOFF] knob

Specifies the cutoff frequency of the low-pass filter. The frequency region above the cutoff frequency is cut, producing a more mellow tonal character.

[RES] knob (RESONANCE)

Boosts the region of the filter's cutoff frequency. Higher values produce a stronger result, giving the sound a distinctively synthesizer-like character.

ENV (FLT ENV DEPTH)

Adjusts the amount by which the cutoff frequency is controlled by the envelope.

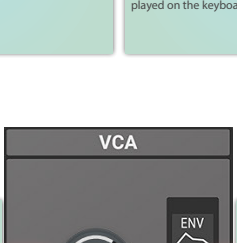
MOD (FILTER MOD)

Adjusts the amount by which the LFO modulates the cutoff frequency.

KYBD (FLT KEY FOLLOW)

Varies the filter's cutoff frequency according to the note played on the keyboard.

7 VCA



[LEVEL] knob (AMP LEVEL)

Adjusts the volume of the tone.

[ENV] [GATE] button (AMP ENV SEL)

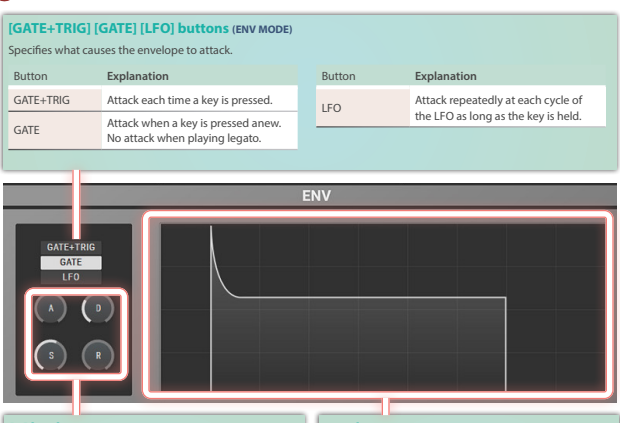
Specifies whether the volume is controlled by the ENV (ENV) or stays at a fixed volume as long as the key is held down (GATE).

8 ENV

[GATE+TRIG] [GATE] [LFO] buttons (ENV MODE)

Specifies what causes the envelope to attack.

Button	Explanation
GATE+TRIG	Attack each time a key is pressed.
GATE	Attack when a key is pressed anew. No attack when playing legato.
LFO	Attack repeatedly at each cycle of the LFO as long as the key is held.



[A] knob (ENV ATTACK)

Adjusts the Attack time.

[D] knob (ENV DECAY)

Adjusts the Decay time.

[S] knob (ENV SUSTAIN)

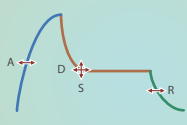
Adjusts the Sustain level.

[R] knob (ENV RELEASE)

Adjusts the Release time.

Envelope

You can directly drag the curve in the screen to edit the ADSR settings of the envelope in a visual way.



The values of the [A] [D] [S] [R] knobs also change in tandem.

To make fine adjustments, hold down the [shift] key while you drag.

9 MFX

MFX [⏻] button

Turns MFX on/off.

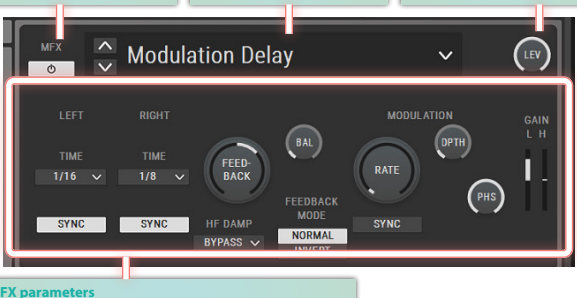
[MFX TYPE] indication

Shows the currently selected MFX name.

To change the MFX, click the MFX name and choose from the list that appears.

[LEV] knob

Adjusts the MFX output level.



MFX parameters

The edit screen is different for each MFX type.
➡ For details, refer to "MFX Parameters".

10 Controller

BEND [PIT] knob (BEND PITCH)

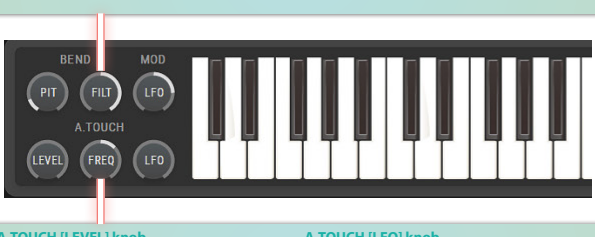
Specifies the range of pitch change produced by pitch bend.

BEND [FILT] knob (BEND FILTER)

Specifies the range of filter change produced by pitch bend.

MOD [LFO] knob (MODULATION LFO)

Specifies the amount of LFO applied by modulation.



A.TOUCH [LEVEL] knob

Specifies how the volume of the tone is affected by aftertouch.

A.TOUCH [FREQ] knob

Specifies how the frequency of the low-pass filter is affected by aftertouch.

A.TOUCH [LFO] knob

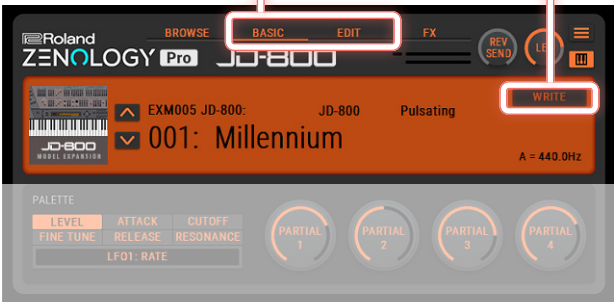
Specifies how the LFO depth is affected by aftertouch.

Model Screen (JD-800)

BASIC
Shows the operating screen in a compact format.

EDIT
Shows the detailed settings screen.

[WRITE] button
Accesses the Tone/Drum Kit Manager, allowing you to save a tone or drum kit.



PALETTE

Select the parameter to operate using the [PARTIAL 1]–[PARTIAL 4] knobs.

[LEVEL] button
Adjust the level of each partial using the [PARTIAL 1]–[PARTIAL 4] knobs.

[ATTACK] button
Adjust the TVA-T1 of each partial using the [PARTIAL 1]–[PARTIAL 4] knobs.

[CUTOFF] button
Adjust the cutoff frequency of each partial using the [PARTIAL 1]–[PARTIAL 4] knobs.

[FINE TUNE] button
Adjust the pitch of each partial using the [PARTIAL 1]–[PARTIAL 4] knobs.

[RELEASE] button
Adjust the TVA-T4 of each partial using the [PARTIAL 1]–[PARTIAL 4] knobs.

[RESONANCE] button
Adjust the resonance of each partial using the [PARTIAL 1]–[PARTIAL 4] knobs.

Assignable button
The parameters operated by the sliders and knobs you last used are registered in the assignable button. The button names change to the respective parameter names.
When the assignable button is selected, the registered parameters can be adjusted using the [PARTIAL 1]–[PARTIAL 4] knobs.



Assignable buttons

[PARTIAL 1] [PARTIAL 2] [PARTIAL 3] [PARTIAL 4] knobs
Set the parameters selected with the PALETTE button for each partial.

How to operate the knobs

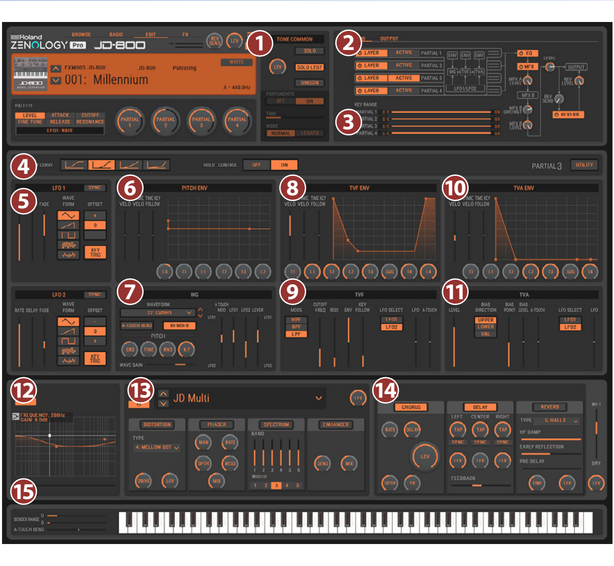
Right-click	LEARN MIDI CC Assigns a control change message to a parameter.
Drag	Tone edit Edits each parameter.
Mouse wheel	Adjusts the value in smaller units.
Up/down keys on the computer keyboard, after operating a knob	
Click and drag to a position away from the knob	
Hold down the Shift key on the computer keyboard and drag the mouse	

How to restore a parameter to its default value

Windows	ctrl key + click
macOS	cmd key + click

to Contents

Detailed Settings Screen (JD-800)



1 TONE COMMON



[LEV] knob
Adjusts the overall volume for all tones.

[SOLO] button
Sets whether the tones play as single notes (monophonic) or as chords (polyphonic) when you play multiple keys.

[SOLO LEGT] button
This effect is applied when SOLO is on. When this is on and you hold down a key and then play another key, the sound of the second note played smoothly transitions from the first note without an attack.

[UNISON] button
Sound is produced in unison.

PORTAMENTO buttons
Turns the portamento on/off. When this is on, the pitch of the second note you play glides continuously from the first note.

OFF: Portamento is not applied, regardless of the portamento time setting.

ON: Portamento is always applied.

TIME
When portamento is used, this sets the time taken for the pitch to change. Higher settings cause the pitch to take longer when gliding to the next note.

MODE buttons
NORMAL: Portamento is always applied.

LEGATO: Portamento is only applied when you play in legato style (playing one key and then playing the next while holding down the first one).

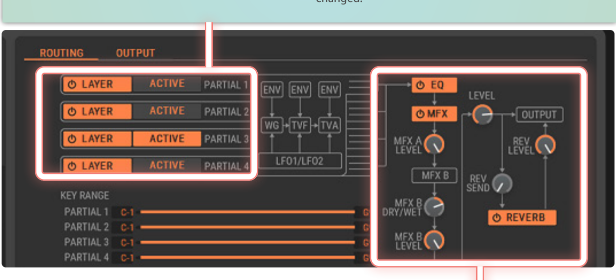
2 STRUCTURE

ROUTING screen

[⏻ LAYER] button (PARTIAL1–4)
These buttons turn the partials on/off, and select which partials are to be stacked when played.

[ACTIVE] button (PARTIAL1–4)
Selects the partials to display and edit.

To select multiple partials ,hold down the [shift] key while clicking. All partials selected can be edited. For instance, when you select multiple partials and then operate the TVA-LEVEL, the TVA-LEVEL for all affected partials is changed.



[⏻ EQ] button
Switches the EQ on/off.

[⏻ MFX] button
Turns MFX on/off.

[MFX A LEVEL] knob
Adjusts the MFX A volume.

[MFX B DRY/WET] knob
Adjusts the balance between the direct sound and the effect sound for MFX B.

[MFX B LEVEL] knob
Adjusts the MFX B volume.

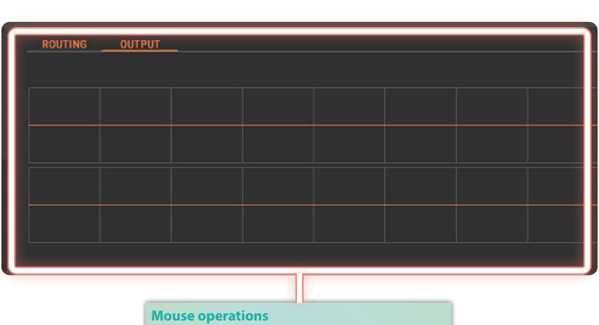
[LEVEL] knob
Adjusts the overall volume.

[REV SEND] knob
Adjusts the reverb send amount for the entire tone.

[⏻ REVERB] button
Turns reverb on/off.

[REV LEVEL] knob
Adjusts the volume of the reverb.

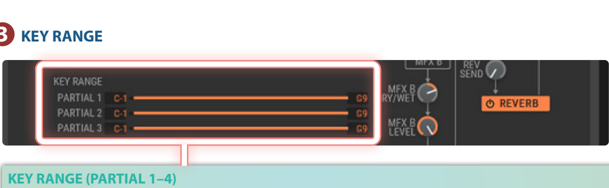
OUTPUT screen



Mouse operations

Drag (horizontal)	Zooms the waveform's time axis in/out.
Drag (vertical)	Zooms the waveform display's level axis in/out.
Mouse wheel	Zooms the waveform's time axis in/out.

3 KEY RANGE

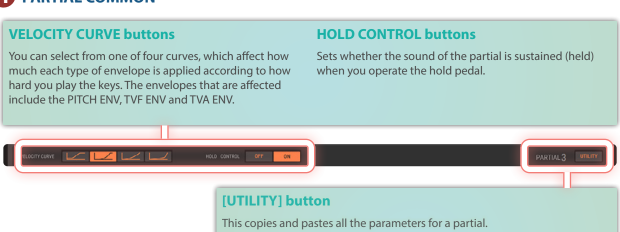


KEY RANGE (PARTIAL 1–4)
Sets the key range for each partial. Use this when you want to play different partials over different zones on the keyboard. Specify the lower and upper limits for the ranges to set.

4 PARTIAL COMMON

VELOCITY CURVE buttons
You can select from one of four curves, which affect how much each type of envelope is applied according to how hard you play the keys. The envelopes that are affected include the PITCH ENV, TVF ENV and TVA ENV.

HOLD CONTROL buttons
Sets whether the sound of the partial is sustained (held) when you operate the hold pedal.



[UTILITY] button
This copies and pastes all the parameters for a partial.

COPY: The parameters for the selected partial are copied to the clipboard.

PASTE: The parameters copied to the clipboard are pasted to the partial you selected.

5 LFO1/LFO2

[SYNC] button
Turn this on to sync the LFO cycle with the tempo.

RATE
When the [SYNC] button is off, the LFO cycle is set irrespective of the tempo. The larger the value, the shorter the LFO cycle.

When the [SYNC] button is on, the LFO cycle is set to a note length.

DELAY
Sets the time it takes before the LFO effect begins after you press a key. The larger the value, the longer it takes for the LFO effect to start after you play the keyboard. The setting above 100 is "REL". The "REL" setting makes the LFO start right after you release the key.

FADE
Sets the time-based change of the LFO as it takes effect. Set this to "+" to make the LFO amplitude gradually ramp up to maximum. Set this to "-" to make the LFO amplitude gradually ramp down to zero. No time-based change occurs when this is set to "0". The larger the absolute value, the more time required for change.



LFO2 works the same as LFO1.

WAVEFORM buttons
These buttons set the LFO waveform.

OFFSET buttons
Moves the center value for the LFO waveform (the pitch or cutoff frequency) up or down.

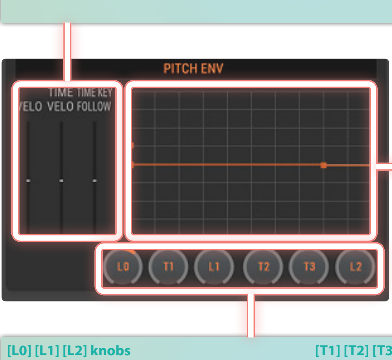
[KEY TRIG] button
Sets whether to synchronize the start of the LFO cycle with the timing you use to play the keys ("ON" to synchronize, "OFF" to disable).

6 PITCH ENV

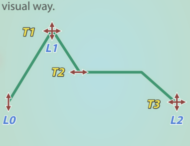
VELO
Use this to set how much the pitch envelope changes in response to how hard you play the keys. Set this to a "+" value to make the pitch envelope respond more when you play harder, and set this to a "-" value to make it respond less when you play harder.

TIME VELO
Use this to set how much the Time1 (time) value of the pitch envelope changes in response to how hard you play the keys. Set this to a "+" value to make the Time1 value longer when you play harder, and set this to a "-" value to make the value shorter when you play harder.

TIME KEY FOLLOW
Use this to set how much the Time2–Time4 values (pitch envelope time) change according to the keys you play. When you set this to a "+" value, playing higher notes makes the time shorter (with the pitch envelope time at C4 or middle C as the base value); and when you set this to a "-" value, playing higher notes makes the time longer. Larger values produce greater change.



Envelope
You can directly drag the curve in the screen to edit the T1–T3/ L0–L2settings of the envelope in a visual way.



The values of the knobs also change in tandem.

To make fine adjustments, hold down the [shift] key while you drag.

[L0] [L1] [L2] knobs
These knobs set the pitch envelope levels. Use these knobs to determine how much the pitch changes at each point in relation to the base pitch (the pitch you set on the WG screen). Use "+" values for pitches higher than the base pitch, and use "-" values for pitches lower than the base pitch.

[T1] [T2] [T3] knobs
These knobs set the pitch envelope times. Larger values make the time to reach the next pitch longer (for example, Time2 sets the time it takes to go from Level1 to Level2).

7 WG

WAVEFORM
Sets the wave that sounds.

[A-TOUCH BEND] button
Sets whether MIDI aftertouch bend messages are received (ON) or not (OFF) for each partial.

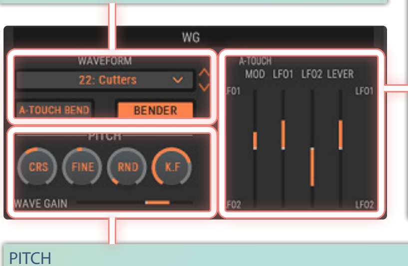
[BENDER] button
Sets whether MIDI pitch bend messages are received (ON) or not (OFF) for each partial.

A-TOUCH MOD
This sets the depth of vibrato that is controlled by aftertouch. Set the value to the maximum vibrato depth you want when applying maximum aftertouch.

LFO1/LFO2
Adjusts the intensity at which LFO1/ LFO2 modulates OSC.

LEVER
Sets the depth of vibrato that is controlled by the modulation lever.

When this is set for LFO1, the LFO1 waveform is used for vibrato; and when this is set for LFO2, the LFO2 waveform is used for vibrato. Set this to "0" to turn vibrato off.



PITCH

[CRS] knob
Shifts the pitch in units of a semitone.

[FINE] knob
Finely adjusts the pitch in units of one cent.

[RND] knob
Sets the width of change at which the pitch randomly changes with each key press. To disable this random change, set this to "0".

[K.F] knob
Sets the width of pitch change when the key is shifted one octave (12 keys) up. To make the pitch change over one octave like regular keyboards, set this to "+100". To make the pitch change two octaves over the range of one octave, set this to "+200". Set this to a negative value to make the pitch go down as you play higher notes. To play the same pitch no matter which key you press, set this to "0".

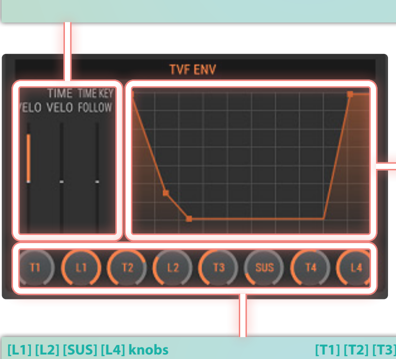
WAVE GAIN
Specifies the gain (amplitude) of the waveform. The value will change in 6 dB (decibel) steps. Each 6 dB increase doubles the gain.

8 TVF ENV

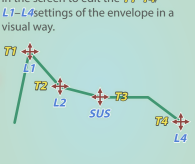
VELO
Use this to set how much the TVF envelope changes in response to how hard you play the keys. Set this to a "+" value to make the filter envelope respond more when you play harder, and set this to a "-" value to make it respond less when you play harder.

TIME VELO
Use this to set how much the Time1 (time) value of the TVF envelope changes in response to how hard you play the keys. Set this to a "+" value to make the Time1 value shorter when you play harder, and set this to a "-" value to make the value longer when you play harder.

TIME KEY FOLLOW
Use this to set how much the Time2–Time4 values (TVF envelope time) change according to the key you play. When you set this to a "+" value, playing higher notes makes the time shorter (with the filter envelope time at C4 or middle C as the base value); and when you set this to a "-" value, playing higher notes makes the time longer. Larger values produce greater change.



Envelope
You can directly drag the curve in the screen to edit the T1–T4/ L1–L4settings of the envelope in a visual way.



The values of the knobs also change in tandem.

To make fine adjustments, hold down the [shift] key while you drag.

[L1] [L2] [SUS] [L4] knobs
These knobs set the TVF envelope levels. Use these knobs to determine how much the cutoff frequency changes at each point in relation to the base cutoff frequency (the CUTOFF FREQ you set on the TVF screen).

[T1] [T2] [T3] [T4] knobs
These knobs set the TVF envelope times. Larger values make the time to reach the next cutoff frequency longer (for example, Time2 sets the time it takes to go from Level1 to Level2).

9 TVF

MODE buttons
These buttons select the TVF filter type.

HPF: High-pass filter. This cuts off frequencies below the cutoff frequency. This filter type is useful for creating percussion sounds and the like that have a distinctive high end.

BPF: Band-pass filter. This cuts off frequencies except for those around the cutoff frequency. This filter type is useful for making sounds with a unique character.

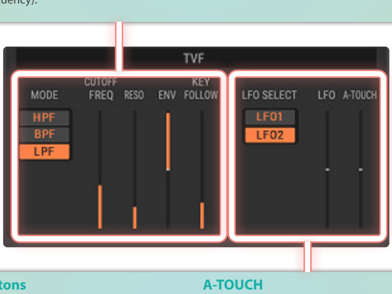
LPF: Low-pass filter. This cuts off frequencies above the cutoff frequency. Cutting off the high frequencies makes the sound more mellow. This is the most frequently-used type.

CUTOFF FREQ
Sets the frequency at which the filter that is applied to the frequency components of the waveform begins to take effect (the cutoff frequency).

RESO
Emphasizes the portion of the sound around the cutoff frequency, adding character to the sound. Excessively high settings can produce oscillation, causing the sound to distort.

ENV
This sets the intensity of the TVF envelope. Larger values produce a greater change in the filter envelope. Setting this to a negative value inverts the envelope's shape.

KEY FOLLOW
Set this to make the cutoff frequency change according to the keys you play. When you set this to a "+" value, playing higher notes raises the cutoff frequency (with the cutoff frequency of the key you specified in CUTOFF FREQ as the base value); and when you set this to a "-" value, playing higher notes lowers the cutoff frequency.



LFO SELECT buttons
Selects whether to apply either LFO1 or LFO2 to the cutoff frequency.

LFO
Sets how much LFO1 and LFO2 affect the cutoff frequency.

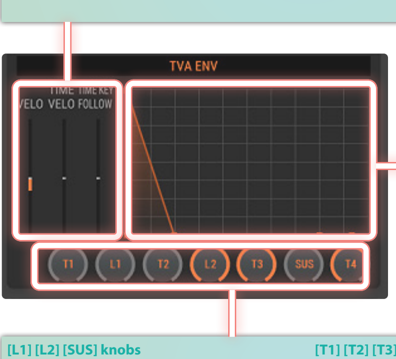
A-TOUCH
Set this to make the cutoff frequency change according to how much aftertouch you use.

10 TVA ENV

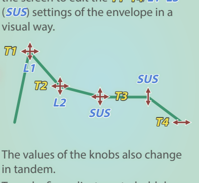
VELO
Set this to change the partial volume according to how hard you play the keys. Set this to a "+" value to make the partial louder when you play harder, and set this to a "-" value to make the partial softer when you play harder.

TIME VELO
Use this to set how much the Time1 (time) value of the TVA envelope changes in response to how hard you play the keys. Set this to a "+" value to make the Time1 value shorter when you play harder, and set this to a "-" value to make the value longer when you play harder.

TIME KEY FOLLOW
Set this to change the TVA envelope time (Time2–Time4) according to the keys you play. When you set this to a "+" value, playing higher notes makes the time shorter (with the AMP envelope time at C4 or middle C as the base value); and when you set this to a "-" value, playing higher notes makes the time longer. Larger values produce greater change.



Envelope
You can directly drag the curve in the screen to edit the T1–T4/ L1–L3 (SUS) settings of the envelope in a visual way.



The values of the knobs also change in tandem.

To make fine adjustments, hold down the [shift] key while you drag.

[L1] [L2] [SUS] knobs
These knobs set the TVA envelope levels. Use these knobs to determine how much the volume changes at each point in relation to the base pitch (the partial level value you set on the Amp screen).

[T1] [T2] [T3] [T4] knobs
These knobs set the TVA envelope times. Larger values make the time to reach the next volume level longer (for example, Time2 sets the time it takes to go from Level1 to Level2).

11 TVA

LEVEL
Adjusts the volume of the partial.

BIAS DIRECTION buttons
UPPER: Changes the volume of the high end from the bias point.

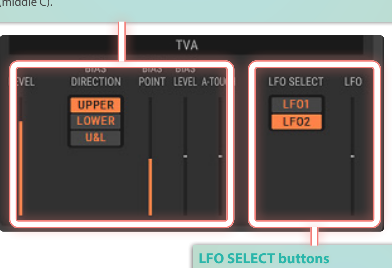
LOWER: Changes the volume of the low end from the bias point.

U&L: Symmetrically changes the volume of the high and low end, centered around the bias point.

BIAS POINT
Sets the base key from which the volume is changed. A value of 64 equals C4 (middle C).

BIAS LEVEL
Sets the slope of volume change respective to the bias direction. Larger values produce greater change. The change is inverted when this is set to a "-" value.

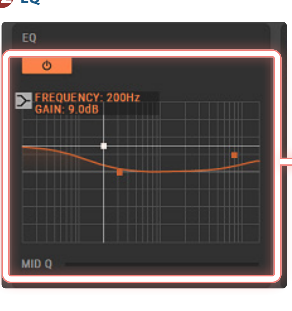
A-TOUCH
Sets the degree to which the partial volume changes in response to aftertouch.



LFO SELECT buttons
Selects whether to apply either LFO1 or LFO2 to the partial volume.

LFO
Sets how much LFO1 and LFO2 affect the partial volume.

12 EQ



[⏻ EQ] button
Turns the equalizer on/off.

EQ curve (3 band EQ)
You can visually edit the curve on screen by directly dragging it.

MID Q
Sets the width of the mid-frequency range. Higher values make the width more narrow.

13 MFX GROUP A

MFX [⏻] button
Turns MFX on/off.

[MFX TYPE] indication
Shows the currently selected MFX name.

To change the MFX, click the MFX name and choose from the list that appears.

[LEV] knob
Adjusts the MFX output level.



MFX parameters
The edit screen is different for each MFX type.

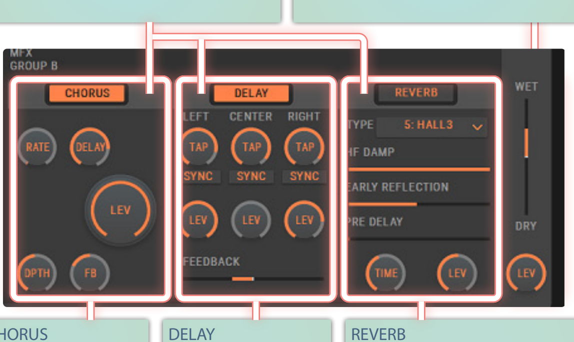
➡ For details, refer to "MFX Parameters".

14 MFX GROUP B

Effect order
You can position the cursor over the gray ring surrounding an effect button and drag with the mouse to change the effect order.

WET–DRY
Sets the balance between the sound after it passes through MFX GROUP A (Dry) and the sound that passes through MFX GROUP B (Wet).

[LEV] knob
Sets the output volume.



CHORUS

[CHORUS] button
Turns the chorus on/off.

[RATE] knob
Sets the rate of modulation for the chorus. Higher values produce a faster rate.

[DELAY] knob
Sets the delay time for the chorus. This sets the time it takes from the start of the original sound to when the chorus effect begins. Larger values produce longer delays, creating a wider sound.

[DEPTH] knob
Sets the depth of modulation for the chorus. Higher values produce a greater modulation depth.

[FB] knob
Sets the feedback value, meaning how much of the chorus output signal is sent back to the effect input. Set what percentage of the normal phase/reversed phase (+/-) of the output signal goes back to the input. When this is set to "0", no feedback is applied.

[LEV] knob
Sets the volume for the chorus sound.

DELAY

[DELAY] button
Turns the delay on/off.

[TAP] knob
When each [SYNC] button is off, the delay times of the left, center and right delay sounds can be set irrespective of tempo.

* This is shown when the [SYNC] button is off.

[NOTE] knob
When each [SYNC] button is on, the delay times of the left, center and right delay sounds can be set to a note length.

* This is shown when the [SYNC] button is on.

[SYNC] button
Turn this on to synchronize the delay times of the left, center and right delay sounds with the tempo.

[LEV] knob
These knobs set the left, center and right delay sound levels.

FEEDBACK
Sets the feedback value, meaning how much of the center delay output signal is sent back to the effect input. Set what percentage of the normal phase/reversed phase (+/-) of the output signal goes back to the input. When this is set to "0", no feedback is applied. When the center delay sound feeds back, a delay sound with feedback is input to the left and right as well.

REVERB

[REVERB] button
Turns reverb on/off.

TYPE
This selects the reverb type. Use this to select the reverberation characteristics, which occur owing to the hall size, wall materials and so on.

ROOM1/2: A reverb that simulates a room. ROOM2 has a more reflective and brighter sound than ROOM1.

HALL1/2/3/4: A reverb that simulates a concert hall. The types 1–4 differ in room size, reflections and so on.

GATE: A reverb to which a gate is applied. This mutes the reverberations at a fixed time.

REVERSE: Makes the reverberations grow louder and then mute at a fixed time.

FLYING1/2: Pans the reverberations from left to right (FLYING1) or right to left (FLYING2).

HF DAMP
Sets the frequencies to cut in the high-frequency portion of the reverberation. The high-frequency portion of reverb sounds decays differently depending on the wall material. This parameter simulates this kind of high-frequency decay.

EARLY REFLECTION
Sets the sound level of the direct reflections from the walls and the early reflections after the original sound is produced. This is an expression of the distance from the sound source (the original sound) to the walls. Larger values indicate a shorter distance to the walls.

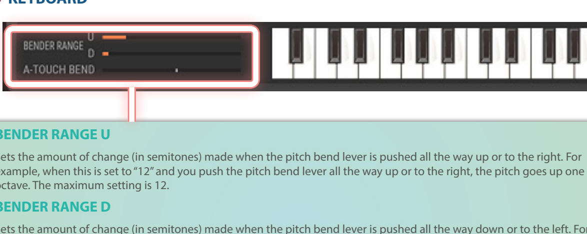
- This parameter is disabled if the "GATE", REVERSE", or "FLYING1/2" early reflection types are selected.
- The early reflection level and reverb level work separately. For this reason, the early reflection can still be heard even when the reverb level is "0".

PRE DELAY
This sets the pre-delay time, meaning the time it takes for the reverberations to sound after the original sound is heard. Larger values give an impression of being in a larger room.

[TIME] knob
Sets the reverberation time. Higher values produce longer reverberations.

[LEV] knob
Sets the reverberation volume.

15 KEYBOARD



BENDER RANGE U
Sets the amount of change (in semitones) made when the pitch bend lever is pushed all the way up or to the right. For example, when this is set to "12" and you push the pitch bend lever all the way up or to the right, the pitch goes up one octave. The maximum setting is 12.

BENDER RANGE D
Sets the amount of change (in semitones) made when the pitch bend lever is pushed all the way down or to the left. For example, if you set this to "48" and push the pitch bend lever all the way down or to the left, the pitch goes down four octaves. The maximum setting is 48.

A-TOUCH BEND
Sets the amount that the pitch changes in response to aftertouch, in semitones. This changes the pitch of all four partials at the same time.

to Contents

REVERB parameters

REVERB list

Off

INTEGRA-7 Reverb

Warm Hall

Hall

GS Reverb

SRV-2000

SRV-2000 Non-Linear

GM2 Reverb

Gated Reverb

INTEGRA-7 Reverb

Parameter	Value	Explanation
CHAR	ROOM1 ROOM2 HALL1 HALL2 PLATE	Type of reverb **OFF:** Reverb will not be used **Room 1/2:** Room **Hall 1/2:** Hall **Plate:** Plate
PRE DELAY	0–100 [msec]	Adjusts the delay time from the direct sound until the reverb sound is heard.
TIME	0.1–10.0 [sec]	Adjusts the decay length of the reverb sound.
DENSITY	0–127	Adjusts the density of the reverb sound.
DIFFUSION	0–127	Adjusts the change in the density of the reverb over time. The higher the value, the more the density increases with time. (The effect of this setting is most pronounced with long reverb times.)
LF DAMP	0–100	Adjusts the low-frequency portion of the reverb.
HF DAMP	0–100	Adjusts the high-frequency portion of the reverb.
SPREAD	0–127	Reverb spread
TONE	0–127	Tonal character of the reverb

Warm Hall

Parameter	Value	Explanation
PRE DELAY	0–100 [msec]	Adjusts the delay time from the direct sound until the reverb sound is heard.
TIME	0.3–30 [sec]	Adjusts the decay length of the reverb sound.
PRE LPF	16–15000 [Hz], Bypass	Frequency above which to cut the high-frequency portion of the sound entering the reverb
PRE HPF	16–15000 [Hz], Bypass	Frequency below which to cut the low-frequency portion of the sound entering the reverb
PRELOOP LPF	16–15000 [Hz], Bypass	Frequency above which to cut the high-frequency portion of the extended reverberation
DIFFUSION	0–127	Adjusts the change in the density of the reverb over time.
HF DAMP FREQ	1000–8000 [Hz]	Adjusts the frequency above which to cut the high-frequency portion of the reverb.
HF DAMP RATIO	0.1–1.0	Adjusts the amount by which to attenuate the high-frequency portion of the reverb.

Hall

Parameter	Value	Explanation
PRE DELAY	0.0–100 [msec]	Adjusts the delay time from the direct sound until the reverb sound is heard.
TIME	0–127	Adjusts the decay length of the reverb sound.
SIZE	1–8	Size of room/hall
HIGH CUT	160 –12500 [Hz], BYPASS	Adjusts the frequency above which the high-frequency portion of the final output sound is cut (**BYPASS:** no cut)
DENS (Density)	0–127	Adjusts the density of the reverb sound.
DIFFUSION	0–127	Adjusts how reverb density increases over time. (This effect is especially noticeable with long reverb times.)
LF DAMP FREQ	50–4000 [Hz]	Adjusts the frequency below which the low-frequency portion of the reverb sound is cut.
LF DAMP GAIN	-36–0 [dB]	LF damp attenuation amount (0: no effect)
HF DAMP FREQ	4000 –12500 [Hz]	Adjusts the frequency above which the high-frequency portion of the reverb sound is cut.
HF DAMP GAIN	-36–0 [dB]	HF damp attenuation amount (0: no effect)

GS Reverb

Parameter	Value	Explanation
CHAR	ROOM1–3, HALL1–2, PLATE, DELAY, PAN-DELAY	Selects the type of reverb.
PRE-LPF	0–7	Adjusts the amount of high-frequency attenuation for the sound being input to the reverb.
TIME	0–127	Adjusts the decay length of the reverb sound.
DELAY FEEDBACK	0–127	Adjusts the level at which the reverb sound is returned to the input.

SRV-2000

Parameter	Value	Explanation
SELECTION	Selects the type of reverb offered by the Roland SRV-2000 digital reverb.	
	R0.3–R37	Room reverb. Higher values increase the size of the room.
	H15–H37	Hall reverb. Higher values increase the size of the concert hall.
	P-B	Plate reverb. A more flamboyant reverb sound than P-A.
	P-A	Plate reverb.
PRE DELAY	0–160	Adjusts the delay time from the direct sound until the reverb sound is heard.
TIME	1–990 [msec]	Adjusts the decay length of the reverb sound.
HF DAMP	0.05–1.00	Adjusts the high-frequency portion of the reverb.
DENSITY	0–9	Adjusts the density of the late reverberation.
ATTACK GAIN	0–9	Adjusts the gain of the early reflections.
ATTACK TIME	0–9	Adjusts the time of the early reflections.
EALY REFLECT DENSITY	0–9	Adjusts the density of the early reflections.
EALY REFLECT LEVEL	0–99	Adjusts the volume of the early reflections.
EQ LOW FREQ	0.04–1.00 [kHz]	Frequency of the low range.
EQ LOW GAIN	-24–+12 [dB]	Gain of the low range.
EQ MID FREQ	0.25–9.99 [kHz]	Frequency of the middle range.
EQ MID GAIN	-24–+12 [dB]	Gain of the middle range.
EQ MID Q	0.2–9.0	Width of the middle range. Set a higher value to narrow the range to be affected.
EQ HI FREQ	0.80–9.99 [kHz]	Frequency of the high range.
EQ HI GAIN	-24–+12 [dB]	Gain of the high range
EQ HI Q	0.2–9.0	Specifies the width of the high-frequency range. Set a higher value to narrow the range to be affected.

SRV-2000 Non-Linear

Parameter	Value	Explanation
PRE DELAY	0–160	Adjusts the delay time from the direct sound until the reverb sound is heard.
REVERB TIME	1–990 [msec]	Adjusts the decay length of the reverb sound.
GATE TIME	10–450 [msec]	Adjusts the time from when the reverb starts being heard until the reverb sound is cut off.
HF DAMP	0.05–1.00	Adjusts the high-frequency portion of the reverb.
EQ LOW FREQ	0.04–1.00 [kHz]	Frequency of the low range.
EQ LOW GAIN	-24–+12 [dB]	Gain of the low range.
EQ MID FREQ	0.25–9.99 [kHz]	Frequency of the middle range.
EQ MID GAIN	-24–+12 [dB]	Gain of the middle range.
EQ MID Q	0.2–9.0	Width of the middle range. Set a higher value to narrow the range to be affected.
EQ HI FREQ	0.80–9.99 [kHz]	Frequency of the high range.
EQ HI GAIN	-24–+12 [dB]	Gain of the high range
EQ HI Q	0.2–9.0	Specifies the width of the high-frequency range. Set a higher value to narrow the range to be affected.

GM2 Reverb

Parameter	Value	Explanation
CHAR	SMALL ROOM MEDIUM ROOM LARGE ROOM MEDIUM HALL LARGE HALL PLATE	Selects the type of reverb.
TIME	0–127	Adjusts the decay length of the reverb sound.

Gated Reverb

Parameter	Value	Explanation
TYPE	NORMAL REVERSE SWEEP 1 SWEEP 2	Selects the type of reverb.
PRE DELAY	0.0–100.0 [ms]	Adjusts the delay time from the direct sound until the reverb sound is heard.
GATE TIME	5–500 [ms]	Adjusts the time from when the reverb starts being heard until the reverb sound is cut off.

MFX Parameters

MFX list

NO ASSIGN

Thru

FILTER

Equalizer
Mid-Side EQ
Spectrum
Isolator
Low Boost
Super Filter
Multi Mode Filter
Step Filter
Enhancer
Exciter
Auto Wah
Humanizer

PHASER

Phaser
Small Phaser
Script 90
Script 100
Step Phaser
Multi Stage Phaser
Infinite Phaser

FLANGER

Flanger
SBF-325 (Flanger)
Step Flanger

CHORUS

Chorus
Hexa-Chorus
Tremolo Chorus
Space-D
CE-1 (Chorus)
SDD-320 (DIMENSION D)
JUNO-106 Chorus

MODULATION

Ring Modulator
Tremolo
Auto Pan
Slicer
Rotary
VK Rotary

DRIVE/AMP

Overdrive
Distortion
T-Scream
Fuzz
Tone Fattener
HMS Distortion
Saturator
Warm Saturator
Guitar Amp Simulator
RD EPAmpSim
Speaker Simulator

COMP/LIMITER

Compressor
Mid-Side Compressor
Limiter
Sustainer
Transient
Gate

DELAY

Delay
Modulation Delay
2Tap Pan Delay
3Tap Pan Delay
4Tap Pan Delay
Multi Tap Delay
Reverse Delay
Time Ctrl Delay
Tape Echo
Mid-Side Delay

LOOPER

DJFX Looper
BPM Looper

LO-FI

LOFI Compress
Bit Crusher
Phonograph

PITCH

Pitch Shifter
2Voice Pitch Shifter

COMBINATION

Overdrive → Chorus
Overdrive → Flanger
Overdrive → Delay
Distortion → Chorus
Distortion → Flanger
Distortion → Delay
OD/DS → TouchWah
OD/DS → AutoWah
GtAmpSim → Chorus
GtAmpSim → Flanger
GtAmpSim → Phaser
GtAmpSim → Delay
EPAmpSim → Tremolo
EPAmpSim → Chorus
EPAmpSim → Flanger
EPAmpSim → Phaser
EPAmpSim → Delay
Enhancer → Chorus
Enhancer → Flanger
Enhancer → Delay
Chorus → Delay
Flanger → Delay
Chorus → Flanger
JD-Multi

to Contents

NO ASSIGN

Thru



FILTER

Equalizer

This is a four-band stereo equalizer (low, mid x 2, high).



Parameter	Value	Explanation
Low Freq (Low Frequency)	20, 25, 31, 40, 50, 63, 80, 100, 125, 160, 200, 250, 315, 400 [Hz]	Frequency of the low range
Low Gain	-15–+15 [dB]	Amount of boost/cut for the low-frequency range
Mid1 Freq (Mid1 Frequency)	200, 250, 315, 400, 500, 630, 800, 1000, 1250, 1600, 2000, 2500, 3150, 4000, 5000, 6300, 8000 [Hz]	Frequency of the middle range 1
Mid1 Gain	-15–+15 [dB]	Gain of the middle range 1
Mid1 Q	0.5, 1.0, 2.0, 4.0, 8.0	Width of the middle range 1 Set a higher value for Q to narrow the range to be affected.
Mid2 Freq (Mid2 Frequency)	200, 250, 315, 400, 500, 630, 800, 1000, 1250, 1600, 2000, 2500, 3150, 4000, 5000, 6300, 8000 [Hz]	Frequency of the middle range 2
Mid2 Gain	-15–+15 [dB]	Gain of the middle range 2
Mid2 Q	0.5, 1.0, 2.0, 4.0, 8.0	Width of the middle range 2 Set a higher value for Q to narrow the range to be affected.
HighFreq (High Frequency)	2000, 2500, 3150, 4000, 5000, 6300, 8000, 10000, 12500, 16000 [Hz]	Frequency of the high range
High Gain	-15–+15 [dB]	Amount of boost/cut for the high-frequency range
Level	0–127	Output Level

to Contents

Mid-Side EQ

This effect allows the left/right signals that have similar phase to be tonally adjusted in a different way than the left/right signals that have different phase.

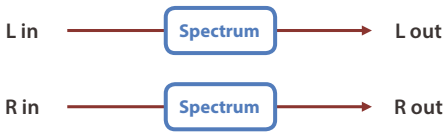


Parameter	Value	Explanation
M EQ Switch	OFF, ON	Switches whether to apply tonal adjustment to left/right input signals whose phase is similar (in phase).
M Input Gain	-12.00–+12.00 [dB]	Volume of left/right input signals whose phase is similar (in phase)
M Low Frequency	20, 25, 31, 40, 50, 63, 80, 100, 125, 160, 200, 250, 315, 400 [Hz]	Frequency of the low range
M Low Gain	-12.00–+12.00 [dB]	Amount of boost/cut for the low-frequency range
M Mid1 Frequency	200, 250, 315, 400, 500, 630, 800, 1000, 1250, 1600, 2000, 2500, 3150, 4000, 5000, 6300, 8000 [Hz]	Frequency of the middle range 1
M Mid1 Gain	-12.00–+12.00 [dB]	Gain of the middle range 1
M Mid1 Q	0.5, 1.0, 2.0, 4.0, 8.0	Width of the middle range 1 Set a higher value for Q to narrow the range to be affected.
M Mid2 Frequency	200, 250, 315, 400, 500, 630, 800, 1000, 1250, 1600, 2000, 2500, 3150, 4000, 5000, 6300, 8000 [Hz]	Frequency of the middle range 2
M Mid2 Gain	-12.00–+12.00 [dB]	Gain of the middle range 2
M Mid2 Q	0.5, 1.0, 2.0, 4.0, 8.0	Width of the middle range 2 Set a higher value for Q to narrow the range to be affected.
M Mid3 Frequency	200, 250, 315, 400, 500, 630, 800, 1000, 1250, 1600, 2000, 2500, 3150, 4000, 5000, 6300, 8000 [Hz]	Frequency of the middle range 3
M Mid3 Gain	-12.00–+12.00 [dB]	Gain of the middle range 3
M Mid3 Q	0.5, 1.0, 2.0, 4.0, 8.0	Width of the middle range 3 Set a higher value for Q to narrow the range to be affected.
M High Frequency	2000, 2500, 3150, 4000, 5000, 6300, 8000, 10000, 12500, 16000 [Hz]	Frequency of the high range
M High Gain	-12.00–+12.00 [dB]	Amount of boost/cut for the high-frequency range
S EQ Switch	OFF, ON	Switches whether to apply tonal adjustment to left/right input signals whose phase is distant (opposite phase).
S Input Gain	-12.00–+12.00 [dB]	Volume of left/right signals whose phase is distant (opposite phase)
S Low Frequency	20, 25, 31, 40, 50, 63, 80, 100, 125, 160, 200, 250, 315, 400 [Hz]	Frequency of the low range
S Low Gain	-12.00–+12.00 [dB]	Amount of boost/cut for the low-frequency range
S Mid1 Frequency	200, 250, 315, 400, 500, 630, 800, 1000, 1250, 1600, 2000, 2500, 3150, 4000, 5000, 6300, 8000 [Hz]	Frequency of the middle range 1
S Mid1 Gain	-12.00–+12.00 [dB]	Gain of the middle range 1
S Mid1 Q	0.5, 1.0, 2.0, 4.0, 8.0	Width of the middle range 1 Set a higher value for Q to narrow the range to be affected.
S Mid2 Frequency	200, 250, 315, 400, 500, 630, 800, 1000, 1250, 1600, 2000, 2500, 3150, 4000, 5000, 6300, 8000 [Hz]	Frequency of the middle range 2
S Mid2 Gain	-12.00–+12.00 [dB]	Gain of the middle range 2
S Mid2 Q	0.5, 1.0, 2.0, 4.0, 8.0	Width of the middle range 2 Set a higher value for Q to narrow the range to be affected.
S Mid3 Frequency	200, 250, 315, 400, 500, 630, 800, 1000, 1250, 1600, 2000, 2500, 3150, 4000, 5000, 6300, 8000 [Hz]	Frequency of the middle range 3
S Mid3 Gain	-12.00–+12.00 [dB]	Gain of the middle range 3
S Mid3 Q	0.5, 1.0, 2.0, 4.0, 8.0	Width of the middle range 3 Set a higher value for Q to narrow the range to be affected.
S High Frequency	2000, 2500, 3150, 4000, 5000, 6300, 8000, 10000, 12500, 16000 [Hz]	Frequency of the high range
S High Gain	-12.00–+12.00 [dB]	Amount of boost/cut for the high-frequency range
Level	0–127	Output Level

to Contents

Spectrum

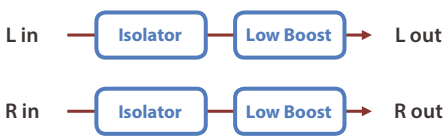
This is a stereo spectrum. Spectrum is a type of filter which modifies the timbre by boosting or cutting the level at specific frequencies.



Parameter	Value	Explanation
Band1 (250 Hz)	-15–+15 [dB]	Gain of each frequency band
Band2 (500 Hz)		
Band3 (1000 Hz)		
Band4 (1250 Hz)		
Band5 (2000 Hz)		
Band6 (3150 Hz)		
Band7 (4000 Hz)		
Band8 (8000 Hz)		
Q	0.5, 1.0, 2.0, 4.0, 8.0	Simultaneously adjusts the width of the adjusted ranges for all the frequency bands.
Level	0–127	Output Level

Isolator

This is an equalizer which cuts the volume greatly, allowing you to add a special effect to the sound by cutting the volume in varying ranges.

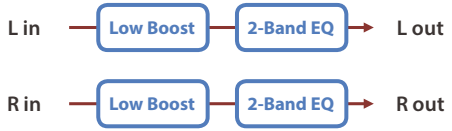


Parameter	Value	Explanation
Boost/Cut Low	-60–+4 [dB]	These boost and cut each of the High, Middle, and Low frequency ranges. At -60 dB, the sound becomes inaudible. 0 dB is equivalent to the input level of the sound.
Boost/Cut Mid	-60–+4 [dB]	
Boost/Cut High	-60–+4 [dB]	
Anti Phase Low Sw	OFF, ON	Turns the Anti-Phase function on and off for the Low frequency ranges. When turned on, the counter-channel of stereo sound is inverted and added to the signal.
Anti Phase Low Level	0–127	Adjusts the level settings for the Low frequency ranges. Adjusting this level for certain frequencies allows you to lend emphasis to specific parts (This is effective only for stereo source.).
Anti Phase Mid Sw	OFF, ON	Settings of the Anti-Phase function for the Middle frequency ranges. The parameters are the same as for the Low frequency ranges.
Anti Phase Mid Level	0–127	
Low Boost Sw	OFF, ON	Turns Low Booster on/off. This emphasizes the bottom to create a heavy bass sound.
Low Boost Level	0–127	Increasing this value gives you a heavier low end. Depending on the Isolator and filter settings this effect may be hard to distinguish.
Level	0–127	Output Level

to Contents

Low Boost

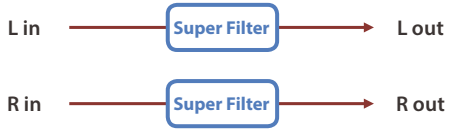
Boosts the volume of the lower range, creating powerful lows.



Parameter	Value	Explanation
Boost Frequency	50, 56, 63, 71, 80, 90, 100, 112, 125 [Hz]	Center frequency at which the lower range will be boosted
Boost Gain	0–+12 [dB]	Center frequency at which the lower range will be boosted
Boost Width	WIDE, MID, NARROW	Width of the lower range that will be boosted
Low Gain	-15–+15 [dB]	Amount of boost/cut for the low-frequency range
High Gain	-15–+15 [dB]	Amount of boost/cut for the high-frequency range
Level	0–127	Output Level

Super Filter

This is a filter with an extremely sharp slope. The cutoff frequency can be varied cyclically.

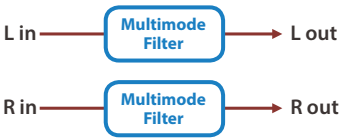


Parameter	Value	Explanation
Filter Type	LPF, BPF, HPF, NOTCH	Type of filter Frequency range that will pass through each filter **LPF:** Frequencies below the cutoff **BPF:** Frequencies in the region of the cutoff **HPF:** Frequencies above the cutoff **NOTCH:** Frequencies other than the region of the cutoff
Filter Slope	-12, -24, -36 [dB]	Amount of attenuation per octave **-12 dB:** Gentle, -24 dB: Steep, -36 dB: Extremely steep
Filter Cutoff	0–127	Cutoff frequency of the filter Increasing this value will raise the cutoff frequency.
Filter Resonance	0–100	Filter resonance level Increasing this value will emphasize the region near the cutoff frequency.
Filter Gain	0–+12 [dB]	Amount of boost for the filter output
Modulation Sw	OFF, ON	On/off switch for cyclic change
Modulation Wave	TRI, SQR, SIN, SAW1, SAW2	How the cutoff frequency will be modulated **TRI:** Triangle wave **SQR:** Square wave **SIN:** Sine wave **SAW1:** Sawtooth wave (upward) **SAW2:** Sawtooth wave (downward)
	SAW1 SAW2 	
Rate (sync sw)	OFF, ON	Synchronize to the tempo of the DAW if this is ON.
Rate (Hz)	0.05–10.00 [Hz]	Frequency of modulation
Rate (note)	Note ➡ "Note"	
Depth	0–127	Depth of modulation
Attack	0–127	Speed at which the cutoff frequency will change This is effective if Modulation Wave is SQR, SAW1, or SAW2.
Level	0–127	Output Level

to Contents

Multi Mode Filter

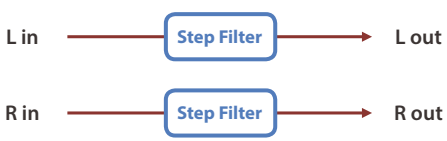
This is a filter that is adjusted for effective use in a DJ performance.



Parameter	Value	Explanation
Filter Type	LPF/HPF, LPF, HPF, BPF	Type of filter **LPF/HPF:** The filter type is automatically switched according to the Filter Tone parameter value.
Filter Tone	0–255	Frequency at which the filter operates
Filter Color	0–255	Filter resonance level Higher values more strongly emphasize the region of the operating frequency.
Filter Slope	-12, -24, -36 [dB]	Amount of attenuation per octave **-12 dB:** Gentle, -24 dB: Steep, -36 dB: Extremely steep
Filter Gain	0–+12 [dB]	Amount of boost for the filter output
Level	0–127	Output Level

Step Filter

This is a filter whose cutoff frequency can be modulated in steps. You can specify the pattern by which the cutoff frequency will change.

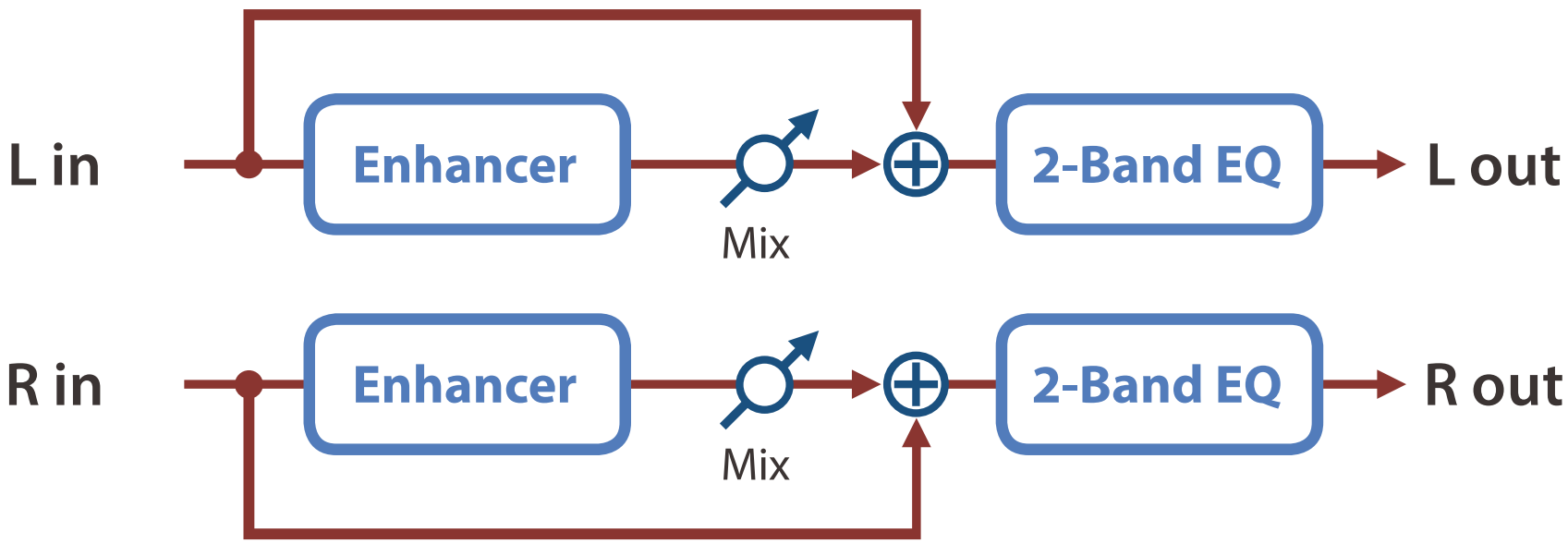


Parameter	Value	Explanation
Step 01–16	0–127	Cutoff frequency at each step
Rate (sync≈w)	OFF, ON	Synchronize to the tempo of the DAW if this is ON.
Rate (Hz)	0.05–10.00 [Hz]	Frequency of modulation
Rate (note)	Note ➡ **"Note"**	
Attack	0–127	Speed at which the cutoff frequency changes between steps
Filter Type	LPF, BPF, HPF, NOTCH	Type of filter Frequency range that will pass through each filter **LPF:** Frequencies below the cutoff **BPF:** Frequencies in the region of the cutoff **HPF:** Frequencies above the cutoff **NOTCH:** Frequencies other than the region of the cutoff
Filter Slope	-12, -24, -36 [dB]	Amount of attenuation per octave **-12 dB:** Gentle, -24 dB: Steep, -36 dB: Extremely steep
Filter Resonance	0–127	Filter resonance level Increasing this value will emphasize the region near the cutoff frequency.
Filter Gain	0–+12 [dB]	Amount of boost for the filter output
Level	0–127	Output Level

to Contents

Enhancer

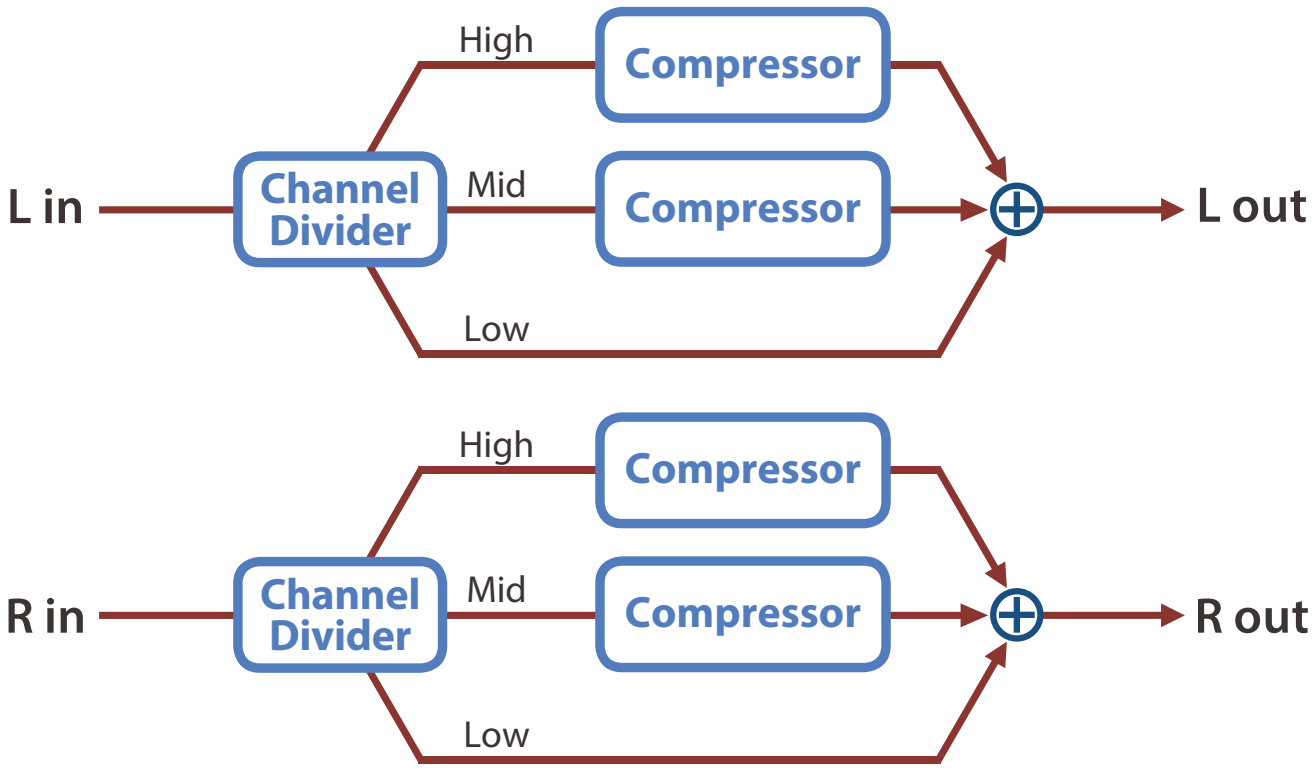
Controls the overtone structure of the high frequencies, adding sparkle and tightness to the sound.



Parameter	Value	Explanation
Sens	0–127	Sensitivity of the enhancer
Mix	0–127	Level of the overtones generated by the enhancer
Low Gain	-15–+15 [dB]	Amount of boost/cut for the low-frequency range
High Gain	-15–+15 [dB]	Amount of boost/cut for the high-frequency range
Level	0–127	Output Level

to Contents

Exciter

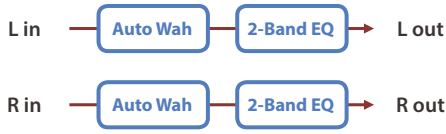


Parameter	Value	Explanation
Split1 Frequency (BAND2 (MID) FLT)	200–500	Sets the frequency at which the low and middle frequency ranges are split.
Band2 Thereshold	-800–0	Sets the threshold value for the middle frequency range. A gain effect is applied when the middle frequency range volume falls below the threshold.
Band2 Max Gain	0–24	Sets the level to which the sound is raised when the middle frequency range volume falls below the threshold.
Split2 Frequency (BAND3 (HIGH) FLT)	300–1000	Sets the frequency at which the middle and high frequency ranges are split.
Band3 Threshold	-800–0	Sets the threshold of the high frequency range. A gain effect is applied when the high frequency range volume falls below the threshold.
Band3 Max Gain	0–24	Sets the level to which the sound is raised when the high frequency range volume falls below the threshold.
Level	0–127	Sets the output volume.

to Contents

Auto Wah

Cyclically controls a filter to create cyclic change in timbre.



Parameter	Value	Explanation
Filter Type	LPF, BPF	Type of filter **LPF:** The wah effect will be applied over a wide frequency range. **BPF:** The wah effect will be applied over a narrow frequency range.
Manual	0–127	Center frequency at which the wah effect is applied
Peak	0–127	Width of the frequency region at which the wah effect is applied Increasing this value will make the frequency region narrower.
Sens	0–127	Sensitivity with which the filter is modified
Polarity	UP, DOWN	Direction in which the filter will move **UP:** The filter will change toward a higher frequency. **DOWN:** The filter will change toward a lower frequency.
Rate (sync sw)	OFF, ON	Synchronize to the tempo of the DAW if this is ON.
Rate (Hz)	0.05–10.00 [Hz]	Frequency of modulation
Rate (note)	Note ➡ **"Note"**	
Depth	0–127	Depth at which the wah effect is modulated
Phase	0–180 [deg]	Adjusts the degree of phase shift of the left and right sounds when the wah effect is applied.
Low Gain	-15–+15 [dB]	Amount of boost/cut for the low-frequency range
High Gain	-15–+15 [dB]	Amount of boost/cut for the high-frequency range
Level	0–127	Output Level

Humanizer

Adds a vowel character to the sound, making it similar to a human voice.

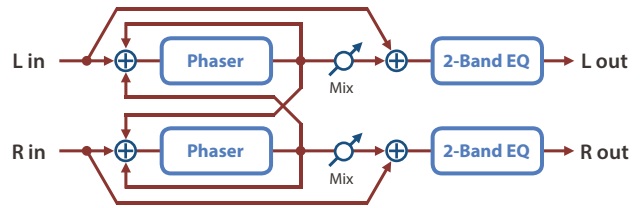


Parameter	Value	Explanation
Drive Sw	OFF, ON	Overdrive on/off
Drive	0–127	Degree of distortion Also changes the volume.
Vowel1	a, e, i, o, u	Selects the vowel.
Vowel2	a, e, i, o, u	
Rate (sync sw)	OFF, ON	Synchronize to the tempo of the DAW if this is ON.
Rate (Hz)	0.05–10.00 [Hz]	Frequency at which the two vowels switch
Rate (note)	Note ➡ **"Note"**	
Depth	0–127	Effect depth
Input Sync Sw	OFF, ON	LFO reset on/off Determines whether the LFO for switching the vowels is reset by the input signal (ON) or not (OFF).
Input Sync Threshold	0–127	Volume level at which reset is applied
Manual	0–100	Point at which Vowel 1/2 switch **0–49:** Vowel 1 will have a longer duration. **50:** Vowel 1 and 2 will be of equal duration. **51–100:** Vowel 2 will have a longer duration.
Low Gain	-15–+15 [dB]	Amount of boost/cut for the low-frequency range
High Gain	-15–+15 [dB]	Amount of boost/cut for the high-frequency range
Pan	L64–63R	Stereo location of the output sound
Level	0–127	Output Level

PHASER

Phaser

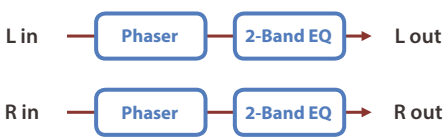
A phase-shifted sound is added to the original sound and modulated.



Parameter	Value	Explanation
Mode	4-STAGE, 8-STAGE, 12-STAGE	Number of stages in the phaser
Manual	0–127	Adjusts the basic frequency from which the sound will be modulated.
Rate (sync sw)	OFF, ON	Synchronize to the tempo of the DAW if this is ON.
Rate (Hz)	0.05–10.00 [Hz]	Frequency of modulation
Rate (note)	Note ➡ *"Note"*	
Depth	0–127	Depth of modulation
Polarity	INVERSE, SYNCHRO	Selects whether the left and right phase of the modulation will be the same or the opposite. **INVERSE:** The left and right phase will be opposite. When using a mono source, this spreads the sound. **SYNCHRO:** The left and right phase will be the same. Select this when inputting a stereo source.
Resonance	0–127	Amount of feedback
Cross Feedback	-98–+98 [%]	Adjusts the proportion of the phaser sound that is fed back into the effect. Negative (-) settings will invert the phase.
Mix	0–127	Level of the phase-shifted sound
Low Gain	-15–+15 [dB]	Amount of boost/cut for the low-frequency range
High Gain	-15–+15 [dB]	Amount of boost/cut for the high-frequency range
Level	0–127	Output Level

Small Phaser

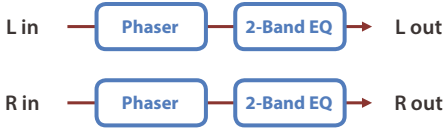
This simulates an analog phaser of the past. It is particularly suitable for electric piano.



Parameter	Value	Explanation
Rate	0–100	Frequency of modulation
Color	1, 2	Modulation character
Low Gain	-15–+15 [dB]	Amount of boost/cut for the low-frequency range
High Gain	-15–+15 [dB]	Amount of boost/cut for the high-frequency range
Level	0–127	Output Level

Script 90

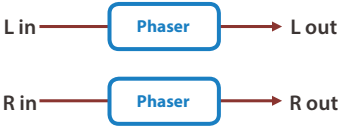
This simulates a different analog phaser than Small Phaser. It is particularly suitable for electric piano.



Parameter	Value	Explanation
Speed	0–100	Speed of modulation
Depth	0–127	Depth of modulation
Low Gain	-15–+15 [dB]	Amount of boost/cut for the low-frequency range
High Gain	-15–+15 [dB]	Amount of boost/cut for the high-frequency range
Level	0–127	Output Level

Script 100

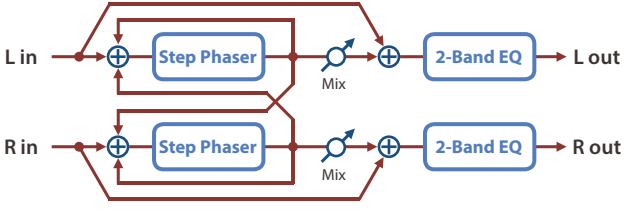
This simulates an analog phaser of the past.



Parameter	Value	Explanation
Rate (sync sw)	OFF, ON	Synchronize to the tempo of the DAW if this is ON.
Rate (Hz)	0.05–10.00 [Hz]	Frequency of modulation
Rate (note)	Note ➡ "Note"	
Duty	-50–50	Adjusts the ratio of speeds at which the modulation rises or falls.
Min	0–100	Lower limit reached by modulation
Max	0–100	Upper limit reached by modulation
Manual Sw	OFF, ON	Turn this OFF if you want to apply modulation, or ON if you want to stop modulation.
Manual	0–100	Tonal character when Manual Sw is OFF
Resonance	0–66	Amount of feedback
Mix	0–127	Level of the phase-shifted sound
Level	0–127	Output Level

Step Phaser

The phaser effect will be varied gradually.

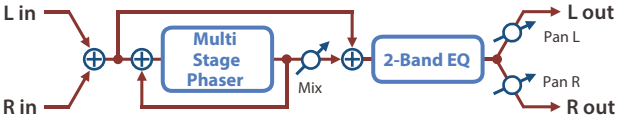


Parameter	Value	Explanation
Mode	4-STAGE, 8-STAGE, 12-STAGE	Number of stages in the phaser
Manual	0–127	Adjusts the basic frequency from which the sound will be modulated.
Rate (sync sw)	OFF, ON	Synchronize to the tempo of the DAW if this is ON.
Rate (Hz)	0.05–10.00 [Hz]	Frequency of modulation
Rate (note)	Note ➡ **"Note"**	
Depth	0–127	Depth of modulation
Polarity	INVERSE, SYNCHRO	Selects whether the left and right phase of the modulation will be the same or the opposite. **INVERSE:** The left and right phase will be opposite. When using a mono source, this spreads the sound. **SYNCHRO:** The left and right phase will be the same. Select this when inputting a stereo source.
Resonance	0–127	Amount of feedback
Cross Feedback	-98–+98 [%]	Adjusts the proportion of the phaser sound that is fed back into the effect. Negative (-) settings will invert the phase.
Step Rate (sync sw)	OFF, ON	Synchronize to the tempo of the DAW if this is ON.
Step Rate (Hz)	0.10–20.00 [Hz]	Rate of the step-wise change in the phaser effect
Step Rate (note)	Note ➡ **"Note"**	
Mix	0–127	Level of the phase-shifted sound
Low Gain	-15–+15 [dB]	Amount of boost/cut for the low-frequency range
High Gain	-15–+15 [dB]	Amount of boost/cut for the high-frequency range
Level	0–127	Output Level

to Contents

Multi Stage Phaser

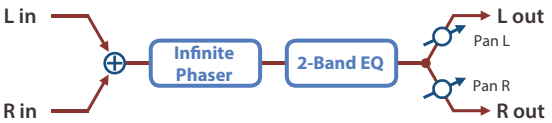
Extremely high settings of the phase difference produce a deep phaser effect.



Parameter	Value	Explanation
Mode	4-STAGE, 8-STAGE, 12-STAGE, 16-STAGE, 20-STAGE, 24-STAGE	Number of stages in the phaser
Manual	0–127	Adjusts the basic frequency from which the sound will be modulated.
Rate (sync sw)	OFF, ON	Synchronize to the tempo of the DAW if this is ON.
Rate (Hz)	0.05–10.00 [Hz]	Frequency of modulation
Rate (note)	Note ➡ **"Note"**	
Depth	0–127	Depth of modulation
Resonance	0–127	Amount of feedback
Mix	0–127	Level of the phase-shifted sound
Pan	L64–63R	Stereo location of the output sound
Low Gain	-15–+15 [dB]	Amount of boost/cut for the low-frequency range
High Gain	-15–+15 [dB]	Amount of boost/cut for the high-frequency range
Level	0–127	Output Level

Infinite Phaser

A phaser that continues raising/lowering the frequency at which the sound is modulated.

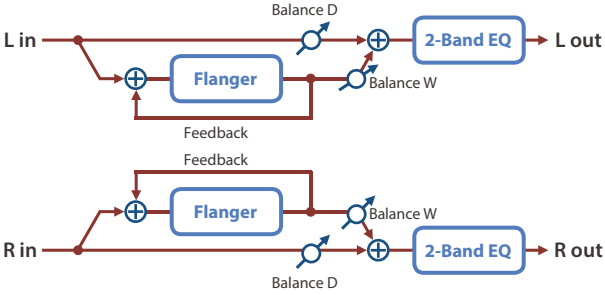


Parameter	Value	Explanation
Mode	1, 2, 3, 4	Higher values will produce a deeper phaser effect.
Speed	-100–+100	Speed at which to raise or lower the frequency at which the sound is modulated (+: upward / -: downward)
Resonance	0–127	Amount of feedback
Mix	0–127	Level of the phase-shifted sound
Pan	L64–63R	Stereo location of the output sound
Low Gain	-15–+15 [dB]	Amount of boost/cut for the low-frequency range
High Gain	-15–+15 [dB]	Amount of boost/cut for the high-frequency range
Level	0–127	Output Level

FLANGER

Flanger

This is a stereo flanger (The LFO has the same phase for left and right.). It produces a metallic resonance that rises and falls like a jet airplane taking off or landing. A filter is provided so that you can adjust the timbre of the flanged sound.



Parameter	Value	Explanation
Filter Type	OFF, LPF, HPF	Type of filter **OFF:** No filter is used **LPF:** Cuts the frequency range above the Cutoff Freq **HPF:** Cuts the frequency range below the Cutoff Freq
Cutoff Freq	200, 250, 315, 400, 500, 630, 800, 1000, 1250, 1600, 2000, 2500, 3150, 4000, 5000, 6300, 8000 [Hz]	Basic frequency of the filter
Pre Delay	0.0–100 [msec]	Adjusts the delay time from when the direct sound begins until the flanger sound is heard.
Rate (sync sw)	OFF, ON	Synchronize to the tempo of the DAW if this is ON.
Rate (Hz)	0.05–10.00 [Hz]	Frequency of modulation
Rate (note)	Note ➡ **"Note"**	
Depth	0–127	Depth of modulation
Phase	0–180 [deg]	Spatial spread of the sound
Feedback	-98–+98 [%]	Adjusts the proportion of the flanger sound that is fed back into the effect. Negative (-) settings will invert the phase.
Low Gain	-15–+15 [dB]	Amount of boost/cut for the low-frequency range
High Gain	-15–+15 [dB]	Amount of boost/cut for the high-frequency range
Balance	D100: 0W–D0: 100W	Volume balance between the direct sound (D) and the flanger sound (W)
Level	0–127	Output Level

to Contents

SBF-325 (Flanger)

This effect reproduces Roland's SBF-325 analog flanger. It provides three types of flanging effect (which adds a metallic resonance to the original sound) and a chorus-type effect.

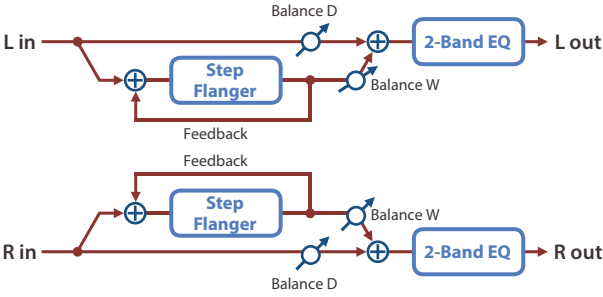


Parameter	Value	Explanation
Mode		Types of flanging effect
	FL1	A typical mono flanger
	FL2	A stereo flanger that preserves the stereo positioning of the original sound
	FL3	A cross-mix flanger that produces a more intense effect
	CHO	A chorus effect
Rate (sync sw)	OFF, ON	Synchronize to the tempo of the DAW if this is ON.
Rate (Hz)	0.02–5.00 [Hz]	Modulation frequency of the flanger effect
Rate (note)	Note ➡ **"Note"**	
Depth	0–127	Modulation depth of the flanger effect
Manual	0–127	Center frequency at which the flanger effect is applied
Feedback	0–127	Amount by which the flanging effect is boosted If Mode is CHO, this setting is ignored.
CH-R Mod Phase	NORM, INV	Phase of the right channel modulation: Normally, you will leave this at Normal (NORM). If you specify Inverted (INV), the modulation (upward/downward movement) of the right channel is inverted.
CH-L Phase		Phase when mixing the flanging sound with the original sound **NORM:** normal phase **INV:** inverse phase
CH-R Phase		
Level	0–127	Output Level

to Contents

Step Flanger

This is a flanger in which the flanger pitch changes in steps. The speed at which the pitch changes can also be specified in terms of a note-value of a specified tempo.

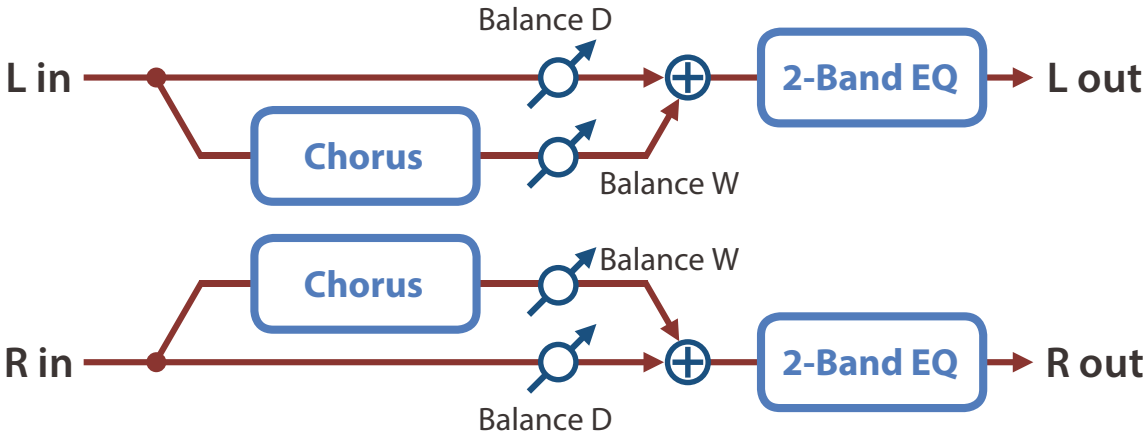


Parameter	Value	Explanation
Filter Type	OFF, LPF, HPF	Type of filter **OFF:** No filter is used **LPF:** Cuts the frequency range above the Cutoff Freq **HPF:** Cuts the frequency range below the Cutoff Freq
Cutoff Freq	200, 250, 315, 400, 500, 630, 800, 1000, 1250, 1600, 2000, 2500, 3150, 4000, 5000, 6300, 8000 [Hz]	Basic frequency of the filter
Pre Delay	0.0–100.0 [msec]	Adjusts the delay time from when the direct sound begins until the flanger sound is heard.
Rate (sync sw)	OFF, ON	Synchronize to the tempo of the DAW if this is ON.
Rate (Hz)	0.05–10.00 [Hz]	Frequency of modulation
Rate (note)	Note ➡ **"Note"**	
Depth	0–127	Depth of modulation
Phase	0–180 [deg]	Spatial spread of the sound
Feedback	-98–+98 [%]	Adjusts the proportion of the flanger sound that is fed back into the effect. Negative (-) settings will invert the phase.
Step Rate (sync sw)	OFF, ON	Synchronize to the tempo of the DAW if this is ON.
Step Rate (Hz)	0.10–20.00 [Hz]	Rate (period) of pitch change
Step Rate (note)	Note ➡ **"Note"**	
Low Gain	-15–+15 [dB]	Amount of boost/cut for the low-frequency range
High Gain	-15–+15 [dB]	Amount of boost/cut for the high-frequency range
Balance	D100: 0W–D0: 100W	Volume balance between the direct sound (D) and the flanger sound (W)
Level	0–127	Output Level

CHORUS

Chorus

This is a stereo chorus. A filter is provided so that you can adjust the timbre of the chorus sound.

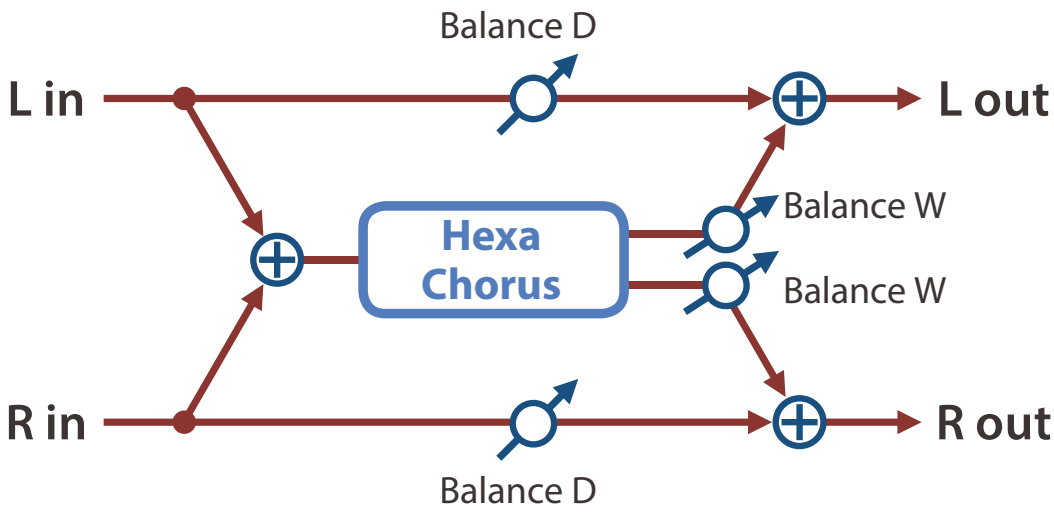


Parameter	Value	Explanation
Filter Type	OFF, LPF, HPF	Type of filter **OFF:** No filter is used **LPF:** Cuts the frequency range above the Cutoff Freq **HPF:** Cuts the frequency range below the Cutoff Freq
Cutoff Freq	200, 250, 315, 400, 500, 630, 800, 1000, 1250, 1600, 2000, 2500, 3150, 4000, 5000, 6300, 8000 [Hz]	Basic frequency of the filter
Pre Delay	0.0–100 [msec]	Adjusts the delay time from the direct sound until the chorus sound is heard.
Rate (sync sw)	OFF, ON	Synchronize to the tempo of the DAW if this is ON.
Rate (Hz)	0.05–10.00 [Hz]	Frequency of modulation
Rate (note)	Note ➡ **"Note"**	
Depth	0–127	Depth of modulation
Phase	0–180 [deg]	Spatial spread of the sound
Low Gain	-15–+15 [dB]	Amount of boost/cut for the low-frequency range
High Gain	-15–+15 [dB]	Amount of boost/cut for the high-frequency range
Balance	D100: 0W–D0: 100W	Volume balance between the direct sound (D) and the chorus sound (W)
Level	0–127	Output Level

to Contents

Hexa-Chorus

Uses a six-phase chorus (six layers of chorused sound) to give richness and spatial spread to the sound.

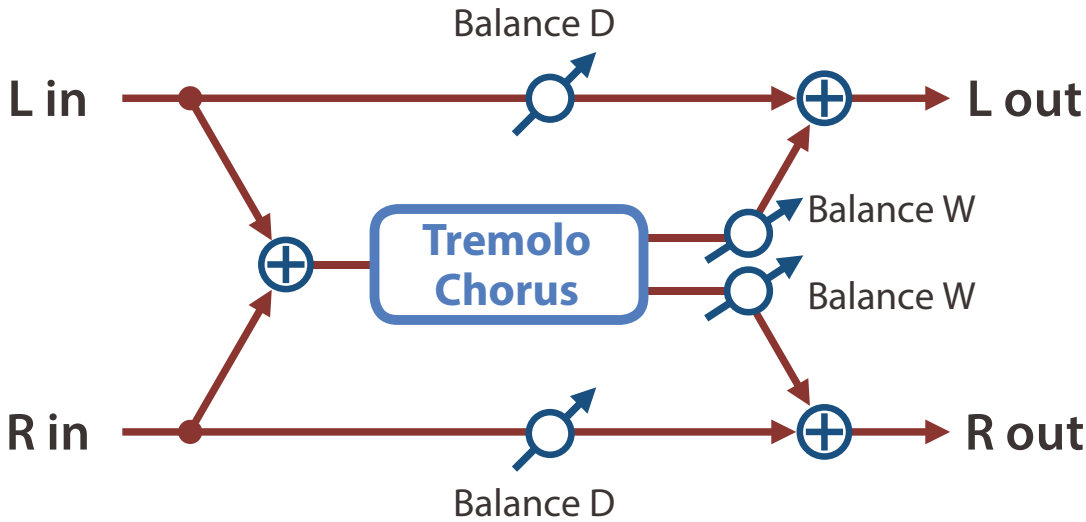


Parameter	Value	Explanation
Pre Delay	0.0–100 [msec]	Adjusts the delay time from the direct sound until the chorus sound is heard.
Rate (sync sw)	OFF, ON	Synchronize to the tempo of the DAW if this is ON.
Rate (Hz)	0.05–10.00 [Hz]	Frequency of modulation
Rate (note)	Note ➡ **"Note"**	
Depth	0–127	Depth of modulation
Pre Delay Deviation	0–20	Adjusts the differences in Pre Delay between each chorus sound.
Depth Deviation	-20–+20	Adjusts the difference in modulation depth between each chorus sound.
Pan Deviation	0–20	Adjusts the difference in stereo location between each chorus sound. **0:** All chorus sounds will be in the center. **20:** Each chorus sound will be spaced at 60 degree intervals relative to the center.
Balance	D100: 0W–D0: 100W	Volume balance between the direct sound (D) and the chorus sound (W)
Level	0–127	Output Level

to Contents

Tremolo Chorus

This is a chorus effect with added Tremolo (cyclic modulation of volume).

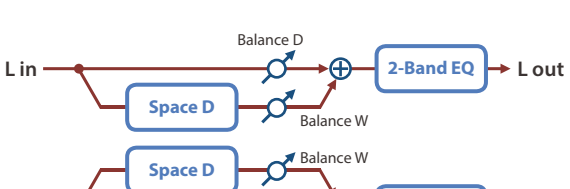


Parameter	Value	Explanation
Pre Delay	0.0–100 [msec]	Adjusts the delay time from the direct sound until the chorus sound is heard.
Chorus Rate (sync sw)	OFF, ON	Synchronize to the tempo of the DAW if this is ON.
Chorus Rate (Hz)	0.05–10.00 [Hz]	Modulation frequency of the chorus effect
Cho Note (Chorus Rate (note))	Note ➡ **"Note"**	
Chorus Depth	0–127	Modulation depth of the chorus effect
Tremolo Rate (sync sw)	OFF, ON	Synchronize to the tempo of the DAW if this is ON.
Tremolo Rate (Hz)	0.05–10.00 [Hz]	Modulation frequency of the tremolo effect
Tremolo Rate (note)	Note ➡ **"Note"**	
Tremolo Separation	0–127	Depth of the tremolo effect
Tremolo Phase	0–180 [deg]	Spread of the tremolo effect
Balance	D100: 0W–D0: 100W	Volume balance between the direct sound (D) and the tremolo chorus sound (W)
Level	0–127	Output Level

to Contents

Space-D

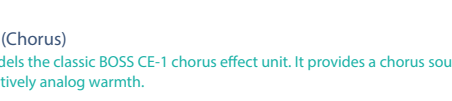
This is a multiple chorus that applies two-phase modulation in stereo. It gives no impression of modulation, but produces a transparent chorus effect.



Parameter	Value	Explanation
Pre Delay	0.0–100 [msec]	Adjusts the delay time from the direct sound until the chorus sound is heard.
Rate (sync sw)	OFF, ON	Synchronize to the tempo of the DAW if this is ON.
Rate (Hz)	0.05–10.00 [Hz]	Frequency of modulation
Rate (note)	Note ➡ "Note"	
Depth	0–127	Depth of modulation
Phase	0–180 [deg]	Spatial spread of the sound
Low Gain	-15–+15 [dB]	Amount of boost/cut for the low-frequency range
High Gain	-15–+15 [dB]	Amount of boost/cut for the high-frequency range
Balance	D100: 0W–D0: 100W	Volume balance between the direct sound (D) and the chorus sound (W)
Level	0–127	Output Level

CE-1 (Chorus)

This models the classic BOSS CE-1 chorus effect unit. It provides a chorus sound with a distinctively analog warmth.



Parameter	Value	Explanation
Intensity	0–127	Chorus depth
Low Gain	-15–+15 [dB]	Amount of boost/cut for the low-frequency range
High Gain	-15–+15 [dB]	Amount of boost/cut for the high-frequency range
Level	0–127	Output Level

to Contents

SDD-320 (DIMENSION D)

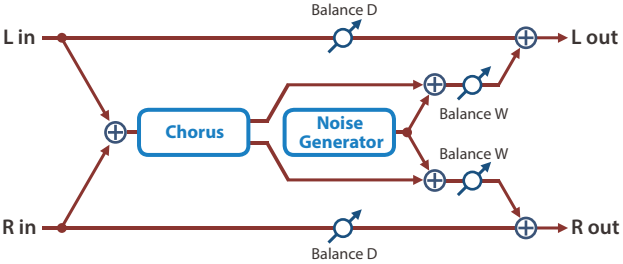
This models Roland's DIMENSION D (SDD-320). It provides a clear chorus sound.



Parameter	Value	Explanation
Mode	1, 2, 3, 4, 1+4, 2+4, 3+4	Switches the mode.
Low Gain	-15–+15 [dB]	Amount of boost/cut for the low-frequency range
High Gain	-15–+15 [dB]	Amount of boost/cut for the high-frequency range
Level	0–127	Output Level

JUNO-106 Chorus

This models the chorus effects of the Roland JUNO-106.

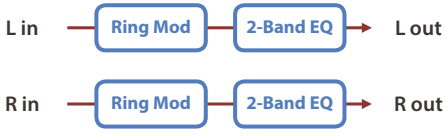


Parameter	Value	Explanation
Mode	I, II, I+II, JX I, JX II	Type of Chorus **I+II:** The state in which two buttons are pressed simultaneously.
Noise Level	0–127	Volume of the noise produced by chorus
Balance	D100: 0W–D0: 100W	Volume balance between the dry sound (D) and effect sound (W)
Level	0–127	Output Level

MODULATION

Ring Modulator

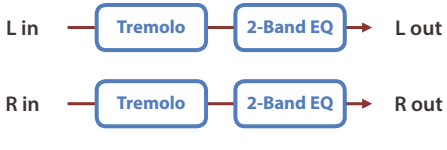
This is an effect that applies amplitude modulation (AM) to the input signal, producing bell-like sounds. You can also change the modulation frequency in response to changes in the volume of the sound sent into the effect.



Parameter	Value	Explanation
Frequency	0–127	Adjusts the frequency at which modulation is applied.
Sens	0–127	Adjusts the amount of frequency modulation applied.
Polarity	UP, DOWN	Determines whether the frequency modulation moves towards higher frequencies or lower frequencies. **UP:** The filter will change toward a higher frequency. **DOWN:** The filter will change toward a lower frequency.
Low Gain	-15–+15 [dB]	Amount of boost/cut for the low-frequency range
High Gain	-15–+15 [dB]	Amount of boost/cut for the high-frequency range
Balance	D100: 0W–D0: 100W	Volume balance between the direct sound (D) and the effect sound (W)
Level	0–127	Output Level

Tremolo

Cyclically changes the volume.

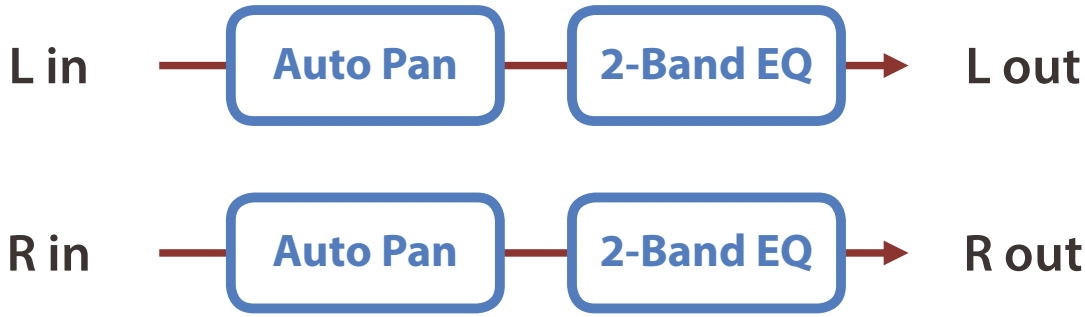


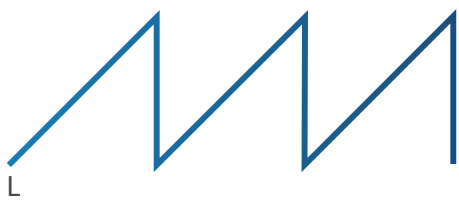
Parameter	Value	Explanation
Mod Wave	TRI, SQR, SIN, SAW1, SAW2, TRP	Modulation Wave **TRI:** Triangle wave **SQR:** Square wave **SIN:** Sine wave **SAW1/2:** Sawtooth wave **TRP:** Trapezoidal wave
	SAW1 SAW2 	
Rate (sync sw)	OFF, ON	Synchronize to the tempo of the DAW if this is ON.
Rate (Hz)	0.05–10.00 [Hz]	Frequency of the change
Rate (note)	Note ➡ *"Note"*	
Depth	0–127	Depth to which the effect is applied
Low Gain	-15–+15 [dB]	Amount of boost/cut for the low-frequency range
High Gain	-15–+15 [dB]	Amount of boost/cut for the high-frequency range
Level	0–127	Output Level

to Contents

Auto Pan

Cyclically modulates the stereo location of the sound.

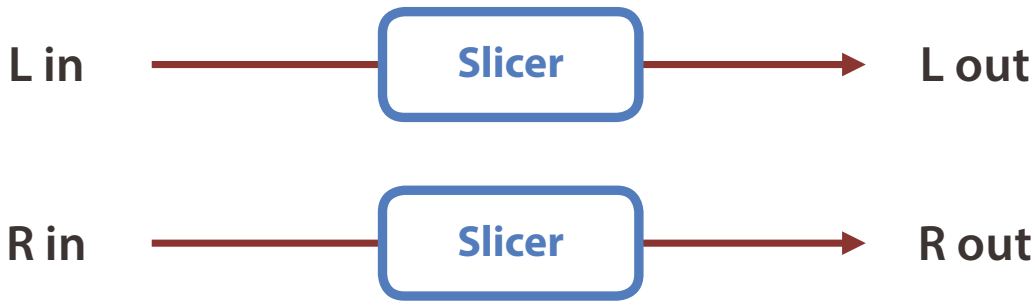


Parameter	Value	Explanation
Mod Wave	TRI, SQR, SIN, SAW1, SAW2, TRP	Modulation Wave **TRI:** Triangle wave **SQR:** Square wave **SIN:** Sine wave **SAW1/2:** Sawtooth wave **TRP:** Trapezoidal wave
	SAW1 R L  SAW2 R L 	
Rate (sync sw)	OFF, ON	Synchronize to the tempo of the DAW if this is ON.
Rate (Hz)	0.05–10.00 [Hz]	Frequency of the change
Rate (note)	Note ➡ **"Note"**	
Depth	0–127	Depth to which the effect is applied
Low Gain	-15–+15 [dB]	Amount of boost/cut for the low-frequency range
High Gain	-15–+15 [dB]	Amount of boost/cut for the high-frequency range
Level	0–127	Output Level

to Contents

Slicer

By applying successive cuts to the sound, this effect turns a conventional sound into a sound that appears to be played as a backing phrase. This is especially effective when applied to sustain-type sounds.

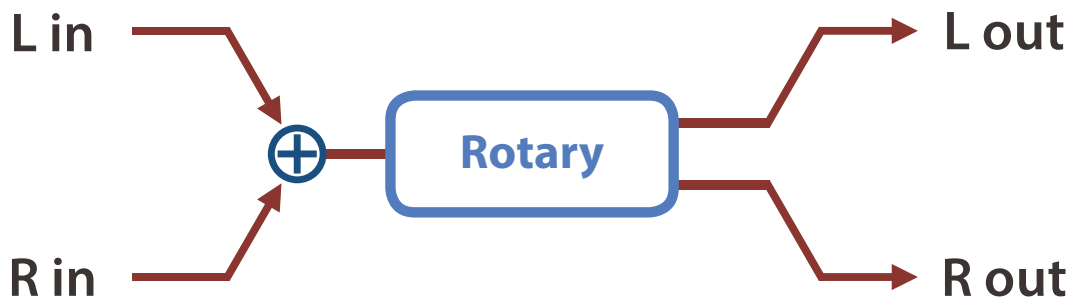


Parameter	Value	Explanation
Step 01–16	0–127	Level at each step
Rate (sync sw)	OFF, ON	Synchronize to the tempo of the DAW if this is ON.
Rate (Hz)	0.05–10.00 [Hz]	Rate at which the 16-step sequence will cycle
Rate (note)	Note ➡ **"Note"**	
Attack	0–127	Speed at which the level changes between steps
Input Sync Sw	OFF, ON	Specifies whether an input note will cause the sequence to resume from the first step of the sequence (ON) or not (OFF)
Input Sync Threshold	0–127	Volume at which an input note will be detected
Mode	LEGATO, SLASH	Sets the manner in which the volume changes as one step progresses to the next. **LEGATO:** The change in volume from one step's level to the next remains unaltered. If the level of a following step is the same as the one preceding it, there is no change in volume. **SLASH:** The level is momentarily set to 0 before progressing to the level of the next step. This change in volume occurs even if the level of the following step is the same as the preceding step.
Shuffle	0–127	Timing of volume changes in levels for even-numbered steps (step 2, step 4, step 6...). The higher the value, the later the beat progresses.
Level	0–127	Output Level

to Contents

Rotary

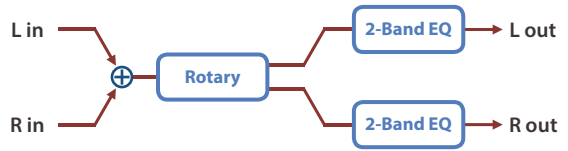
This simulates a classic rotary speaker of the past. Since the operation of the high-frequency and low-frequency rotors can be specified independently, the distinctive modulation can be reproduced realistically. This is most effective on organ patches.



Parameter	Value	Explanation
Speed	SLOW, FAST	Simultaneously switch the rotational speed of the low frequency rotor and high frequency rotor. **SLOW:** Slows down the rotation to the Slow Rate. **FAST:** Speeds up the rotation to the Fast Rate.
Woofer Slow Speed	0.05–10.00 [Hz]	Slow speed (SLOW) of the low frequency rotor
Woofer Fast Speed	0.05–10.00 [Hz]	Fast speed (FAST) of the low frequency rotor
Woofer Acceleration	0–15	Adjusts the time it takes the low frequency rotor to reach the newly selected speed when switching from fast to slow (or slow to fast) speed. Lower values will require longer times.
Woofer Level	0–127	Volume of the low frequency rotor
Tweeter Slow Speed	0.05–10.00 [Hz]	Settings of the high frequency rotor The parameters are the same as for the low frequency rotor
Tweeter Fast Speed	0.05–10.00 [Hz]	
Tweeter Acceleration	0–15	
Tweeter Level	0–127	
Separation	0–127	Spatial dispersion of the sound
Level	0–127	Output Level

VK Rotary

This type provides modified response for the rotary speaker, with the low end boosted further. This effect features the same specifications as the VK-7's built-in rotary speaker.



Parameter	Value	Explanation
Speed	SLOW, FAST	Rotational speed of the rotating speaker **SLOW:** Slow **FAST:** Fast
Brake	OFF, ON	Switches the rotation of the rotary speaker. When this is turned on, the rotation will gradually stop. When it is turned off, the rotation will gradually resume.
Woofer Slow Speed	0.05–10.00 [Hz]	Low-speed rotation speed of the woofer
Woofer Fast Speed	0.05–10.00 [Hz]	High-speed rotation speed of the woofer
Woofer Trans Up	0–127	Adjusts the rate at which the woofer rotation speeds up when the rotation is switched from Slow to Fast.
Woofer Trans Down	0–127	Adjusts the rate at which the woofer rotation speeds up when the rotation is switched from Fast to Slow.
Woofer Level	0–127	Volume of the woofer
Tweeter Slow Speed	0.05–10.00 [Hz]	Settings of the tweeter The parameters are the same as for the woofer.
Tweeter Fast Speed	0.05–10.00 [Hz]	
Tweeter Trans Up	0–127	
Tweeter Trans Down	0–127	
Tweeter Level	0–127	
Spread	0–10	Sets the rotary speaker stereo image. ?The higher the value set, the wider the sound is spread out.
Low Gain	-15–+15 [dB]	Amount of boost/cut for the low-frequency range
High Gain	-15–+15 [dB]	Amount of boost/cut for the high-frequency range
Level	0–127	Output Level
OD Switch	OFF, ON	Overdrive on/off
OD Gain	0–127	Overdrive input level Higher values will increase the distortion.
OD Drive	0–127	Degree of distortion
OD Level	0–127	Volume of the overdrive

DRIVE/AMP

Overdrive

This is an overdrive that provides heavy distortion.



Parameter	Value	Explanation
Drive	0–127	Degree of distortion Also changes the volume.
Tone	0–127	Sound quality of the Overdrive effect
Amp Sw	OFF, ON	Turns the Amp Simulator on/off.
Amp Type	SMALL, BUILT-IN, 2-STACK, 3-STACK	Type of guitar amp **SMALL:** Small amp **BUILT-IN:** Single-unit type amp **2-STACK:** Large double stack amp **3-STACK:** Large triple stack amp
Low Gain	-15–+15 [dB]	Amount of boost/cut for the low-frequency range
High Gain	-15–+15 [dB]	Amount of boost/cut for the high-frequency range
Pan	L64–63R	Stereo location of the output sound
Level	0–127	Output Level

Distortion

Produces a more intense distortion than Overdrive.

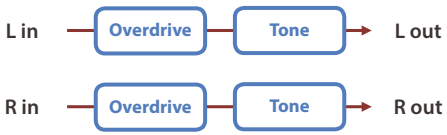


Parameter	Value	Explanation
Drive	0–127	Degree of distortion Also changes the volume.
Tone	0–127	Sound quality of the Overdrive effect
Amp Sw	OFF, ON	Turns the Amp Simulator on/off.
Amp Type	SMALL, BUILT-IN, 2-STACK, 3-STACK	Type of guitar amp **SMALL:** Small amp **BUILT-IN:** Single-unit type amp **2-STACK:** Large double stack amp **3-STACK:** Large triple stack amp
Low Gain	-15–+15 [dB]	Amount of boost/cut for the low-frequency range
High Gain	-15–+15 [dB]	Amount of boost/cut for the high-frequency range
Pan	L64–63R	Stereo location of the output sound
Level	0–127	Output Level

to Contents

T-Scream

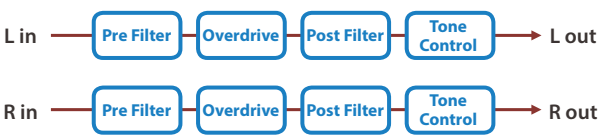
This models a classic analog overdrive. It is distinctive in adding an appropriate amount of overtones without muddying the sound.



Parameter	Value	Explanation
Distortion	0–127	Degree of distortion Also changes the volume.
Tone	0–127	Tonal character of the overdrive
Level	0–127	Output Level

Fuzz

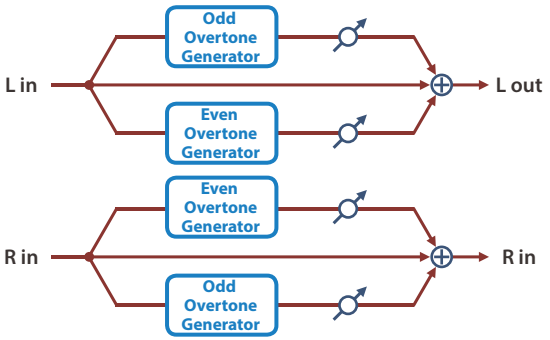
Adds overtones and intensely distorts the sound.



Parameter	Value	Explanation
Drive	0–127	Adjusts the depth of distortion. This also changes the volume.
Tone	0–100	Sound quality of the Overdrive effect
Level	0–127	Output Level

Tone Fattener

This effect applies distinctive distortion, adding overtones to give more depth to the sound.

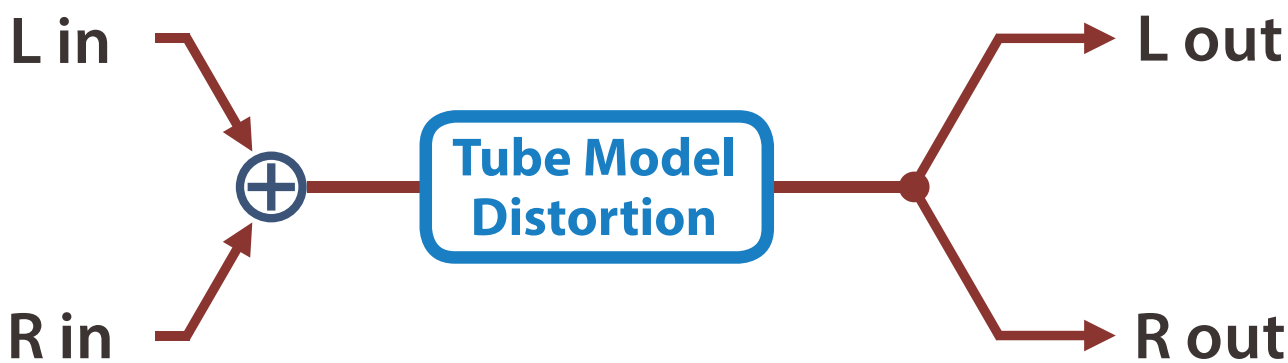


Parameter	Value	Explanation
Odd Level	0–400 [%]	Raising the value adds odd-order overtones.
Even Level	0–400 [%]	Raising the value adds even-order overtones.
Level	0–127	Output Level

to Contents

HMS Distortion

This is a distortion-type effect that models the vacuum tube amp section of a rotary speaker of the past.

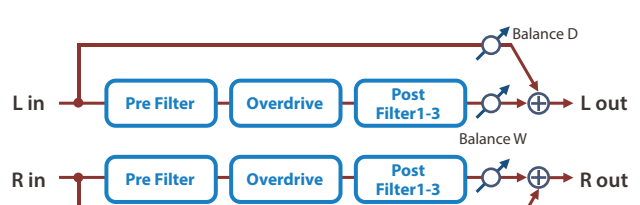


Parameter	Value	Explanation
Distortion	0–127	Strength of distortion
Level	0–127	Output Level

to Contents

Saturator

This effect combines overdrive and filter.

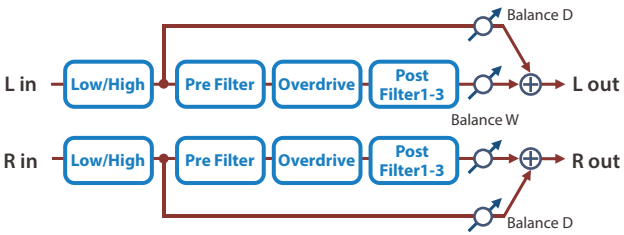


Parameter	Value	Explanation
DrvPre1 Type	THRU, LPF, HPF, LSV, HSV	Type of filter that precedes the distortion processing **THRU:** No filter is applied **LPF:** A filter that passes the sound below the specified frequency **HPF:** A filter that passes the sound above the specified frequency **LSV:** A filter that boosts/cuts the sound below the specified frequency **HSV:** A filter that boosts/cuts the sound above the specified frequency
DrvPre1 Frequency	20–16000 [Hz]	Frequency at which the pre-distortion filter operates
DrvPre1 Gain	-24.0–+24.0 [dB]	For the LSV/HSV types, the amount of boost/cut
Drive	0.0–+48.0 [dB]	Strength of distortion
DrvPost1 Type	THRU, LPF, HPF, LSV, HSV	Type of filter 1 which follows the distortion processing
DrvPost1 Frequency	20–16000 [Hz]	Frequency at which post-distortion filter 1 operates
DrvPost1 Gain	-24.0–+24.0 [dB]	For the LSV/HSV types, the amount of boost/cut
DrvPost2 Type	THRU, LPF, HPF, LSV, HSV	Type of filter 2 which follows the distortion processing
DrvPost2 Frequency	20–16000 [Hz]	Frequency at which post-distortion filter 2 operates
DrvPost2 Gain	-24.0–+24.0 [dB]	For the LSV/HSV types, the amount of boost/cut
DrvPost3 Type	THRU, LPF, HPF, BPF, PKG	Type of filter 3 which follows the distortion processing **THRU:** No filter is applied **LPF:** A filter that passes the sound below the specified frequency **HPF:** A filter that passes the sound above the specified frequency **BPF:** A filter that passes only the specified frequency **PKG:** A filter that boosts/cuts the specified frequency
DrvPost3 Frequency	20–16000 [Hz]	Frequency at which post-distortion filter 3 operates
DrvPost3 Gain	-24.0–+24.0 [dB]	For the PKG type, the amount of boost/cut
DrvPost3 Q	0.5–16.0	Width of the frequency range affected by the filter
Makeup Sense	-60.0–0.0 [dB]	Adjust this value so that the sound is not made louder when distortion is applied.
DrvPost Gain	-48.0–+12.0 [dB]	Gain following distortion processing
Drive Balance	D100: 0W–D0: 100W	Volume balance between the dry sound (D) and effect sound (W)
Level	0–127	Output Level

to Contents

Warm Saturator

This is a variety of saturator, and is distinctive for its warmer sound.

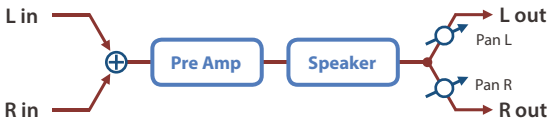


Parameter	Value	Explanation
LowFreq	20 –16000 [Hz]	Input filter (low range) Boosts/cuts the sound below the specified frequency.
LowGain	-24.0 –+24.0 [dB]	Input filter (low range) Amount of boost/cut
Hi Slope	THRU, -12dB, -24dB	Input filter (high range) Amount of attenuation per octave **THRU:** No attenuation **-12dB:** Gentle **-24dB:** Steep
Hi Freq	20 –16000 [Hz]	Input filter (high range) Amount of boost/cut
DrvPre1 Type	THRU, LPF, HPF, LSV, HSV	Type of filter that precedes the distortion processing **THRU:** No filter is applied **LPF:** A filter that passes the sound below the specified frequency **HPF:** A filter that passes the sound above the specified frequency **LSV:** A filter that boosts/cuts the sound below the specified frequency **HSV:** A filter that boosts/cuts the sound above the specified frequency
DrvPre1 Frequency	20–16000 [Hz]	Frequency at which the pre-distortion filter operates
DrvPre1 Gain	-24.0–+24.0 [dB]	For the LSV/HSV types, the amount of boost/cut
Drive	0.0–+48.0 [dB]	Strength of distortion
DrvPost1 Type	THRU, LPF, HPF, LSV, HSV	Type of filter 1 which follows the distortion processing
DrvPost1 Frequency	20–16000 [Hz]	Frequency at which post-distortion filter 1 operates
DrvPost1 Gain	-24.0–+24.0 [dB]	For the LSV/HSV types, the amount of boost/cut
DrvPost2 Type	THRU, LPF, HPF, LSV, HSV	Type of filter 2 which follows the distortion processing
DrvPost2 Frequency	20–16000 [Hz]	Frequency at which post-distortion filter 2 operates
DrvPost2 Gain	-24.0–+24.0 [dB]	For the LSV/HSV types, the amount of boost/cut
DrvPost3 Type	THRU, LPF, HPF, BPF, PKG	Type of filter 3 which follows the distortion processing **THRU:** No filter is applied **LPF:** A filter that passes the sound below the specified frequency **HPF:** A filter that passes the sound above the specified frequency **BPF:** A filter that passes only the specified frequency **PKG:** A filter that boosts/cuts the specified frequency
DrvPost3 Frequency	20–16000 [Hz]	Frequency at which post-distortion filter 3 operates
DrvPost3 Gain	-24.0–+24.0 [dB]	For the PKG type, the amount of boost/cut
DrvPost3 Q	0.5–16.0	Width of the frequency range affected by the filter
Makeup Sense	-60.0–0.0 [dB]	Adjust this value so that the sound is not made louder when distortion is applied.
DrvPost Gain	-48.0–+12.0 [dB]	Gain following distortion processing
Drive Balance	D100: 0W–D0: 100W	Volume balance between the dry sound (D) and effect sound (W)
Level	0–127	Output Level

to Contents

Guitar Amp Simulator

This is an effect that simulates the sound of a guitar amplifier.

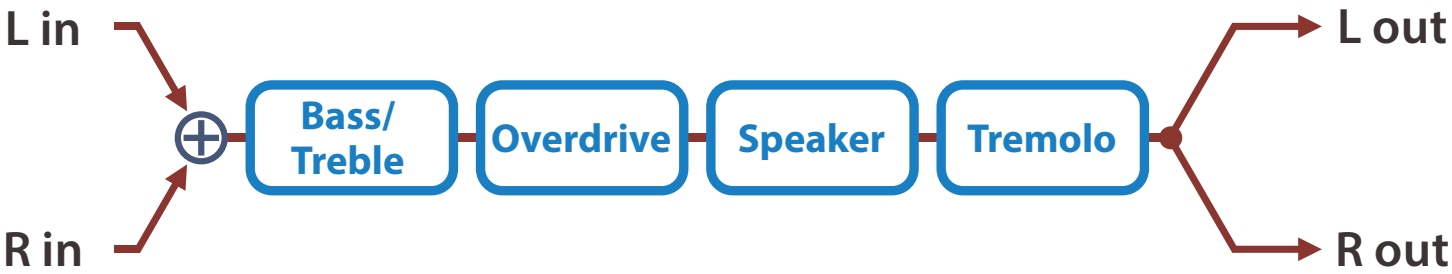


Parameter	Value	Explanation
Pre Amp Sw	OFF, ON	Turns the amp switch on/off.
Pre Amp Type		Type of guitar amp
	JC-120	This models the sound of the Roland JC-120.
	CLEAN TWIN	This models a Fender Twin Reverb.
	MATCH DRIVE	This models the sound input to left input on a Matchless D/C-30. A simulation of the latest tube amp widely used in styles from blues and rock.
	BG LEAD	This models the lead sound of the MESA/ Boogie combo amp. The sound of a tube amp typical of the late '70s to '80s.
	MS1959I	This models the sound input to Input I on a Marshall 1959. This is a trebly sound suited to hard rock.
	MS1959II	This models the sound input to Input II on a Marshall 1959.
	MS1959I+II	The sound of connecting inputs I and II of the guitar amp in parallel, creating a sound with a stronger low end than I.
	SLDN LEAD	This models a Soldano SLO-100. This is the typical sound of the eighties.
	METAL 5150	This models the lead channel of a Peavey EVH 5150.
	METAL LEAD	This is distortion sound that is ideal for performances of heavy riffs.
	OD-1	This models the sound of the BOSS OD-1. This produces sweet, mild distortion.
	OD-2 TURBO	This is the high-gain overdrive sound of the BOSS OD-2.
	DISTORTION	This gives a basic, traditional distortion sound.
	FUZZ	A fuzz sound with rich harmonic content.
Pre Amp Drive	0–127	Volume and amount of distortion of the amp
Pre Amp Master	0–127	Volume of the entire pre-amp
Pre Amp Gain	LOW, MIDDLE, HIGH	Amount of pre-amp distortion
Pre Amp Bass	0–127	Tone of the bass/mid/treble frequency range
Pre Amp Middle		
Pre Amp Treble		
Pre Amp Presence	0–127	Tone for the ultra-high frequency range
Pre Amp Bright	OFF, ON	Turning this "On" produces a sharper and brighter sound. * This parameter applies to the "JC-120", "CLEAN TWIN", "MATCH DRIVE", and "BG LEAD" Pre Amp Types.
Speaker Sw	OFF, ON	Selects whether the sound will be sent through the speaker simulation (ON) or not (OFF)
Speaker Type		Cabinet / Diameter (in inches) and number of the speaker / Microphone
	SMALL 1	small open-back enclosure / 10 / dynamic
	SMALL 2	small open-back enclosure / 10 / dynamic
	MIDDLE	open back enclosure / 12 x 1 / dynamic
	JC-120	open back enclosure / 12 x 2 / dynamic
	BUILT-IN 1	open back enclosure / 12 x 2 / dynamic
	BUILT-IN 2	open back enclosure / 12 x 2 / condenser
	BUILT-IN 3	open back enclosure / 12 x 2 / condenser
	BUILT-IN 4	open back enclosure / 12 x 2 / condenser
	BUILT-IN 5	open back enclosure / 12 x 2 / condenser
	BG STACK1	sealed enclosure / 12 x 2 / condenser
	BG STACK2	large sealed enclosure / 12 x 2 / condenser
	MS STACK1	large sealed enclosure / 12 x 4 / condenser
	MS STACK2	large sealed enclosure / 12 x 4 / condenser
	MTL STACK	large double stack / 12 x 4 / condenser
	2-STACK	large double stack / 12 x 4 / condenser
	3-STACK	large triple stack / 12 x 4 / condenser
Mic Setting	1, 2, 3	Adjusts the location of the mic that is recording the sound of the speaker. This can be adjusted in three steps, with the mic becoming more distant in the order of 1, 2, and 3.
Mic Level	0–127	Volume of the microphone
Direct Level	0–127	Volume of the direct sound
Pan	L64–63R	Stereo location of the output sound
Level	0–127	Output Level

to Contents

RD EPAmpSim

This is an effect that was developed for the RD series SuperNatural E.Piano.



Parameter	Value	Explanation
Bass	-50–+50	Amount of low-frequency boost/cut
Treble	-50–+50	Amount of high-frequency boost/cut
Tremolo Switch	OFF, ON	Tremolo on/off
Tremolo Type		Type of tremolo effect
	OLDCASE MONO	A standard electric piano sound of the early 70s (mono)
	OLDCASE STEREO	A standard electric piano sound of the early 70s (stereo)
	NEWCASE	A standard electric piano sound of the late 70s and early 80s
	DYNO	A classic modified electric piano
	WURLY	A classic electric piano of the '60s
Tremolo Speed (sync sw)	OFF, ON	Synchronize to the tempo of the DAW if this is ON.
Tremolo Speed (Hz)	0.05–10.00 [Hz]	Rate of the tremolo effect
Tremolo Speed (note)	Note ➡ **"Note"**	
Tremolo Depth	0–127	Depth of the tremolo effect
Tremolo Shape	0–20	Adjusts the waveform of the tremolo.
AMP Switch	OFF, ON	Turns the speaker and distortion on/off
Speaker Type	LINE, OLD, NEW, WURLY, TWIN	Type of speaker If LINE is selected, the sound will not be sent through the speaker simulation.
OD Drive	0–127	Degree of distortion Also changes the volume.
Level	0–127	Output Level

to Contents

Speaker Simulator

Simulates the speaker type and mic settings used to record the speaker sound.



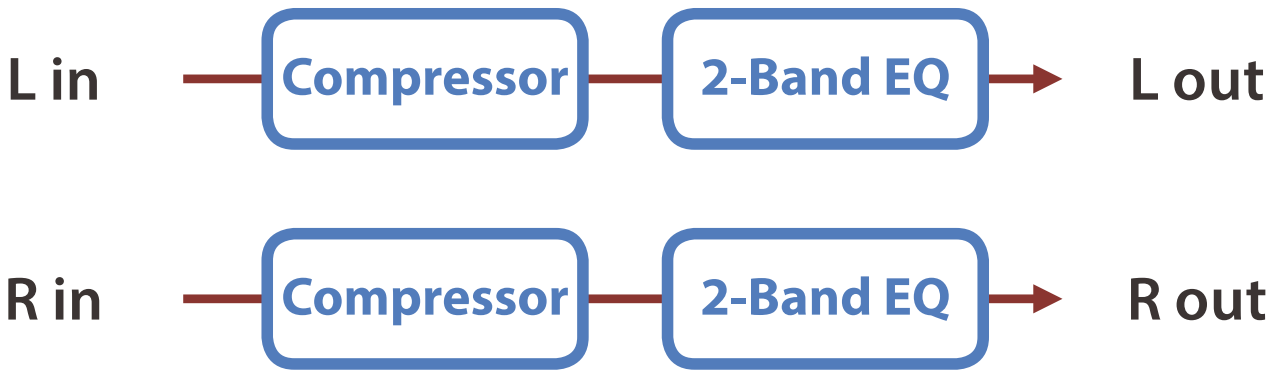
Parameter	Value	Explanation		
		Cabinet	Speaker	Microphone
Speaker Type	SMALL 1	small open-back enclosure	10	dynamic
	SMALL 2	small open-back enclosure	10	dynamic
	MIDDLE	open back enclosure	12 x 1	dynamic
	JC-120	open back enclosure	12 x 2	dynamic
	BUILT-IN 1	open back enclosure	12 x 2	dynamic
	BUILT-IN 2	open back enclosure	12 x 2	condenser
	BUILT-IN 3	open back enclosure	12 x 2	condenser
	BUILT-IN 4	open back enclosure	12 x 2	condenser
	BUILT-IN 5	open back enclosure	12 x 2	condenser
	BG STACK 1	sealed enclosure	12 x 2	condenser
	BG STACK 2	large sealed enclosure	12 x 2	condenser
	MS STACK 1	large sealed enclosure	12 x 4	condenser
	MS STACK 2	large sealed enclosure	12 x 4	condenser
	METAL STACK	large double stack	12 x 4	condenser
	2-STACK	large double stack	12 x 4	condenser
	3-STACK	large triple stack	12 x 4	condenser
Mic Setting	1, 2, 3	Adjusts the location of the mic that is recording the sound of the speaker. This can be adjusted in three steps, with the mic becoming more distant in the order of 1, 2, and 3.		
Mic Level	0–127	Volume of the microphone		
Direct Level	0–127	Volume of the direct sound		
Level	0–127	Output Level		

to Contents

COMP/LIMITER

Compressor

Flattens out high levels and boosts low levels, smoothing out fluctuations in volume.

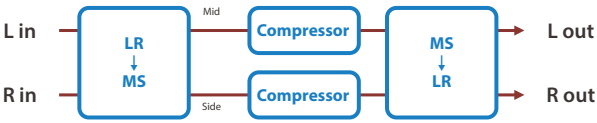


Parameter	Value	Explanation
Attack	0–124	Sets the speed at which compression starts
Release	0–124	Adjusts the time after the signal volume falls below the Threshold Level until compression is no longer applied.
Threshold	-60–0 [dB]	Adjusts the volume at which compression begins
Knee	0–30 [dB]	This is a function that smooths the onset of compression from the uncompressed state; it gradually applies compression starting earlier than Threshold. Higher values produce a smoother transition.
Ratio	1: 1, 1.5: 1, 2: 1, 4: 1, 16: 1, INF: 1	Compression ratio
Post Gain	0–+18 [dB]	Level of the output sound
Level	0–127	Output Level

to Contents

Mid-Side Compressor

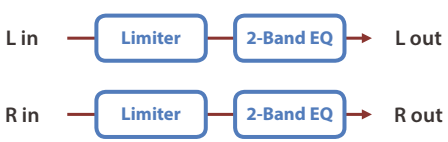
This effect allows the left/right signals that have similar phase to be adjusted to a different sense of volume than the left/right signals that have different phase.



Parameter	Value	Explanation
M Comp Switch	OFF, ON	Switches whether to adjust the sense of volume for left/right input signals whose phase is similar (in phase).
M Attack	0–124	Sets the speed at which compression starts
M Release	0–124	Adjusts the time after the signal volume falls below the Threshold Level until compression is no longer applied.
M Threshold	-60–0 [dB]	Adjusts the volume at which compression begins
M Knee	0–30 [dB]	This is a function that smooths the onset of compression from the uncompressed state; it gradually applies compression starting earlier than Threshold. Higher values produce a smoother transition.
M Ratio	1: 1, 1.5: 1, 2: 1, 4: 1, 16: 1, INF: 1	Compression ratio
M Post Gain	0–+18 [dB]	Level of the output sound
S Comp Switch	OFF, ON	Switches whether to adjust the sense of volume for left/right input signals whose phase is distant (opposite phase).
S Attack	0–124	Sets the speed at which compression starts
S Release	0–124	Adjusts the time after the signal volume falls below the Threshold Level until compression is no longer applied.
S Threshold	-60–0 [dB]	Adjusts the volume at which compression begins
S Knee	0–30 [dB]	This is a function that smooths the onset of compression from the uncompressed state; it gradually applies compression starting earlier than Threshold. Higher values produce a smoother transition.
S Ratio	1: 1, 1.5: 1, 2: 1, 4: 1, 16: 1, INF: 1	Compression ratio
S Post Gain	0–+18 [dB]	Level of the output sound
Level	0–127	Output Level

Limiter

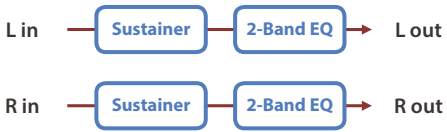
Compresses signals that exceed a specified volume level, preventing distortion from occurring.



Parameter	Value	Explanation
Release	0–127	Adjusts the time after the signal volume falls below the Threshold Level until compression is no longer applied.
Threshold	0–127	Adjusts the volume at which compression begins
Ratio	**1.5:** 1, 2: 1, 4: 1, 100: 1	Compression ratio
Post Gain	0–+18 [dB]	Level of the output sound
Low Gain	-15–+15 [dB]	Amount of boost/cut for the low-frequency range
High Gain	-15–+15 [dB]	Amount of boost/cut for the high-frequency range
Level	0–127	Output Level

Sustainer

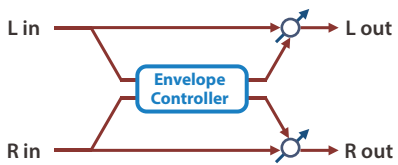
By compressing loud input and boosting low input, this effect keeps the volume consistent to produce a sustain effect without distortion.



Parameter	Value	Explanation
Sustain	0–127	Adjusts the range in which a low input signal is boosted to a consistent volume. Higher values produce longer sustain.
Attack	0–127	Time until the volume is compressed
Release	0–127	Time until compression is removed
Post Gain	-15–+15 [dB]	Level of the output sound
Low Gain	-15–+15 [dB]	Amount of boost/cut for the low-frequency range
High Gain	-15–+15 [dB]	Amount of boost/cut for the high-frequency range
Level	0–127	Output Level

Transient

This effect lets you control the way in which the sound attacks and decays.

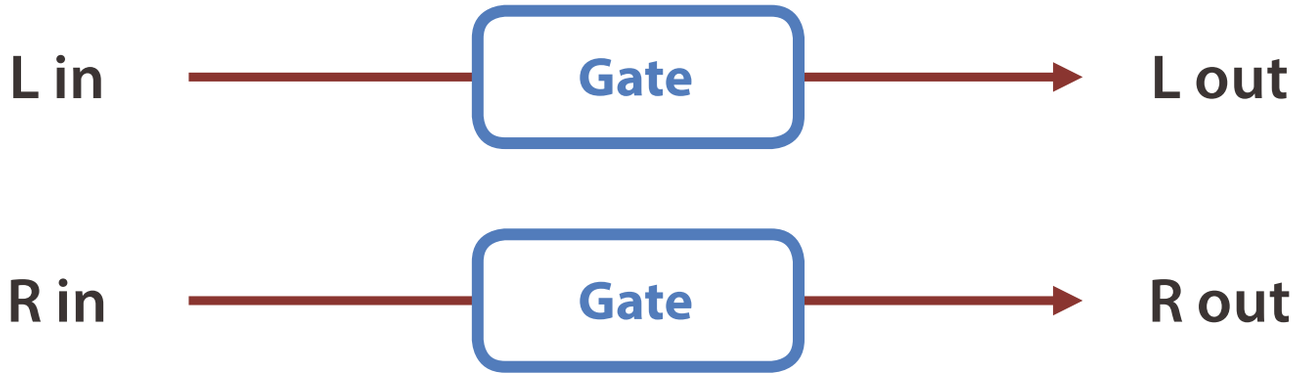


Parameter	Value	Explanation
Attack	-50–+50	Character of the attack. Higher values make the attack more aggressive; lower values make the attack milder.
Release	-50–+50	Character of the decay. Higher values make the sound linger; lower values make the sound cut off quickly.
Output Gain	-24–+12 [dB]	Output gain
Sense	LOW, MID, HIGH	Quickness with which the attack is detected
Level	0–127	Output Level

to Contents

Gate

Cuts the reverb's delay according to the volume of the sound sent into the effect. Use this when you want to create an artificial-sounding decrease in the reverb's decay.



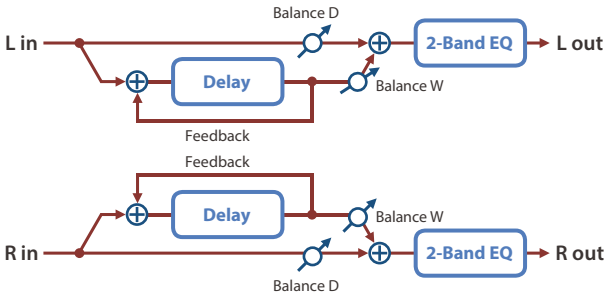
Parameter	Value	Explanation
Threshold	0–127	Volume level at which the gate begins to close
Mode	GATE, DUCK	Type of gate **GATE:** The gate will close when the volume of the original sound decreases, cutting the original sound. DUCK (Duking): The gate will close when the volume of the original sound increases, cutting the original sound.
Attack	0–127	Adjusts the time it takes for the gate to fully open after being triggered.
Hold	0–127	Adjusts the time it takes for the gate to start closing after the source sound falls beneath the Threshold.
Release	0–127	Adjusts the time it takes the gate to fully close after the hold time.
Balance	D100: 0W–D0: 100W	Volume balance between the direct sound (D) and the effect sound (W)
Level	0–127	Output Level

DELAY

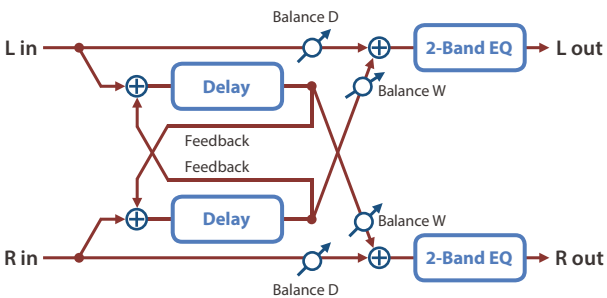
Delay

This is a stereo delay.

When Feedback Mode is NORMAL:



When Feedback Mode is CROSS:

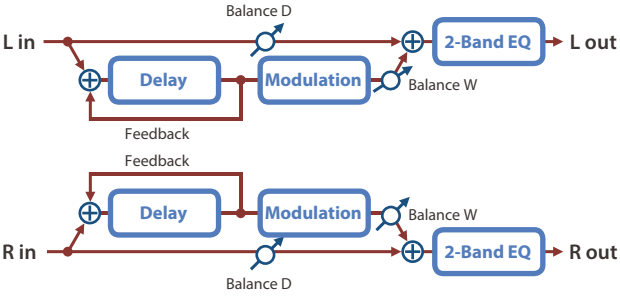


Parameter	Value	Explanation
Delay Left (sync sw)	OFF, ON	Synchronize to the tempo of the DAW if this is ON.
Delay Left (msec)	1–1300 [msec]	Adjusts the time until the left delay sound is heard.
Delay Left (note)	Note ➡ **"Note"**	
Delay Right (sync sw)	OFF, ON	Synchronize to the tempo of the DAW if this is ON.
Delay Right (msec)	1–1300 [msec]	Adjusts the time until the right delay sound is heard.
Delay Right (note)	Note ➡ **"Note"**	
Phase Left	NORMAL, INVERSE	Phase of left and right delay sound **NORMAL:** Non-inverted **INVERT:** Inverted
Phase Right		
Feedback Mode	NORMAL, CROSS	Selects the way in which delay sound is fed back into the effect. (See the figures above.)
Feedback	-98–+98 [%]	Adjusts the proportion of the delay sound that is fed back into the effect. Negative (-) settings will invert the phase.
HF Damp	200, 250, 315, 400, 500, 630, 800, 1000, 1250, 1600, 2000, 2500, 3150, 4000, 5000, 6300, 8000, BYPASS [Hz]	Adjusts the frequency above which sound fed back to the effect is filtered out. If you don't want to filter out any high frequencies, set this parameter to BYPASS.
Low Gain	-15–+15 [dB]	Amount of boost/cut for the low-frequency range
High Gain	-15–+15 [dB]	Amount of boost/cut for the high-frequency range
Balance	D100: 0W–D0: 100W	Volume balance between the direct sound (D) and the delay sound (W)
Level	0–127	Output Level

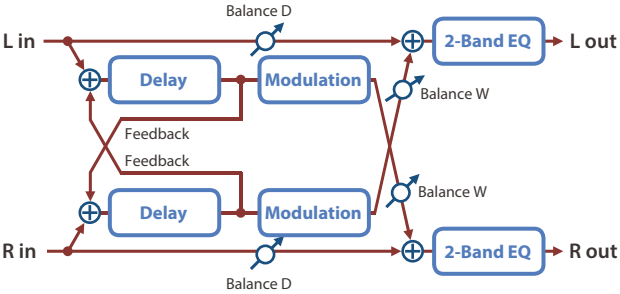
Modulation Delay

Adds modulation to the delayed sound.

When Feedback Mode is NORMAL:



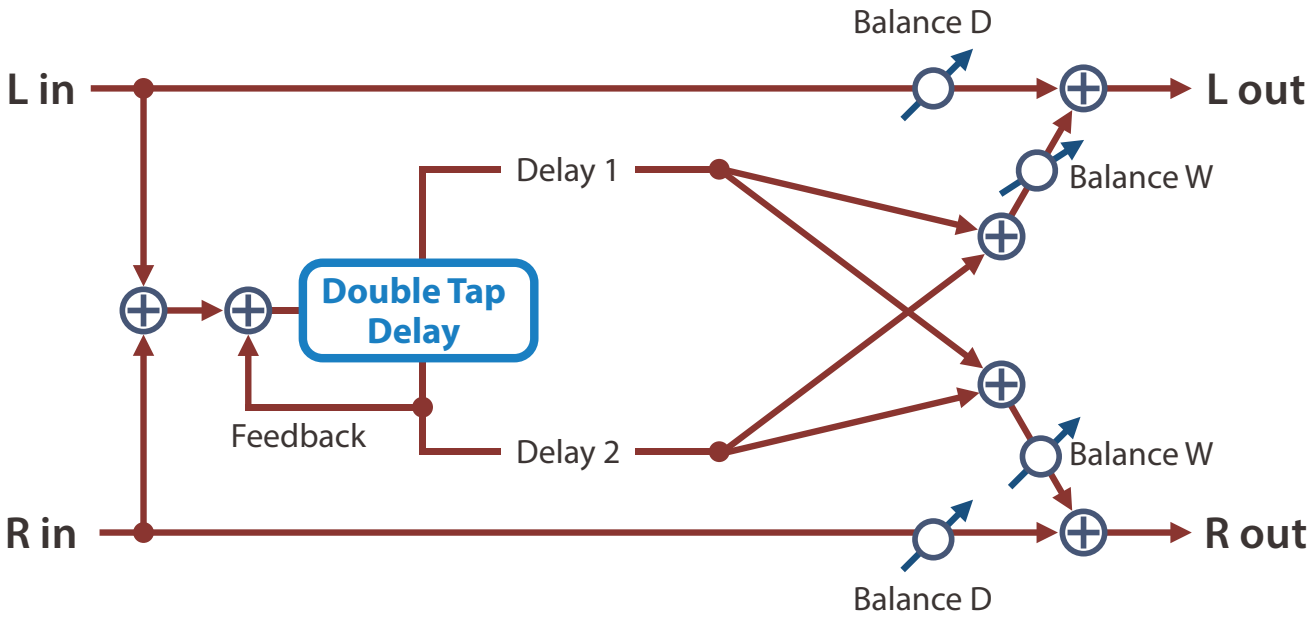
When Feedback Mode is CROSS:



Parameter	Value	Explanation
Delay Left (sync sw)	OFF, ON	Synchronize to the tempo of the DAW if this is ON.
Delay Left (msec)	1–1300 [msec]	Adjusts the time until the left delay sound is heard.
Delay Left (note)	Note ➡ "Note"	
Delay Right (sync sw)	OFF, ON	Synchronize to the tempo of the DAW if this is ON.
Delay Right (msec)	1–1300 [msec]	Adjusts the time until the right delay sound is heard.
Delay Right (note)	Note ➡ "Note"	
Feedback Mode	NORMAL, CROSS	Selects the way in which delay sound is fed back into the effect. (See the figures above.)
Feedback	-98–+98 [%]	Adjusts the proportion of the delay sound that is fed back into the effect. Negative (-) settings will invert the phase.
HF Damp	200, 250, 315, 400, 500, 630, 800, 1000, 1250, 1600, 2000, 2500, 3150, 4000, 5000, 6300, 8000, BYPASS [Hz]	Adjusts the frequency above which sound fed back to the effect is filtered out. If you don't want to filter out any high frequencies, set this parameter to BYPASS.
Rate (sync sw)	OFF, ON	Synchronize to the tempo of the DAW if this is ON.
Rate (Hz)	0.05–10.00 [Hz]	Frequency of modulation
Rate (note)	Note ➡ "Note"	
Depth	0–127	Depth of modulation
Phase	0–180 [deg]	Spatial spread of the sound
Low Gain	-15–+15 [dB]	Amount of boost/cut for the low-frequency range
High Gain	-15–+15 [dB]	Amount of boost/cut for the high-frequency range
Balance	D100: 0W–D0: 100W	Volume balance between the direct sound (D) and the delay sound (W)
Level	0–127	Output Level

to Contents

2Tap Pan Delay

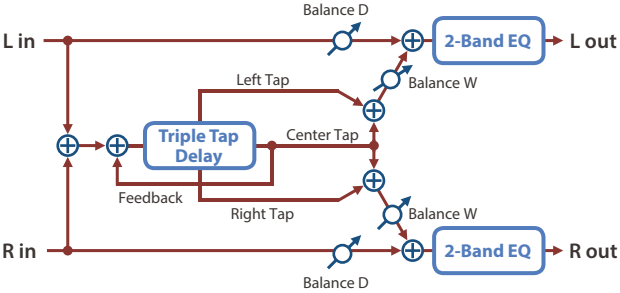


Parameter	Value	Explanation
Delay Time (sync sw)	OFF, ON	Synchronize to the tempo of the DAW if this is ON.
Delay Time (msec)	1–2600 [msec]	Adjusts the time until the second delay sound is heard.
Delay Time (note)	Note ➡ **"Note"**	
Delay Feedback	-98–+98 [%]	Adjusts the proportion of the delay sound that is fed back into the effect. Negative (-) settings will invert the phase.
Delay HF Damp	200, 250, 315, 400, 500, 630, 800, 1000, 1250, 1600, 2000, 2500, 3150, 4000, 5000, 6300, 8000, BYPASS [Hz]	Adjusts the frequency above which sound fed back to the effect is filtered out. If you don't want to filter out any high frequencies, set this parameter to BYPASS.
Delay 1 Pan	L64–63R	Stereo location of Delay 1
Delay 2 Pan	L64–63R	Stereo location of Delay 2
Delay 1 Level	0–127	Volume of delay 1
Delay 2 Level	0–127	Volume of delay 2
Low Gain	-15–+15 [dB]	Amount of boost/cut for the low-frequency range
High Gain	-15–+15 [dB]	Amount of boost/cut for the high-frequency range
Balance	D100: 0W–D0: 100W	Adjusts the volume balance between the sound that is sent through the delay (W) and the sound that is not sent through the delay (D).
Level	0–127	Output Level

to Contents

3Tap Pan Delay

Produces three delay sounds; center, left and right.

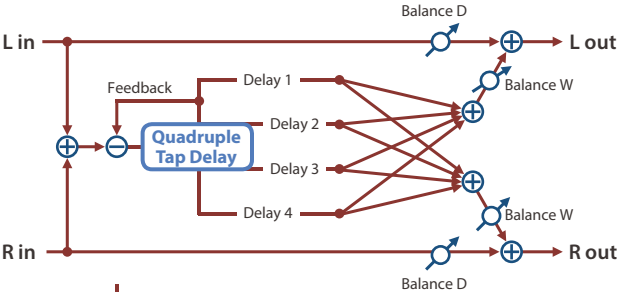


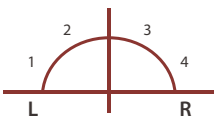
Parameter	Value	Explanation
Delay Left (sync sw)	OFF, ON	Synchronize to the tempo of the DAW if this is ON.
Delay Left (msec)	1–2600 [msec]	Adjusts the time until the left delay sound is heard.
Delay Left (note)	Note ➡ "Note"	
Delay Right (sync sw)	OFF, ON	Synchronize to the tempo of the DAW if this is ON.
Delay Right (msec)	1–2600 [msec]	Adjusts the time until the right delay sound is heard.
Delay Right (note)	Note ➡ "Note"	
Delay Center (sync sw)	OFF, ON	Synchronize to the tempo of the DAW if this is ON.
Delay Center (msec)	1–2600 [msec]	Adjusts the time until the center delay sound is heard.
Delay Center (note)	Note ➡ "Note"	
Center Feedback	-98–+98 [%]	Adjusts the proportion of the delay sound that is fed back into the effect. Negative (-) settings will invert the phase.
HF Damp	200, 250, 315, 400, 500, 630, 800, 1000, 1250, 1600, 2000, 2500, 3150, 4000, 5000, 6300, 8000, BYPASS [Hz]	Adjusts the frequency above which sound fed back to the effect is filtered out. If you don't want to filter out any high frequencies, set this parameter to BYPASS.
Left Level	0–127	Volume of each delay sound
Right Level	0–127	
Center Level	0–127	
Low Gain	-15–+15 [dB]	Amount of boost/cut for the low-frequency range
High Gain	-15–+15 [dB]	Amount of boost/cut for the high-frequency range
Balance	D100: 0W–D0: 100W	Volume balance between the direct sound (D) and the delay sound (W)
Level	0–127	Output Level

to Contents

4Tap Pan Delay

This effect has four delays.



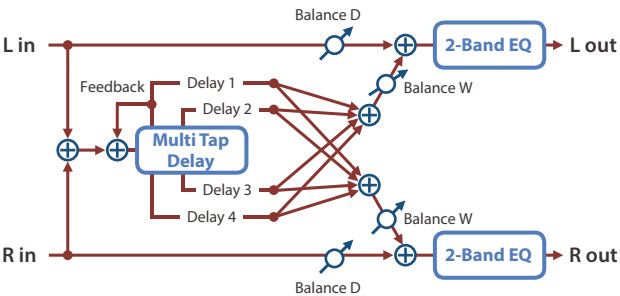


Parameter	Value	Explanation
Delay 1 Time (sync sw)	OFF, ON	Synchronize to the tempo of the DAW if this is ON.
Delay 1 Time (msec)	1–2600 [msec]	Adjusts the time from the original sound until delay 1 sounds is heard.
Delay 1 Time (note)	Note ➡ **"Note"**	
Delay 2 Time (sync sw)	OFF, ON	Synchronize to the tempo of the DAW if this is ON.
Delay 2 Time (msec)	1–2600 [msec]	Adjusts the time from the original sound until delay 2 sounds is heard.
Delay 2 Time (note)	Note ➡ **"Note"**	
Delay 3 Time (sync sw)	OFF, ON	Synchronize to the tempo of the DAW if this is ON.
Delay 3 Time (msec)	1–2600 [msec]	Adjusts the time from the original sound until delay 3 sounds is heard.
Delay 3 Time (note)	Note ➡ **"Note"**	
Delay 4 Time (sync sw)	OFF, ON	Synchronize to the tempo of the DAW if this is ON.
Delay 4 Time (msec)	1–2600 [msec]	Adjusts the time from the original sound until delay 4 sounds is heard.
Delay 4 Time (note)	Note ➡ **"Note"**	
Delay 1 Feedback	-98–+98 [%]	Adjusts the proportion of the delay sound that is fed back into the effect. Negative (-) settings will invert the phase.
HF Damp	200, 250, 315, 400, 500, 630, 800, 1000, 1250, 1600, 2000, 2500, 3150, 4000, 5000, 6300, 8000, BYPASS [Hz]	Adjusts the frequency above which sound fed back to the effect is filtered out. If you don't want to filter out any high frequencies, set this parameter to BYPASS.
Delay 1 Level	0–127	Volume of each delay
Delay 2 Level		
Delay 3 Level		
Delay 4 Level		
Low Gain	-15–+15 [dB]	Amount of boost/cut for the low-frequency range
High Gain	-15–+15 [dB]	Amount of boost/cut for the high-frequency range
Balance	D100: 0W–D0: 100W	Volume balance between the direct sound (D) and the delay sound (W)
Level	0–127	Output Level

to Contents

Multi Tap Delay

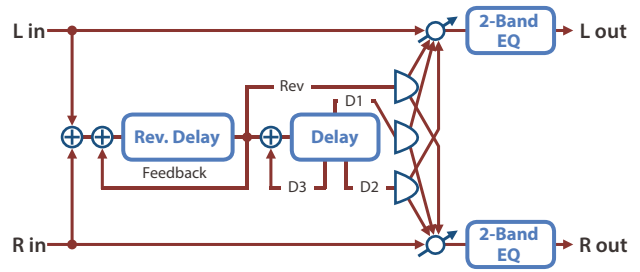
This effect provides four delays. Each of the Delay Time parameters can be set to a note length based on the selected tempo. You can also set the panning and level of each delay sound.



Parameter	Value	Explanation
Delay 1 Time (sync sw)	OFF, ON	Synchronize to the tempo of the DAW if this is ON.
Delay 1 Time (msec)	1–2600 [msec]	Adjusts the time from the original sound until delay 1 sounds is heard.
Delay 1 Time (note)	Note ➡ "Note"	
Delay 2 Time (sync sw)	OFF, ON	Synchronize to the tempo of the DAW if this is ON.
Delay 2 Time (msec)	1–2600 [msec]	Adjusts the time from the original sound until delay 2 sounds is heard.
Delay 2 Time (note)	Note ➡ "Note"	
Delay 3 Time (sync sw)	OFF, ON	Synchronize to the tempo of the DAW if this is ON.
Delay 3 Time (msec)	1–2600 [msec]	Adjusts the time from the original sound until delay 3 sounds is heard.
Delay 3 Time (note)	Note ➡ "Note"	
Delay 4 Time (sync sw)	OFF, ON	Synchronize to the tempo of the DAW if this is ON.
Delay 4 Time (msec)	1–2600 [msec]	Adjusts the time from the original sound until delay 4 sounds is heard.
Delay 4 Time (note)	Note ➡ "Note"	
Delay 1 Feedback	-98–+98 [%]	Adjusts the proportion of the delay sound that is fed back into the effect. Negative (-) settings will invert the phase.
HF Damp	200, 250, 315, 400, 500, 630, 800, 1000, 1250, 1600, 2000, 2500, 3150, 4000, 5000, 6300, 8000, BYPASS [Hz]	Adjusts the frequency above which sound fed back to the effect is filtered out. If you don't want to filter out any high frequencies, set this parameter to BYPASS.
Delay 1 Pan	L64–63R	Stereo location of Delays 1–4
Delay 2 Pan		
Delay 3 Pan		
Delay 4 Pan		
Delay 1 Level	0–127	Volume of each delay
Delay 2 Level		
Delay 3 Level		
Delay 4 Level		
Low Gain	-15–+15 [dB]	Amount of boost/cut for the low-frequency range
High Gain	-15–+15 [dB]	Amount of boost/cut for the high-frequency range
Balance	D100: 0W–D0: 100W	Volume balance between the direct sound (D) and the effect sound (W)
Level	0–127	Output Level

Reverse Delay

This is a reverse delay that adds a reversed and delayed sound to the input sound. A tap delay is connected immediately after the reverse delay.

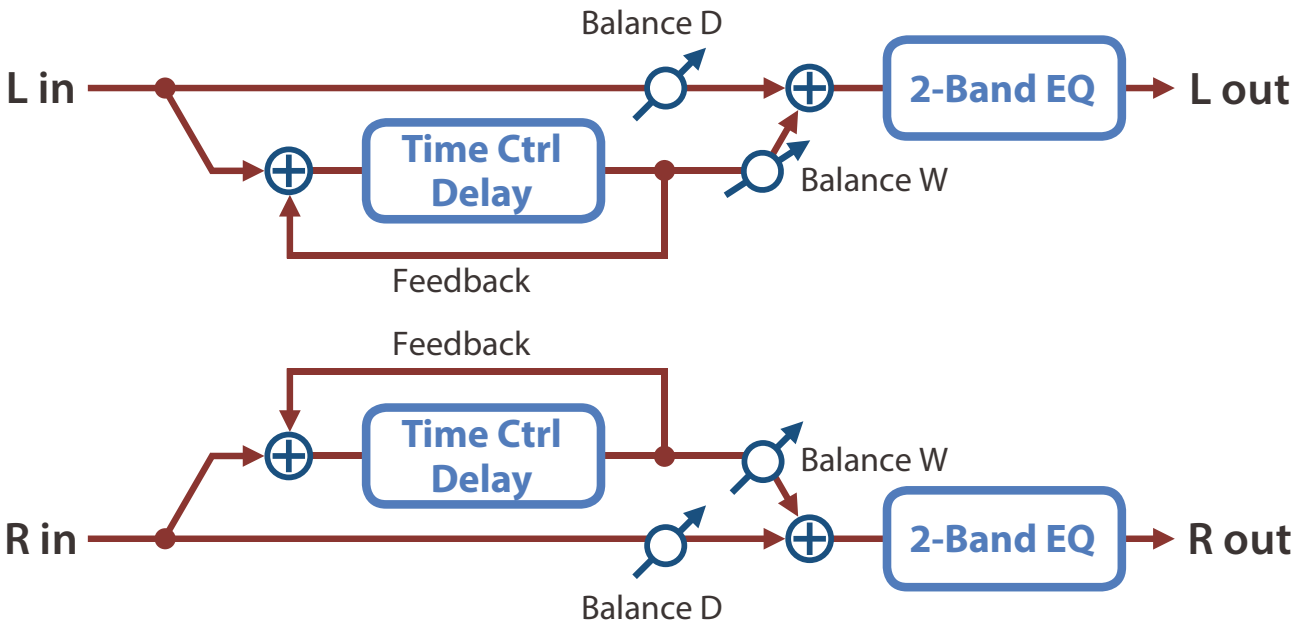


Parameter	Value	Explanation
Threshold	0–127	Volume at which the reverse delay will begin to be applied
Rev Delay Time (sync sw)	OFF, ON	Synchronize to the tempo of the DAW if this is ON.
Rev Delay Time (msec)	1–1300 [msec]	Delay time from when sound is input into the reverse delay until the delay sound is heard
Rev Delay Time (note)	Note ➡ **"Note"**	
Rev Delay Feedback	-98–+98 [%]	Proportion of the delay sound that is to be returned to the input of the reverse delay (negative (-) values invert the phase)
Rev Delay HF Damp	200, 250, 315, 400, 500, 630, 800, 1000, 1250, 1600, 2000, 2500, 3150, 4000, 5000, 6300, 8000, BYPASS [Hz]	Frequency at which the high-frequency content of the reverse-delayed sound will be cut (BYPASS: no cut)
Rev Delay Pan	L64–63R	Panning of the reverse delay sound
Rev Delay Level	0–127	Volume of the reverse delay sound
Delay 1 Time (sync sw)	OFF, ON	Synchronize to the tempo of the DAW if this is ON.
Delay 1 Time (msec)	1–1300 [msec]	Delay time from when sound is input into the tap delay until the delay sound is heard
Delay 1 Time (note)	Note ➡ **"Note"**	
Delay 2 Time (sync sw)	OFF, ON	Synchronize to the tempo of the DAW if this is ON.
Delay 2 Time (msec)	1–1300 [msec]	Delay time from when sound is input into the tap delay until the delay sound is heard
Delay 2 Time (note)	Note ➡ **"Note"**	
Delay 3 Time (sync sw)	OFF, ON	Synchronize to the tempo of the DAW if this is ON.
Delay 3 Time (msec)	1–1300 [msec]	Delay time from when sound is input into the tap delay until the delay sound is heard
Delay 3 Time (note)	Note ➡ **"Note"**	
Delay 3 Feedback	-98–+98 [%]	Proportion of the delay sound that is to be returned to the input of the tap delay (negative (-) values invert the phase)
Delay HF Damp	200, 250, 315, 400, 500, 630, 800, 1000, 1250, 1600, 2000, 2500, 3150, 4000, 5000, 6300, 8000, BYPASS [Hz]	Frequency at which the hi-frequency content of the tap delay sound will be cut (BYPASS: no cut)
Delay 1 Pan	L64–63R	Panning of the tap delay sounds
Delay 2 Pan	L64–63R	
Delay 1 Level	0–127	Volume of the tap delay sounds
Delay 2 Level	0–127	
Low Gain	-15–+15 [dB]	Amount of boost/cut for the low-frequency range
High Gain	-15–+15 [dB]	Amount of boost/cut for the high-frequency range
Balance	D100: 0W–D0: 100W	Volume balance between the direct sound (D) and the delay sound (W)
Level	0–127	Output Level

to Contents

Time Ctrl Delay

A stereo delay in which the delay time can be varied smoothly.

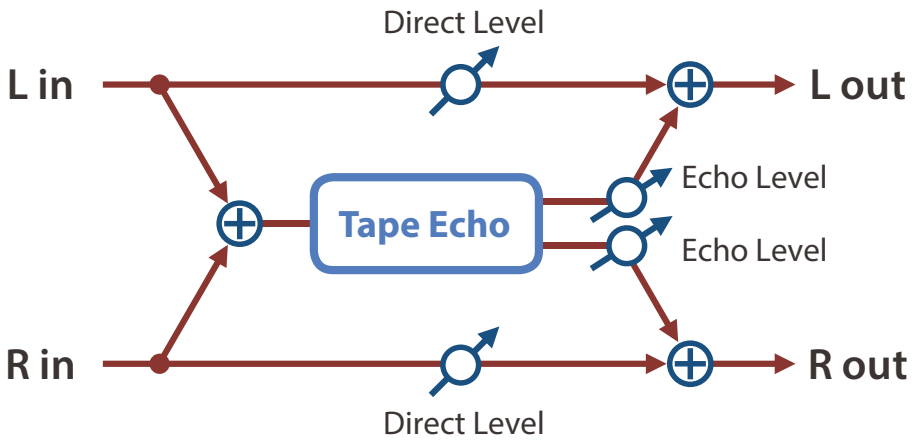


Parameter	Value	Explanation
Delay Time (sync sw)	OFF, ON	Synchronize to the tempo of the DAW if this is ON.
Delay Time (msec)	1–1300 [msec]	Adjusts the delay time from the direct sound until the delay sound is heard.
Delay Time (note)	Note ➡ **"Note"**	
Acceleration	0–15	Adjusts the speed which the Delay Time changes from the current setting to a specified new setting. The rate of change for the Delay Time directly affects the rate of pitch change.
Feedback	-98–+98 [%]	Adjusts the proportion of the delay sound that is fed back into the effect. Negative (-) settings will invert the phase.
HF Damp	200, 250, 315, 400, 500, 630, 800, 1000, 1250, 1600, 2000, 2500, 3150, 4000, 5000, 6300, 8000, BYPASS [Hz]	Adjusts the frequency above which sound fed back to the effect is filtered out. If you don't want to filter out any high frequencies, set this parameter to BYPASS.
Low Gain	-15–+15 [dB]	Amount of boost/cut for the low-frequency range
High Gain	-15–+15 [dB]	Amount of boost/cut for the high-frequency range
Balance	D100: 0W–D0: 100W	Volume balance between the direct sound (D) and the delay sound (W)
Level	0–127	Output Level

to Contents

Tape Echo

A virtual tape echo that produces a realistic tape delay sound. This simulates the tape echo section of a Roland RE-201 Space Echo.

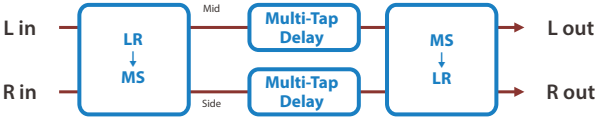


Parameter	Value	Explanation
Mode	S, M, L, S+M, S+L, M+L, S+M+L	Combination of playback heads to use Select from three different heads with different delay times. **S:** short **M:** middle **L:** long
Repeat Rate	0–127	Tape speed Increasing this value will shorten the spacing of the delayed sounds.
Intensity	0–127	Amount of delay repeats
Bass	-15–+15 [dB]	Boost/cut for the lower range of the echo sound
Treble	-15–+15 [dB]	Boost/cut for the upper range of the echo sound
Head S Pan	L64–63R	Independent panning for the short, middle, and long playback heads
Head M Pan	L64–63R	
Head L Pan	L64–63R	
Tape Distortion	0–5	Amount of tape-dependent distortion to be added This simulates the slight tonal changes that can be detected by signal-analysis equipment. Increasing this value will increase the distortion.
W/F Rate	0–127	Speed of wow/flutter (complex variation in pitch caused by tape wear and rotational irregularity)
W/F Depth	0–127	Depth of wow/flutter
Echo Level	0–127	Volume of the echo sound
Direct Level	0–127	Volume of the original sound
Level	0–127	Output Level

to Contents

Mid-Side Delay

This effect applies different amounts of delay to left/right signals of similar phase and differing phase.



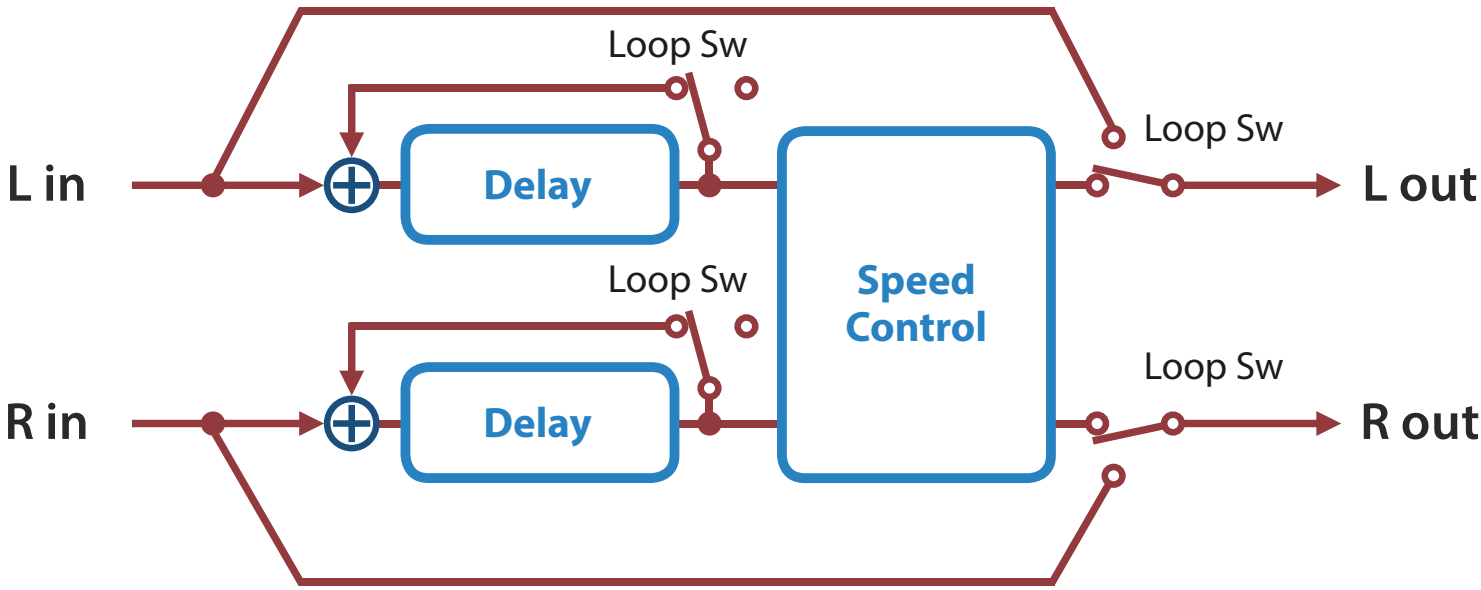
Parameter	Value	Explanation
M Delay Level	0–127	Delay volume of left/right input signals whose phase is similar (in phase)
M Delay Mode	2Tap, 3Tap, 4Tap	Delay divisions for the input signals whose left/right phase is similar (identical phase)
M Delay Time (sync sw)	OFF, ON	Synchronize to the tempo of the DAW if this is ON.
M Delay Time (msec)	1–1300 [msec]	Adjusts the delay time from the direct sound until the delay sound is heard.
M Delay Time (note)	Note ➡ **"Note"**	
M Delay 1 Feedback	-98–+98 [%]	Adjusts the proportion of the delay sound that is fed back into the effect. Negative (-) settings will invert the phase.
M HF Damp	200, 250, 315, 400, 500, 630, 800, 1000, 1250, 1600, 2000, 2500, 3150, 4000, 5000, 6300, 8000, BYPASS [Hz]	Adjusts the frequency above which sound fed back to the effect is filtered out. If you don't want to filter out any high frequencies, set this parameter to BYPASS.
M Delay 1 Pan	L64–63R	Panning of the first delay sound
M Delay 2 Pan		Panning of the second delay sound
M Delay 3 Pan		Panning of the third delay sound
M Delay 4 Pan		Panning of the fourth delay sound
S Delay Level	0–127	Delay volume of left/right input signals whose phase is distant (opposite phase)
S Delay Mode	2Tap, 3Tap, 4Tap	Delay divisions for the input signals whose left/right phase is distant (reverse phase)
S Delay Time (sync sw)	OFF, ON	Synchronize to the tempo of the DAW if this is ON.
S Delay Time (msec)	1–1300 [msec]	Adjusts the delay time from the direct sound until the delay sound is heard.
S Delay Time (note)	Note ➡ **"Note"**	
S Delay 1 Feedback	-98–+98 [%]	Adjusts the proportion of the delay sound that is fed back into the effect. Negative (-) settings will invert the phase.
S HF Damp	200, 250, 315, 400, 500, 630, 800, 1000, 1250, 1600, 2000, 2500, 3150, 4000, 5000, 6300, 8000, BYPASS [Hz]	Adjusts the frequency above which sound fed back to the effect is filtered out. If you don't want to filter out any high frequencies, set this parameter to BYPASS.
S Delay 1 Pan	L64–63R	Panning of the first delay sound
S Delay 2 Pan		Panning of the second delay sound
S Delay 3 Pan		Panning of the third delay sound
S Delay 4 Pan		Panning of the fourth delay sound
Level	0–127	Output Level

to Contents

LOOPER

DJFX Looper

Loops a short portion of the input sound. You can vary the playback direction and playback speed of the input sound to add turntable-type effects.

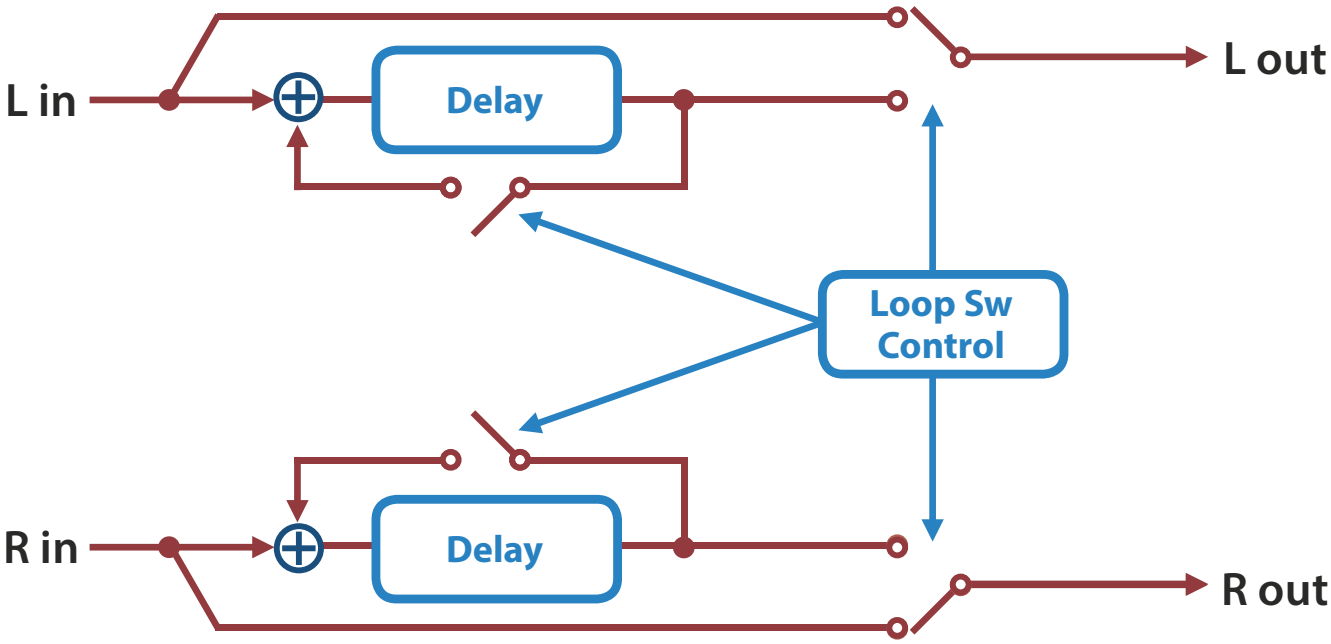


Parameter	Value	Explanation
Length	0–127	Specifies the length of the loop.
Speed	-1.00–+1.00	Specifies the playback direction and playback speed. **- direction:** Reverse playback **+ direction:** Normal playback **0:** Stop playback As the value moves away from 0, the playback speed becomes faster.
Loop Sw	OFF, ON	If you turn this on while the sound is heard, the sound at that point will be looped. Turn this off to cancel the loop. * If the effect is recalled with this ON, this parameter must be turned OFF and then turned ON again in order to make the loop operate.
Level	0–127	Output Level

to Contents

BPM Looper

Loops a short portion of the input sound. This can automatically turn the loop on/off in synchronization with the rhythm.



Parameter	Value	Explanation
Length	0–127	Specifies the length of the loop.
Rate (sync sw)	OFF, ON	Synchronize to the tempo of the DAW if this is ON.
Rate Hz	0.05–10.00 [Hz]	Cycle at which the loop automatically turns on/off
Rate Note	Note ➡ **"Note"**	
On Timing	1–8	Specifies the timing within the cycle at which the loop automatically starts (which step of the eight timing divisions at which the sound is heard)
On Length	1–8	Specifies the length at which the loop automatically ends within the cycle (the number of times that the 1/8-length of sound is heard)
Loop Mode	OFF, AUTO, ON	If this is AUTO, the loop automatically turns on/off in synchronization with the rhythm. * If the effect is recalled with this ON, this parameter must first be set to something other than ON in order to make the loop operate.
Level	0–127	Output Level

LO-FI

LOFI Compress

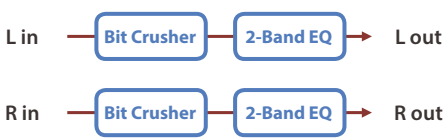
Degrades the sound quality.



Parameter	Value	Explanation
Pre Filter Type	1, 2, 3, 4, 5, 6	Selects the type of filter applied to the sound before it passes through the Lo-Fi effect. **1:** Compressor off **2–6:** Compressor on
LoFi Type	1, 2, 3, 4, 5, 6, 7, 8, 9	Degrades the sound quality. The sound quality grows poorer as this value is increased.
Post Filter Type	OFF, LPF, HPF	Type of filter **OFF:** No filter is used **LPF:** Cuts the frequency range above the Cutoff Freq **HPF:** Cuts the frequency range below the Cutoff Freq
Post Filter Cutoff	200, 250, 315, 400, 500, 630, 800, 1000, 1250, 1600, 2000, 2500, 3150, 4000, 5000, 6300, 8000 [Hz]	Basic frequency of the Post Filter
Low Gain	-15–+15 [dB]	Amount of boost/cut for the low-frequency range
High Gain	-15–+15 [dB]	Amount of boost/cut for the high-frequency range
Balance	D100: 0W–D0: 100W	Volume balance between the direct sound (D) and the effect sound (W)
Level	0–127	Output Level

Bit Crusher

Produces an extreme lo-fi effect.

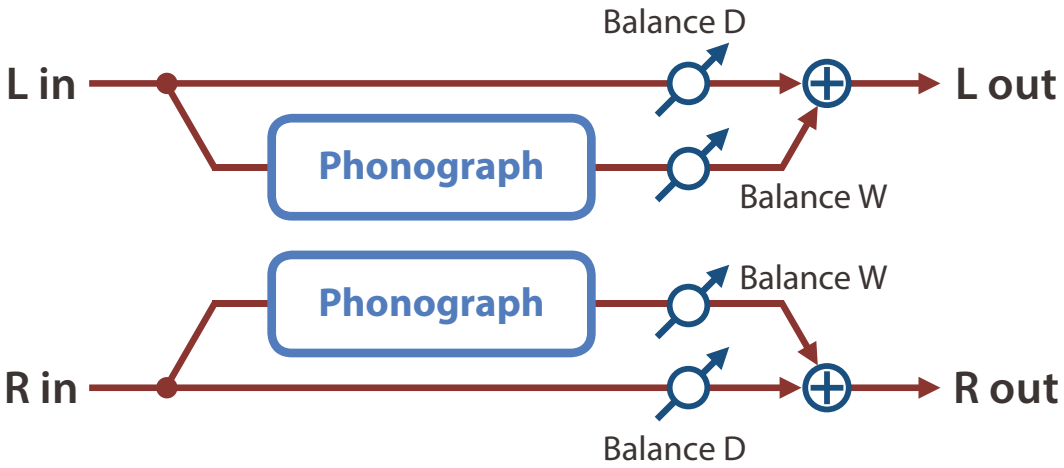


Parameter	Value	Explanation
Sample Rate	0–127	Adjusts the sample rate.
Bit Down	0–20	Adjusts the bit depth.
Filter	0–127	Adjusts the filter depth.
Low Gain	-15–+15 [dB]	Amount of boost/cut for the low-frequency range
High Gain	-15–+15 [dB]	Amount of boost/cut for the high-frequency range
Level	0–127	Output Level

to Contents

Phonograph

Recreates the sound of an analog record being played on a record player. This lets you simulate the unique noises produced when a record is played, as well as the variations that occur when the record spins.

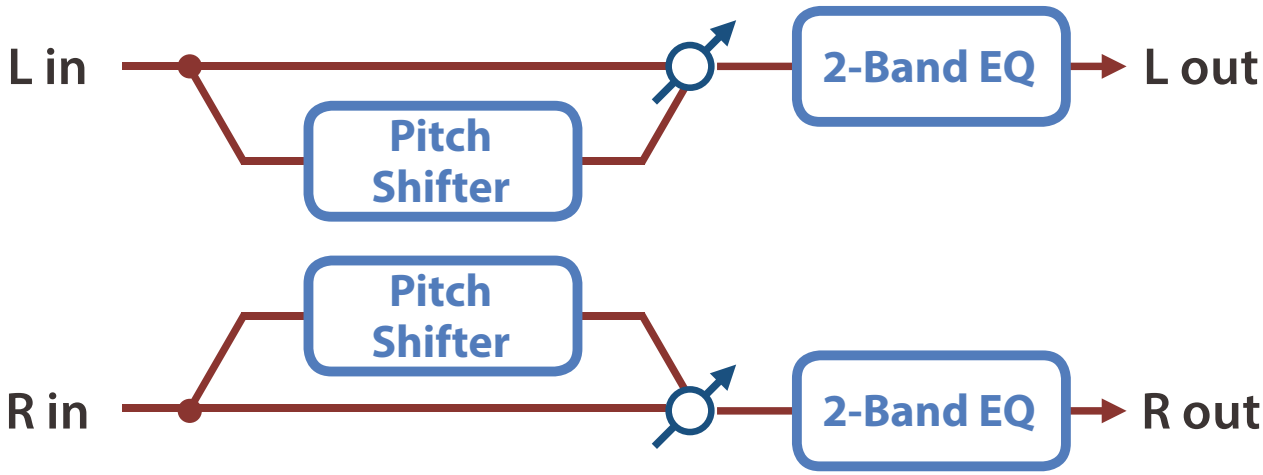


Parameter	Value	Explanation
Signal Distortion	0–127	Sets the amount of distortion.
Frequency Range	0–127	Sets the frequency characteristics of the playback system. Smaller values create the feeling of an older system with narrow frequency bands.
Disc Type	LP, EP, SP	Sets the turntable rotation speed. This has an effect on the scratch noise cycle.
Scratch Noise	0–127	Sets the volume of noise created by scratches in the record.
Dust Noise Level	0–127	Sets the volume of noise created by dust on the record.
Hiss Noise Level	0–127	Sets the volume of continuous hiss noise.
Total Noise Level	0–127	Sets the volume of noise overall.
Wow	0–127	Sets the amount of variation in record spin (long cycle).
Flutter	0–127	Sets the amount of variation in record spin (short cycle).
Random	0–127	Sets the amount of non-cyclical variation in record spin.
Total Wow/Flutter	0–127	Sets the volume of variation in record spin overall.
Balance	D100: 0W –D0: 100W	Sets the volume balance between the original sound (D) and the effect sound (W).
Level	0–127	Sets the output volume.

PITCH

Pitch Shifter

A stereo pitch shifter.

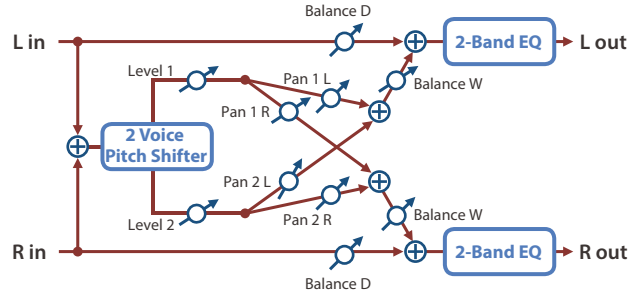


Parameter	Value	Explanation
Coarse	-24–+12 [semi]	Adjusts the pitch of the pitch shifted sound in semitone steps.
Fine	-100–+100 [cent]	Adjusts the pitch of the pitch shifted sound in 2-cent steps.
Delay Time (sync sw)	OFF, ON	Synchronize to the tempo of the DAW if this is ON.
Delay Time (msec)	1–1300 [msec]	Adjusts the time from the original sound until pitch shifted sounds is heard.
Delay Time (note)	Note ➡ **"Note"**	
Feedback	-98–+98 [%]	Adjusts the proportion of the pitch shifted sound that is fed back into the effect. Negative (-) settings will invert the phase.
Low Gain	-15–+15 [dB]	Amount of boost/cut for the low-frequency range
High Gain	-15–+15 [dB]	Amount of boost/cut for the high-frequency range
Balance	D100: 0W–D0: 100W	Volume balance between the direct sound (D) and the pitch shifted sound (W)
Level	0–127	Output Level

to Contents

2Voice Pitch Shifter

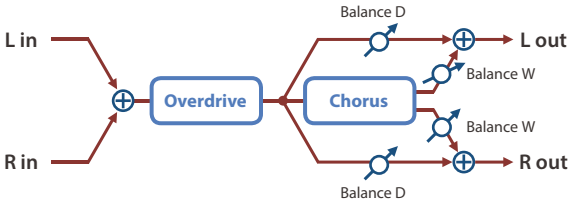
Shifts the pitch of the original sound. This 2-voice pitch shifter has two pitch shifters, and can add two pitch shifted sounds to the original sound.



Parameter	Value	Explanation
Pitch1 Coarse	-24–+12 [semi]	Adjusts the pitch of Pitch Shift 1 in semitone steps.
Pitch1 Fine	-100–+100 [cent]	Adjusts the pitch of Pitch Shift Pitch 1 in 2-cent steps.
Pitch1 Delay (sync sw)	OFF, ON	Synchronize to the tempo of the DAW if this is ON.
Pitch1 Delay (msec)	1–1300 [msec]	Adjusts the delay time from the direct sound until the Pitch Shift 1 sound is heard.
Pitch1 Delay (note)	Note ➡ **"Note"**	
Pitch1 Feedback	-98–+98 [%]	Adjusts the proportion of the pitch shifted sound that is fed back into the effect. Negative (-) settings will invert the phase.
Pitch1 Pan	L64–63R	Stereo location of the Pitch Shift 1 sound
Pitch1 Level	0–127	Volume of the Pitch Shift 1 sound
Pitch2 Coarse	-24–+12 [semi]	Settings of the Pitch Shift 2 sound. The parameters are the same as for the Pitch Shift 1 sound.
Pitch2 Fine	-100–+100 [cent]	
Pitch2 Delay (sync sw)	OFF, ON	
Pitch2 Delay (msec)	1–1300 [msec]	
Pitch2 Delay (note)	Note ➡ **"Note"**	
Pitch2 Feedback	-98–+98 [%]	
Pitch2 Pan	L64–63R	
Pitch2 Level	0–127	
Low Gain	-15–+15 [dB]	Amount of boost/cut for the low-frequency range
High Gain	-15–+15 [dB]	Amount of boost/cut for the high-frequency range
Balance	D100: 0W–D0: 100W	Volume balance between the direct sound (D) and the pitch shifted sound (W)
Level	0–127	Output Level

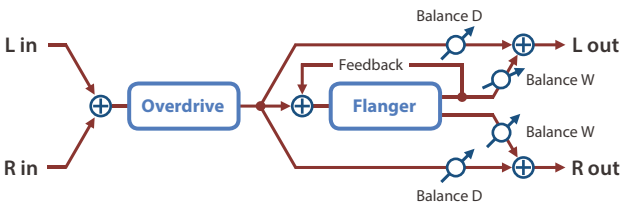
COMBINATION

Overdrive → Chorus



Parameter	Value	Explanation
Overdrive Drive	0–127	Degree of distortion Also changes the volume.
Overdrive Pan	L64–63R	Stereo location of the overdrive sound
Chorus Pre Delay	0.0–100 [msec]	Adjusts the time from the original sound until chorus sounds is heard.
Chorus Rate (sync sw)	OFF, ON	Synchronize to the tempo of the DAW if this is ON.
Chorus Rate (Hz)	0.05–10.00 [Hz]	Frequency of modulation
Chorus Rate (note)	Note ➡ **"Note"**	
Chorus Depth	0–127	Depth of modulation
Chorus Balance	D100: 0W–D0: 100W	Adjusts the volume balance between the sound that is sent through the chorus (W) and the sound that is not sent through the chorus (D).
Level	0–127	Output Level

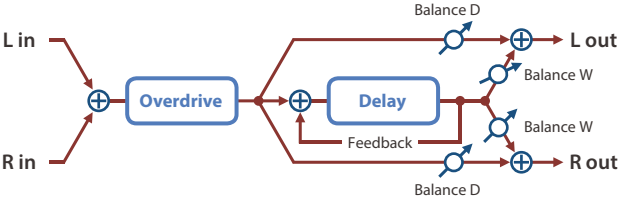
Overdrive → Flanger



Parameter	Value	Explanation
Overdrive Drive	0–127	Degree of distortion Also changes the volume.
Overdrive Pan	L64–63R	Stereo location of the overdrive sound
Flanger Pre Delay	0.0–100 [msec]	Adjusts the time from the original sound until flanger sounds is heard.
Flanger Rate (sync sw)	OFF, ON	Synchronize to the tempo of the DAW if this is ON.
Flanger Rate (Hz)	0.05–10.00 [Hz]	Frequency of modulation
Flanger Rate (note)	Note ➡ **"Note"**	
Flanger Depth	0–127	Depth of modulation
Flanger Feedback	-98–+98 [%]	Adjusts the proportion of the flanger sound that is fed back into the effect. Negative (-) settings will invert the phase.
Flanger Balance	D100: 0W–D0: 100W	Adjusts the volume balance between the sound that is sent through the flanger (W) and the sound that is not sent through the flanger (D).
Level	0–127	Output Level

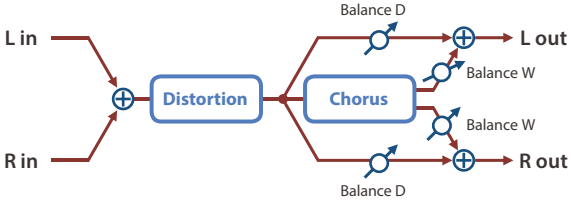
to Contents

Overdrive → Delay



Parameter	Value	Explanation
Overdrive Drive	0–127	Degree of distortion Also changes the volume.
Overdrive Pan	L64–63R	Stereo location of the overdrive sound
Delay Time (sync sw)	OFF, ON	Synchronize to the tempo of the DAW if this is ON.
Delay Time (msec)	1–2600 [msec]	Adjusts the time from the original sound until delay sounds is heard.
Delay Time (note)	Note ➡ "Note"	
Delay Feedback	-98–+98 [%]	Adjusts the proportion of the delay sound that is fed back into the effect. Negative (-) settings will invert the phase.
Delay HF Damp	200, 250, 315, 400, 500, 630, 800, 1000, 1250, 1600, 2000, 2500, 3150, 4000, 5000, 6300, 8000, BYPASS [Hz]	Adjusts the frequency above which sound fed back to the effect will be cut. If you do not want to cut the high frequencies, set this parameter to BYPASS.
Delay Balance	D100: 0W–D0: 100W	Adjusts the volume balance between the sound that is sent through the delay (W) and the sound that is not sent through the delay (D).
Level	0–127	Output Level

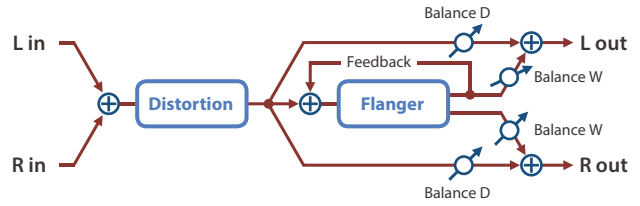
Distortion → Chorus



Parameter	Value	Explanation
Distortion Drive	0–127	Degree of distortion Also changes the volume.
Distortion Pan	L64–63R	Stereo location of the overdrive sound
Chorus Pre Delay	0.0–100 [msec]	Adjusts the time from the original sound until chorus sounds is heard.
Chorus Rate (sync sw)	OFF, ON	Synchronize to the tempo of the DAW if this is ON.
Chorus Rate (Hz)	0.05–10.00 [Hz]	Frequency of modulation
Chorus Rate (note)	Note ➡ "Note"	
Chorus Depth	0–127	Depth of modulation
Chorus Balance	D100: 0W–D0: 100W	Adjusts the volume balance between the sound that is sent through the chorus (W) and the sound that is not sent through the chorus (D).
Level	0–127	Output Level

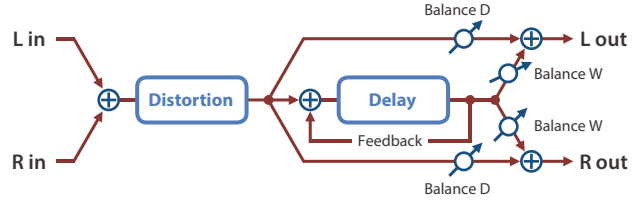
to Contents

Distortion → Flanger



Parameter	Value	Explanation
Distortion Drive	0–127	Degree of distortion Also changes the volume.
Distortion Pan	L64–63R	Stereo location of the overdrive sound
Flanger Pre Delay	0.0–100 [msec]	Adjusts the time from the original sound until flanger sounds is heard.
Flanger Rate (sync sw)	OFF, ON	Synchronize to the tempo of the DAW if this is ON.
Flanger Rate (Hz)	0.05–10.00 [Hz]	Frequency of modulation
Flanger Rate (note)	Note ➡ "Note"	
Flanger Depth	0–127	Depth of modulation
Flanger Feedback	-98–+98 [%]	Adjusts the proportion of the flanger sound that is fed back into the effect. Negative (-) settings will invert the phase.
Flanger Balance	D100: 0W–D0: 100W	Adjusts the volume balance between the sound that is sent through the flanger (W) and the sound that is not sent through the flanger (D).
Level	0–127	Output Level

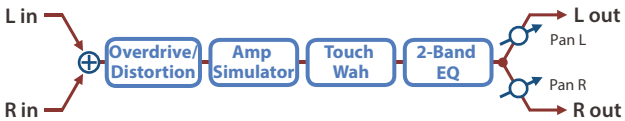
Distortion → Delay



Parameter	Value	Explanation
Distortion Drive	0–127	Degree of distortion Also changes the volume.
Distortion Pan	L64–63R	Stereo location of the overdrive sound
Delay Time (sync sw)	OFF, ON	Synchronize to the tempo of the DAW if this is ON.
Delay Time (msec)	1–2600 [msec]	Adjusts the time from the original sound until delay sounds is heard.
Delay Time (note)	Note ➡ "Note"	
Delay Feedback	-98–+98 [%]	Adjusts the proportion of the delay sound that is fed back into the effect. Negative (-) settings will invert the phase.
Delay HF Damp	200, 250, 315, 400, 500, 630, 800, 1000, 1250, 1600, 2000, 2500, 3150, 4000, 5000, 6300, 8000, BYPASS [Hz]	Adjusts the frequency above which sound fed back to the effect will be cut. If you do not want to cut the high frequencies, set this parameter to BYPASS.
Delay Balance	D100: 0W–D0: 100W	Adjusts the volume balance between the sound that is sent through the delay (W) and the sound that is not sent through the delay (D).
Level	0–127	Output Level

to Contents

OD/DS → TouchWah



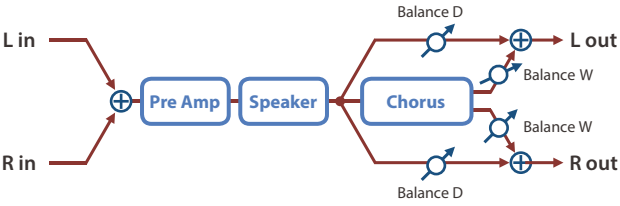
Parameter	Value	Explanation
Drive Switch	OFF, ON	Turns overdrive/distortion on/off
Drive Type	OVERDRIVE, DISTORTION	Type of distortion
Drive	0–127	Degree of distortion Also changes the volume.
Tone	0–127	Sound quality of the Overdrive effect
Amp Switch	OFF, ON	Turns the Amp Simulator on/off.
Amp Type	SMALL, BUILT-IN, 2-STACK, 3-STACK	Type of guitar amp **SMALL:** Small amp **BUILT-IN:** Single-unit type amp **2-STACK:** Large double stack amp **3-STACK:** Large triple stack amp
TWah Switch	OFF, ON	Wah on/off
TWah Mode	LPF, BPF	Filter type **LPF:** The wah effect will be applied over a wide frequency range. **BPF:** The wah effect will be applied over a narrow frequency range.
TWah Polarity	DOWN, UP	Direction in which the filter will move **UP:** The filter will change toward a higher frequency. **DOWN:** The filter will change toward a lower frequency.
TWah Sens	0–127	Sensitivity with which the filter is modified
TWah Manual	0–127	Center frequency at which the wah effect is applied
TWah Peak	0–127	Width of the frequency region at which the wah effect is applied Increasing this value will make the frequency region narrower.
TWah Balance	D100: 0W–D0: 100W	Adjusts the volume balance between the sound that is sent through the wah (W) and the sound that is not sent through the wah (D).
Low Gain	-15–+15 [dB]	Amount of boost/cut for the low-frequency range
High Gain	-15–+15 [dB]	Amount of boost/cut for the high-frequency range
Level	0–127	Output Level

OD/DS → AutoWah



Parameter	Value	Explanation
Drive Switch	OFF, ON	Turns overdrive/distortion on/off
Drive Type	OVERDRIVE, DISTORTION	Type of distortion
Drive	0–127	Degree of distortion Also changes the volume.
Tone	0–127	Sound quality of the Overdrive effect
Amp Switch	OFF, ON	Turns the Amp Simulator on/off.
Amp Type	SMALL, BUILT-IN, 2-STACK, 3-STACK	Type of guitar amp **SMALL:** Small amp **BUILT-IN:** Single-unit type amp **2-STACK:** Large double stack amp **3-STACK:** Large triple stack amp
AutoWah Switch	OFF, ON	Wah on/off
AutoWah Mode	LPF, BPF	Filter type **LPF:** The wah effect will be applied over a wide frequency range. **BPF:** The wah effect will be applied over a narrow frequency range.
AutoWah Manual	0–127	Center frequency at which the wah effect is applied
AutoWah Peak	0–127	Width of the frequency region at which the wah effect is applied Increasing this value will make the frequency region narrower.
AutoWah Rate (sync sw)	OFF, ON	Synchronize to the tempo of the DAW if this is ON.
AutoWah Rate (Hz)	0.05–10.00 [Hz]	Frequency of modulation
AutoWah Rate (note)	Note ➡ **"Note"**	
AutoWah Depth	0–127	Depth at which the wah effect is modulated
AutoWah Balance	D100: 0W–D0: 100W	Adjusts the volume balance between the sound that is sent through the wah (W) and the sound that is not sent through the wah (D).
Low Gain	-15–+15 [dB]	Amount of boost/cut for the low-frequency range
High Gain	-15–+15 [dB]	Amount of boost/cut for the high-frequency range
Level	0–127	Output Level

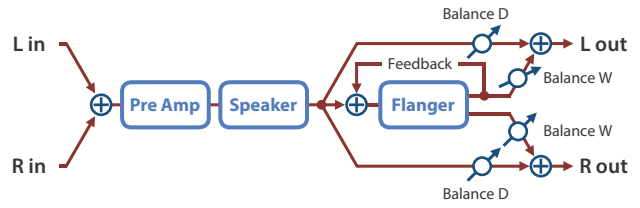
GtAmpSim → Chorus



Parameter	Value	Explanation		
Pre Amp Sw	OFF, ON	Turns the amp switch on/off.		
Pre Amp Type		Type of guitar amp		
	JC-120	This models the sound of the Roland JC-120.		
	CLEAN TWIN	This models a Fender Twin Reverb.		
	MATCH DRIVE	This models the sound input to left input on a Matchless D/C-30. A simulation of the latest tube amp widely used in styles from blues and rock.		
	BG LEAD	This models the lead sound of the MESA/ Boogie combo amp. The sound of a tube amp typical of the late '70s to '80s.		
	MS1959I	This models the sound input to Input I on a Marshall 1959. This is a trebly sound suited to hard rock.		
	MS1959II	This models the sound input to Input II on a Marshall 1959.		
	MS1959I+II	The sound of connecting inputs I and II of the guitar amp in parallel, creating a sound with a stronger low end than I.		
	SLDN LEAD	This models a Soldano SLO-100. This is the typical sound of the eighties.		
	METAL 5150	This models the lead channel of a Peavey EVH 5150.		
	METAL LEAD	This is distortion sound that is ideal for performances of heavy riffs.		
	OD-1	This models the sound of the BOSS OD-1. This produces sweet, mild distortion.		
	OD-2 TURBO	This is the high-gain overdrive sound of the BOSS OD-2.		
	DISTORTION	This gives a basic, traditional distortion sound.		
	FUZZ	A fuzz sound with rich harmonic content.		
Pre Amp Drive	0–127	Volume and amount of distortion of the amp		
Pre Amp Master	0–127	Volume of the entire pre-amp		
Pre Amp Gain	LOW, MIDDLE, HIGH	Amount of pre-amp distortion		
Pre Amp Bass	0–127	Tone of the bass/mid/treble frequency range		
Pre Amp Middle	0–127			
Pre Amp Treble	0–127			
Speaker Sw	OFF, ON	Selects whether the sound will be sent through the speaker simulation (ON) or not (OFF)		
Speaker Type		Cabinet	Diameter (in inches) and number of the speaker	Microphone
	SMALL 1	small open-back enclosure	10	dynamic
	SMALL 2	small open-back enclosure	10	dynamic
	MIDDLE	open back enclosure	12 x 1	dynamic
	JC-120	open back enclosure	12 x 2	dynamic
	BUILT-IN1	open back enclosure	12 x 2	dynamic
	BUILT-IN2	open back enclosure	12 x 2	condenser
	BUILT-IN3	open back enclosure	12 x 2	condenser
	BUILT-IN4	open back enclosure	12 x 2	condenser
	BUILT-IN5	open back enclosure	12 x 2	condenser
	BG STACK1	sealed enclosure	12 x 2	condenser
	BG STACK2	large sealed enclosure	12 x 2	condenser
	MS STACK1	large sealed enclosure	12 x 4	condenser
	MS STACK2	large sealed enclosure	12 x 4	condenser
	MTL STACK	large double stack	12 x 4	condenser
	2-STACK	large double stack	12 x 4	condenser
	3-STACK	large triple stack	12 x 4	condenser
Chorus Switch	OFF, ON	Chorus on/off		
Chorus Pre Delay	0.0–100 [msec]	Adjusts the time from the original sound until chorus sounds is heard.		
Chorus Rate (Hz)	0.05–10.00 [Hz]	Frequency of modulation		
Chorus Depth	0–127	Depth of modulation		
Chorus Balance	D100: 0W–D0: 100W	Adjusts the volume balance between the sound that is sent through the chorus (W) and the sound that is not sent through the chorus (D).		
Level	0–127	Output Level		

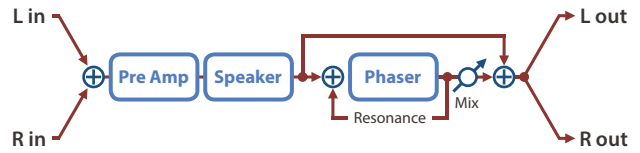
to Contents

GtAmpSim → Flanger



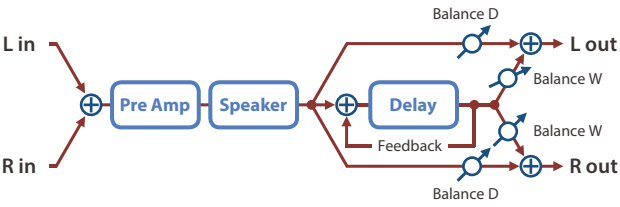
Parameter	Value	Explanation		
Pre Amp Sw	OFF, ON	Turns the amp switch on/off.		
Pre Amp Type		Type of guitar amp		
	JC-120	This models the sound of the Roland JC-120.		
	CLEAN TWIN	This models a Fender Twin Reverb.		
	MATCH DRIVE	This models the sound input to left input on a Matchless D/C-30. A simulation of the latest tube amp widely used in styles from blues and rock.		
	BG LEAD	This models the lead sound of the MESA/ Boogie combo amp. The sound of a tube amp typical of the late '70s to '80s.		
	MS1959I	This models the sound input to Input I on a Marshall 1959. This is a trebly sound suited to hard rock.		
	MS1959II	This models the sound input to Input II on a Marshall 1959.		
	MS1959I+II	The sound of connecting inputs I and II of the guitar amp in parallel, creating a sound with a stronger low end than I.		
	SLDN LEAD	This models a Soldano SLO-100. This is the typical sound of the eighties.		
	METAL 5150	This models the lead channel of a Peavey EVH 5150.		
	METAL LEAD	This is distortion sound that is ideal for performances of heavy riffs.		
	OD-1	This models the sound of the BOSS OD-1. This produces sweet, mild distortion.		
	OD-2 TURBO	This is the high-gain overdrive sound of the BOSS OD-2.		
	DISTORTION	This gives a basic, traditional distortion sound.		
	FUZZ	A fuzz sound with rich harmonic content.		
Pre Amp Drive	0–127	Volume and amount of distortion of the amp		
Pre Amp Master	0–127	Volume of the entire pre-amp		
Pre Amp Gain	LOW, MIDDLE, HIGH	Amount of pre-amp distortion		
Pre Amp Bass	0–127	Tone of the bass/mid/treble frequency range		
Pre Amp Middle	0–127			
Pre Amp Treble	0–127			
Speaker Sw	OFF, ON	Selects whether the sound will be sent through the speaker simulation (ON) or not (OFF)		
Speaker Type		Cabinet	Diameter (in inches) and number of the speaker	Microphone
	SMALL 1	small open-back enclosure	10	dynamic
	SMALL 2	small open-back enclosure	10	dynamic
	MIDDLE	open back enclosure	12 x 1	dynamic
	JC-120	open back enclosure	12 x 2	dynamic
	BUILT-IN1	open back enclosure	12 x 2	dynamic
	BUILT-IN2	open back enclosure	12 x 2	condenser
	BUILT-IN3	open back enclosure	12 x 2	condenser
	BUILT-IN4	open back enclosure	12 x 2	condenser
	BUILT-IN5	open back enclosure	12 x 2	condenser
	BG STACK1	sealed enclosure	12 x 2	condenser
	BG STACK2	large sealed enclosure	12 x 2	condenser
	MS STACK1	large sealed enclosure	12 x 4	condenser
	MS STACK2	large sealed enclosure	12 x 4	condenser
	MTL STACK	large double stack	12 x 4	condenser
	2-STACK	large double stack	12 x 4	condenser
	3-STACK	large triple stack	12 x 4	condenser
Flanger Switch	OFF, ON	Flanger on/off		
Flanger Pre Delay	0.0–100 [msec]	Adjusts the time from the original sound until flanger sounds is heard.		
Flanger Rate (Hz)	0.05–10.00 [Hz]	Frequency of modulation		
Flanger Depth	0–127	Depth of modulation		
Flanger Feedback	-98–+98 [%]	Adjusts the proportion of the flanger sound that is fed back into the effect. Negative (-) settings will invert the phase.		
Flanger Balance	D100: 0W–D0: 100W	Adjusts the volume balance between the sound that is sent through the flanger (W) and the sound that is not sent through the flanger (D).		
Level	0–127	Output Level		

GtAmpSim → Phaser



Parameter	Value	Explanation
Pre Amp Sw	OFF, ON	Turns the amp switch on/off.
Pre Amp Type		Type of guitar amp
	JC-120	This models the sound of the Roland JC-120.
	CLEAN TWIN	This models a Fender Twin Reverb.
	MATCH DRIVE	This models the sound input to left input on a Matchless D/C-30. A simulation of the latest tube amp widely used in styles from blues and rock.
	BG LEAD	This models the lead sound of the MESA/ Boogie combo amp. The sound of a tube amp typical of the late '70s to '80s.
	MS1959I	This models the sound input to Input I on a Marshall 1959. This is a trebly sound suited to hard rock.
	MS1959II	This models the sound input to Input II on a Marshall 1959.
	MS1959I+II	The sound of connecting inputs I and II of the guitar amp in parallel, creating a sound with a stronger low end than I.
	SLDN LEAD	This models a Soldano SLO-100. This is the typical sound of the eighties.
	METAL 5150	This models the lead channel of a Peavey EVH 5150.
	METAL LEAD	This is distortion sound that is ideal for performances of heavy riffs.
	OD-1	This models the sound of the BOSS OD-1. This produces sweet, mild distortion.
	OD-2 TURBO	This is the high-gain overdrive sound of the BOSS OD-2.
	DISTORTION	This gives a basic, traditional distortion sound.
	FUZZ	A fuzz sound with rich harmonic content.
Pre Amp Drive	0–127	Volume and amount of distortion of the amp
Pre Amp Master	0–127	Volume of the entire pre-amp
Pre Amp Gain	LOW, MIDDLE, HIGH	Amount of pre-amp distortion
Pre Amp Bass	0–127	Tone of the bass/mid/treble frequency range
Pre Amp Middle	0–127	
Pre Amp Treble	0–127	
Speaker Sw	OFF, ON	Selects whether the sound will be sent through the speaker simulation (ON) or not (OFF)
Speaker Type		Cabinet / Diameter (in inches) and number of the speaker / Microphone
	SMALL 1	small open-back enclosure / 10 / dynamic
	SMALL 2	small open-back enclosure / 10 / dynamic
	MIDDLE	open back enclosure / 12 x 1 / dynamic
	JC-120	open back enclosure / 12 x 2 / dynamic
	BUILT-IN1	open back enclosure / 12 x 2 / dynamic
	BUILT-IN2	open back enclosure / 12 x 2 / condenser
	BUILT-IN3	open back enclosure / 12 x 2 / condenser
	BUILT-IN4	open back enclosure / 12 x 2 / condenser
	BUILT-IN5	open back enclosure / 12 x 2 / condenser
	BG STACK1	sealed enclosure / 12 x 2 / condenser
	BG STACK2	large sealed enclosure / 12 x 2 / condenser
	MS STACK1	large sealed enclosure / 12 x 4 / condenser
	MS STACK2	large sealed enclosure / 12 x 4 / condenser
	MTL STACK	large double stack / 12 x 4 / condenser
	2-STACK	large double stack / 12 x 4 / condenser
	3-STACK	large triple stack / 12 x 4 / condenser
Phaser Switch	OFF, ON	Phaser on/off
Phaser Rate (Hz)	0.05–10.00 [Hz]	Frequency of modulation
Phaser Manual	0–127	Adjusts the basic frequency from which the sound will be modulated.
Phaser Depth	0–127	Depth of modulation
Phaser Resonance	0–127	Amount of feedback
Phaser Mix	0–127	Level of the phase-shifted sound
Level	0–127	Output Level

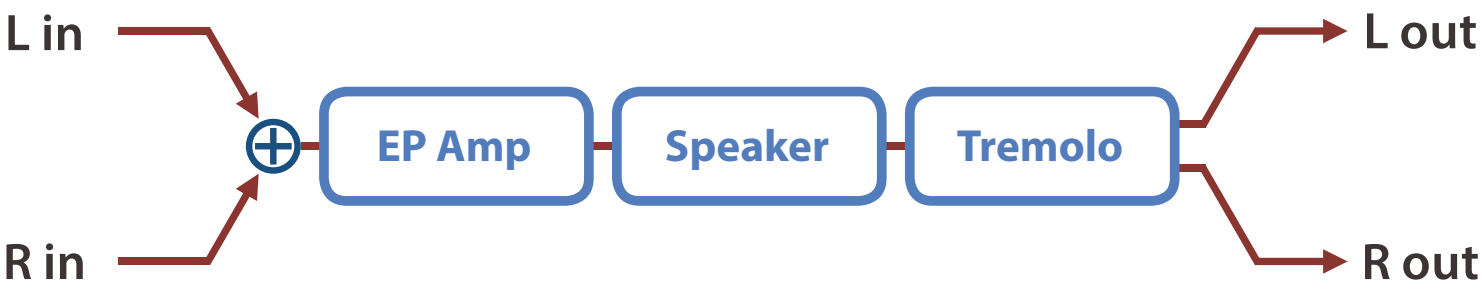
GtAmpSim → Delay



Parameter	Value	Explanation
Pre Amp Sw	OFF, ON	Turns the amp switch on/off.
Pre Amp Type		Type of guitar amp
	JC-120	This models the sound of the Roland JC-120.
	CLEAN TWIN	This models a Fender Twin Reverb.
	MATCH DRIVE	This models the sound input to left input on a Matchless D/C-30. A simulation of the latest tube amp widely used in styles from blues and rock.
	BG LEAD	This models the lead sound of the MESA/ Boogie combo amp. The sound of a tube amp typical of the late '70s to '80s.
	MS1959I	This models the sound input to Input I on a Marshall 1959. This is a trebly sound suited to hard rock.
	MS1959II	This models the sound input to Input II on a Marshall 1959.
	MS1959I+II	The sound of connecting inputs I and II of the guitar amp in parallel, creating a sound with a stronger low end than I.
	SLDN LEAD	This models a Soldano SLO-100. This is the typical sound of the eighties.
	METAL 5150	This models the lead channel of a Peavey EVH 5150.
	METAL LEAD	This is distortion sound that is ideal for performances of heavy riffs.
	OD-1	This models the sound of the BOSS OD-1. This produces sweet, mild distortion.
	OD-2 TURBO	This is the high-gain overdrive sound of the BOSS OD-2.
	DISTORTION	This gives a basic, traditional distortion sound.
	FUZZ	A fuzz sound with rich harmonic content.
Pre Amp Drive	0–127	Volume and amount of distortion of the amp
Pre Amp Master	0–127	Volume of the entire pre-amp
Pre Amp Gain	LOW, MIDDLE, HIGH	Amount of pre-amp distortion
Pre Amp Bass	0–127	Tone of the bass/mid/treble frequency range
Pre Amp Middle	0–127	
Pre Amp Treble	0–127	
Speaker Sw	OFF, ON	Selects whether the sound will be sent through the speaker simulation (ON) or not (OFF)
Speaker Type		Cabinet / Diameter (in inches) and number of the speaker / Microphone
	SMALL 1	small open-back enclosure / 10 / dynamic
	SMALL 2	small open-back enclosure / 10 / dynamic
	MIDDLE	open back enclosure / 12 x 1 / dynamic
	JC-120	open back enclosure / 12 x 2 / dynamic
	BUILT-IN1	open back enclosure / 12 x 2 / dynamic
	BUILT-IN2	open back enclosure / 12 x 2 / condenser
	BUILT-IN3	open back enclosure / 12 x 2 / condenser
	BUILT-IN4	open back enclosure / 12 x 2 / condenser
	BUILT-IN5	open back enclosure / 12 x 2 / condenser
	BG STACK1	sealed enclosure / 12 x 2 / condenser
	BG STACK2	large sealed enclosure / 12 x 2 / condenser
	MS STACK1	large sealed enclosure / 12 x 4 / condenser
	MS STACK2	large sealed enclosure / 12 x 4 / condenser
	MTL STACK	large double stack / 12 x 4 / condenser
	2-STACK	large double stack / 12 x 4 / condenser
	3-STACK	large triple stack / 12 x 4 / condenser
Delay Switch	OFF, ON	Delay on/off
Delay Time	1–1300 [msec]	Adjusts the time from the original sound until delay sounds is heard.
Delay Feedback	-98–+98 [%]	Adjusts the proportion of the delay sound that is fed back into the effect. Negative (-) settings will invert the phase.
Delay HF Damp	200, 250, 315, 400, 500, 630, 800, 1000, 1250, 1600, 2000, 2500, 3150, 4000, 5000, 6300, 8000, BYPASS [Hz]	Frequency at which the high-frequency portion of the delay sound will be cut (BYPASS: no cut)
Delay Balance	D100: 0W–D0: 100W	Adjusts the volume balance between the sound that is sent through the delay (W) and the sound that is not sent through the delay (D).
Level	0–127	Output Level

to Contents

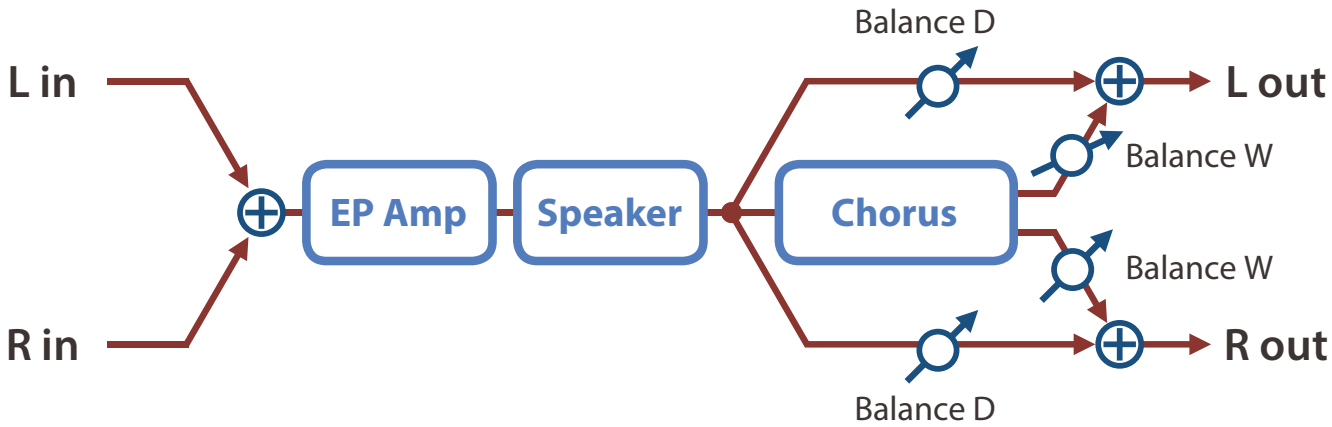
EPAmpSim → Tremolo



Parameter	Value	Explanation
Type		Type of amp
	OLDCASE	A standard electric piano sound of the early 70s
	NEWCASE	A standard electric piano sound of the late 70s and early 80s
	WURLY	A standard electric piano sound of the 60s
Bass	-50–+50	Amount of low-frequency boost/cut
Treble	-50–+50	Amount of high-frequency boost/cut
Tremolo Switch	OFF, ON	Tremolo on/off
Tremolo Speed (sync sw)	OFF, ON	Synchronize to the tempo of the DAW if this is ON.
Tremolo Speed (Hz)	0.05–10.00 [Hz]	Rate of the tremolo effect
Tremolo Speed (note)	Note ➡ **"Note"**	
Tremolo Depth	0–127	Depth of the tremolo effect
Tremolo Duty	-10–+10	Adjusts the duty cycle of the LFO waveform used to apply tremolo.
Speaker Type	LINE, OLD, NEW, WURLY, TWIN	Type of speaker If LINE is selected, the sound will not be sent through the speaker simulation.
OD Switch	OFF, ON	Overdrive on/off
OD Gain	0–127	Overdrive input level
OD Drive	0–127	Degree of distortion Also changes the volume.
Level	0–127	Output Level

to Contents

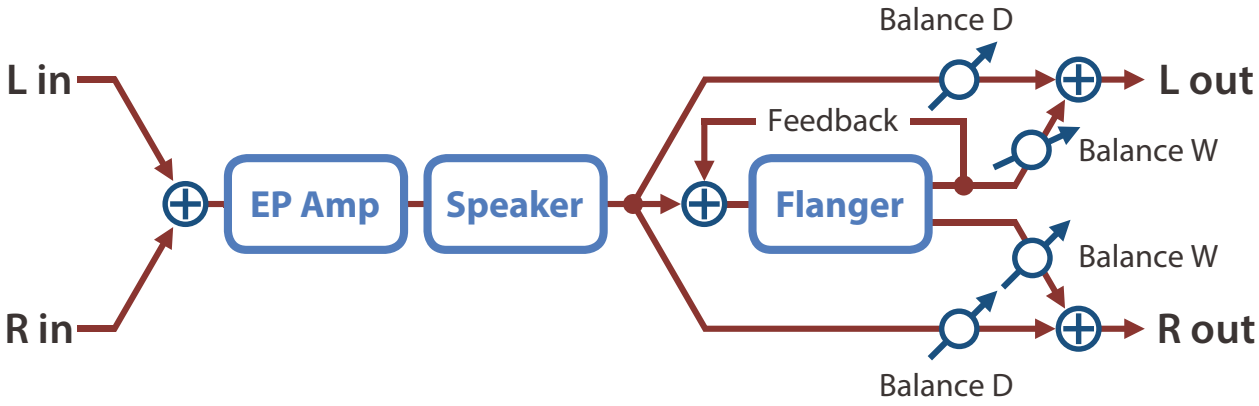
EPAmpSim → Chorus



Parameter	Value	Explanation
Type		Type of amp
	OLDCASE	A standard electric piano sound of the early 70s
	NEWCASE	A standard electric piano sound of the late 70s and early 80s
Bass	-50–+50	Amount of low-frequency boost/cut
Treble	-50–+50	Amount of high-frequency boost/cut
Chorus Switch	OFF, ON	Chorus on/off
Chorus Pre Delay	0.0–100 [msec]	Adjusts the time from the original sound until chorus sounds is heard.
Chorus Rate (sync sw)	OFF, ON	Synchronize to the tempo of the DAW if this is ON.
Chorus Rate (Hz)	0.05–10.00 [Hz]	Frequency of modulation
Chorus Rate (note)	Note ➡ **"Note"**	
Chorus Depth	0–127	Depth of modulation
Chorus Balance	D100: 0W–D0: 100W	Adjusts the volume balance between the sound that is sent through the chorus (W) and the sound that is not sent through the chorus (D).
Speaker Type	LINE, OLD, NEW, WURLY, TWIN	Type of speaker If LINE is selected, the sound will not be sent through the speaker simulation.
OD Switch	OFF, ON	Overdrive on/off
OD Gain	0–127	Overdrive input level
OD Drive	0–127	Degree of distortion Also changes the volume.
Level	0–127	Output Level

to Contents

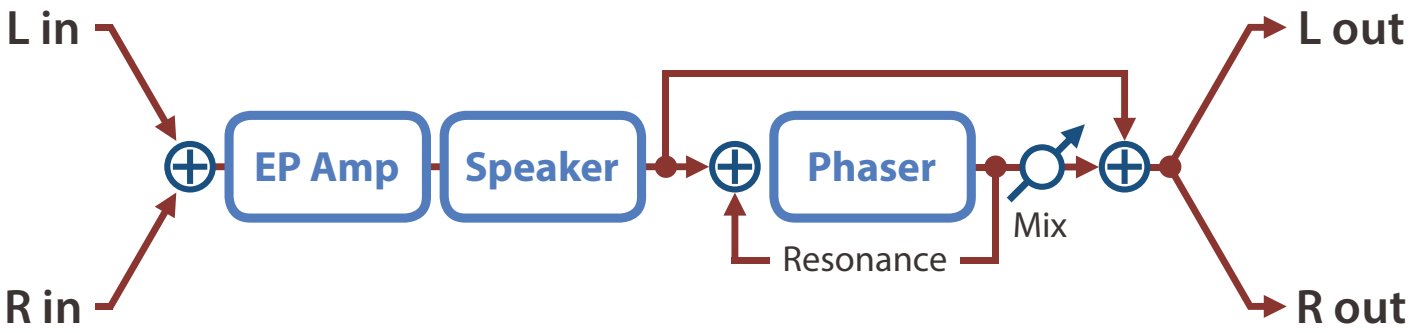
EPAmpSim → Flanger



Parameter	Value	Explanation
Type		Type of amp
	OLDCASE	A standard electric piano sound of the early 70s
	NEWCASE	A standard electric piano sound of the late 70s and early 80s
Bass	-50–+50	Amount of low-frequency boost/cut
Treble	-50–+50	Amount of high-frequency boost/cut
Flanger Switch	OFF, ON	Flanger on/off
Flanger Pre Delay	0.0–100 [msec]	Adjusts the time from the original sound until flanger sounds is heard.
Flanger Rate (sync sw)	OFF, ON	Synchronize to the tempo of the DAW if this is ON.
Flanger Rate (Hz)	0.05–10.00 [Hz]	Frequency of modulation
Flanger Rate (note)	Note ➡ **"Note"**	
Flanger Depth	0–127	Depth of modulation
Flanger Feedback	-98–+98 [%]	Adjusts the proportion of the flanger sound that is fed back into the effect. Negative (-) settings will invert the phase.
Flanger Balance	D100: 0W–D0: 100W	Adjusts the volume balance between the sound that is sent through the flanger (W) and the sound that is not sent through the flanger (D).
Speaker Type	LINE, OLD, NEW, WURLY, TWIN	Type of speaker If LINE is selected, the sound will not be sent through the speaker simulation.
OD Switch	OFF, ON	Overdrive on/off
OD Gain	0–127	Overdrive input level
OD Drive	0–127	Degree of distortion Also changes the volume.
Level	0–127	Output Level

to Contents

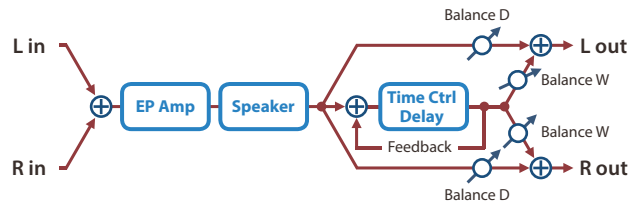
EPAmpSim → Phaser



Parameter	Value	Explanation
Type		Type of amp
	OLDCASE	A standard electric piano sound of the early 70s
	NEWCASE	A standard electric piano sound of the late 70s and early 80s
Bass	-50–+50	Amount of low-frequency boost/cut
Treble	-50–+50	Amount of high-frequency boost/cut
Phaser Switch	OFF, ON	Phaser on/off
Phaser Rate (sync sw)	OFF, ON	Synchronize to the tempo of the DAW if this is ON.
Phaser Rate (Hz)	0.05–10.00 [Hz]	Frequency of modulation
Phaser Rate (note)	Note ➡ "Note"	
Phaser Manual	0–127	Adjusts the basic frequency from which the sound will be modulated.
Phaser Depth	0–127	Depth of modulation
Phaser Resonance	0–127	Amount of feedback
Phaser Mix	0–127	Level of the phase-shifted sound
Speaker Type	LINE, OLD, NEW, WURLY, TWIN	Type of speaker If LINE is selected, the sound will not be sent through the speaker simulation.
OD Switch	OFF, ON	Overdrive on/off
OD Gain	0–127	Overdrive input level
OD Drive	0–127	Degree of distortion Also changes the volume.
Level	0–127	Output Level

to Contents

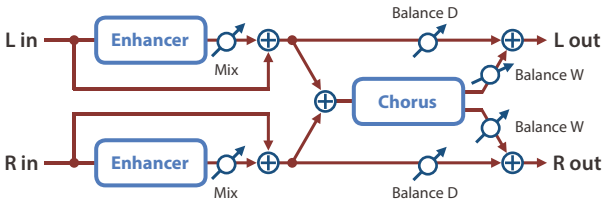
EPAmpSim → Delay



Parameter	Value	Explanation
Type		Type of amp
	OLDCASE	A standard electric piano sound of the early 70s
	NEWCASE	A standard electric piano sound of the late 70s and early 80s
Bass	-50–+50	Amount of low-frequency boost/cut
Treble	-50–+50	Amount of high-frequency boost/cut
Delay Switch	OFF, ON	Delay on/off
Delay Time (sync sw)	OFF, ON	Synchronize to the tempo of the DAW if this is ON.
Delay Time (msec)	1–1300 [msec]	Adjusts the time from the original sound until delay sounds is heard.
Delay Time (note)	Note ➡ "Note"	
Delay Accel	0–15	Speed at which the current delay time changes to the specified delay time when you change the delay time. The speed of the pitch change will change simultaneously with the delay time.
Delay Feedback	-98–+98 [%]	Adjusts the proportion of the delay sound that is fed back into the effect. Negative (-) settings will invert the phase.
Delay HF Damp	200, 250, 315, 400, 500, 630, 800, 1000, 1250, 1600, 2000, 2500, 3150, 4000, 5000, 6300, 8000, BYPASS [Hz]	Frequency at which the high-frequency portion of the delay sound will be cut (BYPASS: no cut)
Delay Balance	D100: 0W–D0: 100W	Adjusts the volume balance between the sound that is sent through the delay (W) and the sound that is not sent through the delay (D).
Speaker Type	LINE, OLD, NEW, WURLY, TWIN	Type of speaker If LINE is selected, the sound will not be sent through the speaker simulation.
OD Switch	OFF, ON	Overdrive on/off
OD Gain	0–127	Overdrive input level
OD Drive	0–127	Degree of distortion Also changes the volume.
Level	0–127	Output Level

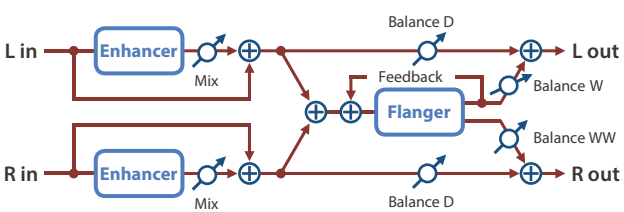
to Contents

Enhancer → Chorus



Parameter	Value	Explanation
Enhancer Sens	0–127	Sensitivity of the enhancer
Enhancer Mix	0–127	Level of the overtones generated by the enhancer
Chorus Pre Delay	0.0–100 [msec]	Adjusts the time from the original sound until chorus sounds is heard.
Chorus Rate (sync sw)	OFF, ON	Synchronize to the tempo of the DAW if this is ON.
Chorus Rate (Hz)	0.05–10.00 [Hz]	Frequency of modulation
Chorus Rate (note)	Note ➡ **"Note"**	
Chorus Depth	0–127	Depth of modulation
Chorus Balance	D100: 0W–D0: 100W	Adjusts the volume balance between the sound that is sent through the chorus (W) and the sound that is not sent through the chorus (D).
Level	0–127	Output Level

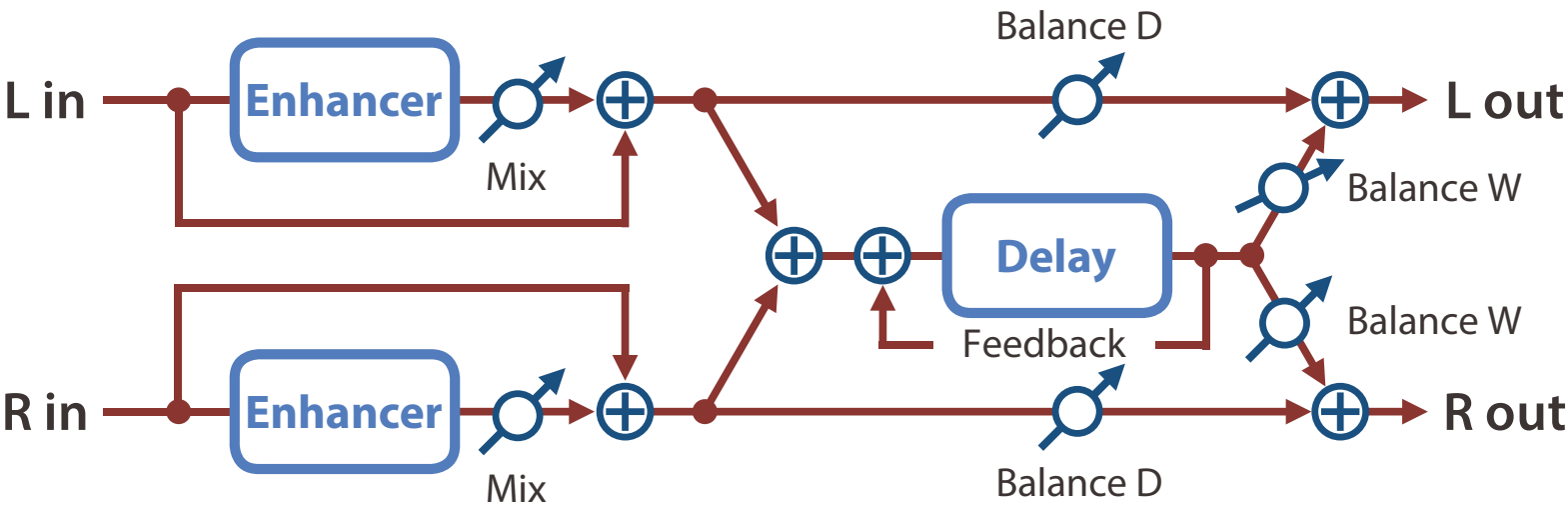
Enhancer → Flanger



Parameter	Value	Explanation
Enhancer Sens	0–127	Sensitivity of the enhancer
Enhancer Mix	0–127	Level of the overtones generated by the enhancer
Flanger Pre Delay	0.0–100 [msec]	Adjusts the time from the original sound until flanger sounds is heard.
Flanger Rate (sync sw)	OFF, ON	Synchronize to the tempo of the DAW if this is ON.
Flanger Rate (Hz)	0.05–10.00 [Hz]	Frequency of modulation
Flanger Rate (note)	Note ➡ **"Note"**	
Flanger Depth	0–127	Depth of modulation
Flanger Feedback	-98–+98 [%]	Adjusts the proportion of the flanger sound that is fed back into the effect. Negative (-) settings will invert the phase.
Flanger Balance	D100: 0W–D0: 100W	Adjusts the volume balance between the sound that is sent through the flanger (W) and the sound that is not sent through the flanger (D).
Level	0–127	Output Level

to Contents

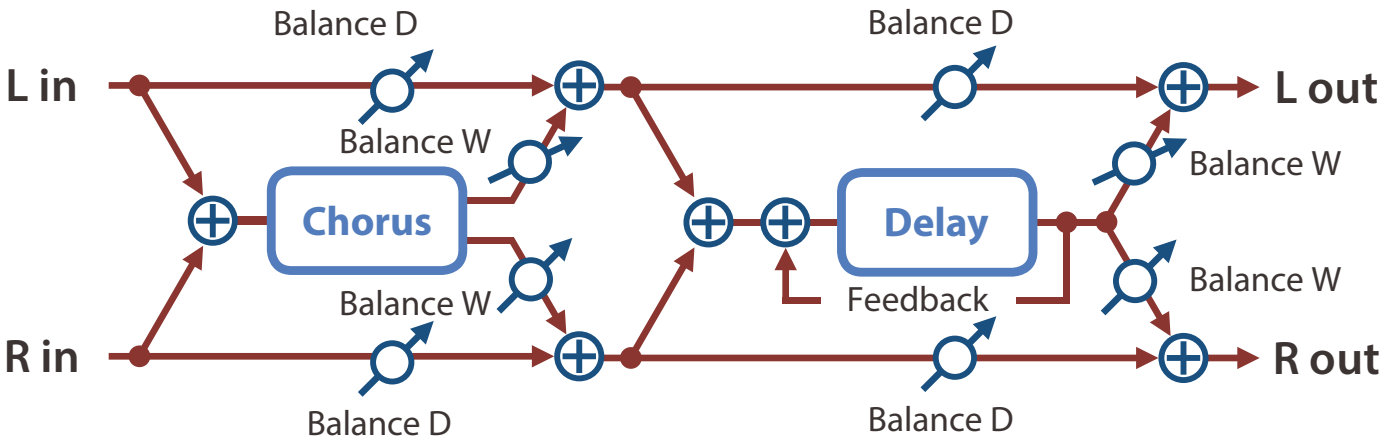
Enhancer → Delay



Parameter	Value	Explanation
Enhancer Sens	0–127	Sensitivity of the enhancer
Enhancer Mix	0–127	Level of the overtones generated by the enhancer
Delay Time (sync sw)	OFF, ON	Synchronize to the tempo of the DAW if this is ON.
Delay Time (msec)	1–2600 [msec]	Adjusts the time from the original sound until delay sounds is heard.
Delay Time (note)	Note ➡ **"Note"**	
Delay Feedback	-98–+98 [%]	Adjusts the proportion of the delay sound that is fed back into the effect. Negative (-) settings will invert the phase.
Delay HF Damp	200, 250, 315, 400, 500, 630, 800, 1000, 1250, 1600, 2000, 2500, 3150, 4000, 5000, 6300, 8000, BYPASS [Hz]	Adjusts the frequency above which sound fed back to the effect will be cut. If you do not want to cut the high frequencies, set this parameter to BYPASS.
Delay Balance	D100: 0W–D0: 100W	Adjusts the volume balance between the sound that is sent through the delay (W) and the sound that is not sent through the delay (D).
Level	0–127	Output Level

to Contents

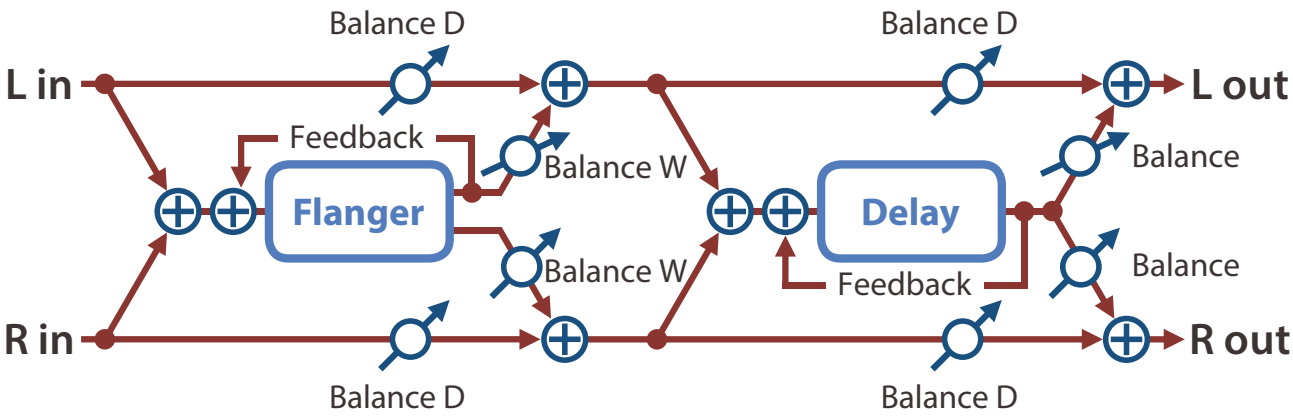
Chorus → Delay



Parameter	Value	Explanation
Chorus Pre Delay	0.0–100 [msec]	Adjusts the time from the original sound until chorus sounds is heard.
Chorus Rate (sync sw)	OFF, ON	Synchronize to the tempo of the DAW if this is ON.
Chorus Rate (Hz)	0.05–10.00 [Hz]	Frequency of modulation
Chorus Rate (note)	Note ➡ **"Note"**	
Chorus Depth	0–127	Depth of modulation
Chorus Balance	D100: 0W–D0: 100W	Volume balance between the direct sound (D) and the chorus sound (W)
Delay Time (sync sw)	OFF, ON	Synchronize to the tempo of the DAW if this is ON.
Delay Time (msec)	1–2600 [msec]	Adjusts the time from the original sound until delay sounds is heard.
Delay Time (note)	Note ➡ **"Note"**	
Delay Feedback	-98–+98 [%]	Adjusts the proportion of the delay sound that is fed back into the effect. Negative (-) settings will invert the phase.
Delay HF Damp	200, 250, 315, 400, 500, 630, 800, 1000, 1250, 1600, 2000, 2500, 3150, 4000, 5000, 6300, 8000, BYPASS [Hz]	Adjusts the frequency above which sound fed back to the effect will be cut. If you do not want to cut the high frequencies, set this parameter to BYPASS.
Delay Balance	D100: 0W–D0: 100W	Adjusts the volume balance between the sound that is sent through the delay (W) and the sound that is not sent through the delay (D).
Level	0–127	Output Level

to Contents

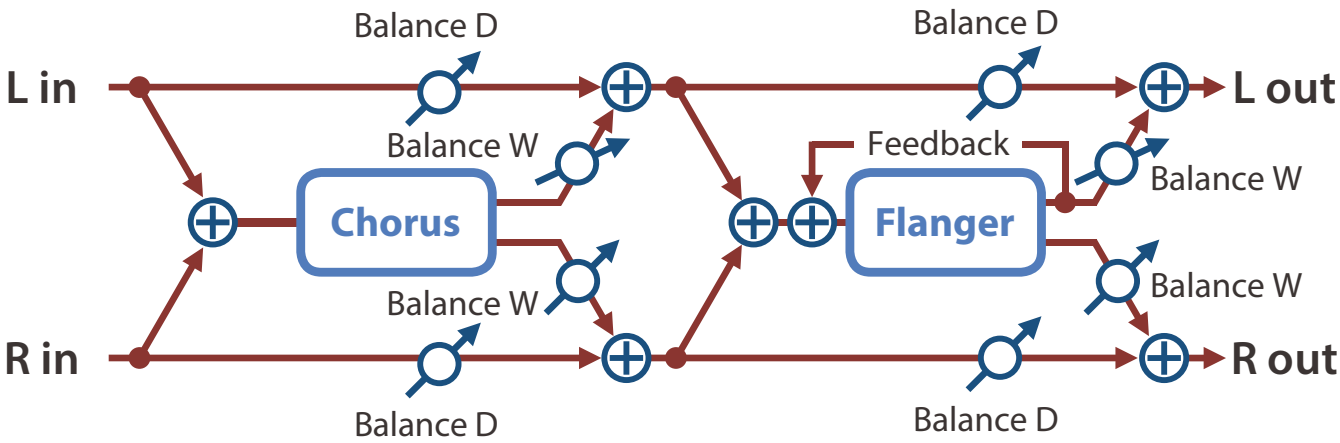
Flanger → Delay



Parameter	Value	Explanation
Flanger Pre Delay	0.0–100 [msec]	Adjusts the time from the original sound until flanger sounds is heard.
Flanger Rate (sync sw)	OFF, ON	Synchronize to the tempo of the DAW if this is ON.
Flanger Rate (Hz)	0.05–10.00 [Hz]	Frequency of modulation
Flanger Rate (note)	Note ➡ **"Note"**	
Flanger Depth	0–127	Depth of modulation
Flanger Feedback	-98–+98 [%]	Adjusts the proportion of the flanger sound that is fed back into the effect. Negative (-) settings will invert the phase.
Flanger Balance	D100: 0W–D0: 100W	Volume balance between the direct sound (D) and the flanger sound (W)
Delay Time (sync sw)	OFF, ON	Synchronize to the tempo of the DAW if this is ON.
Delay Time (msec)	1–2600 [msec]	Adjusts the time from the original sound until delay sounds is heard.
Delay Time (note)	Note ➡ **"Note"**	
Delay Feedback	-98–+98 [%]	Adjusts the proportion of the delay sound that is fed back into the effect. Negative (-) settings will invert the phase.
Delay HF Damp	200, 250, 315, 400, 500, 630, 800, 1000, 1250, 1600, 2000, 2500, 3150, 4000, 5000, 6300, 8000, BYPASS [Hz]	Adjusts the frequency above which sound fed back to the effect will be cut. If you do not want to cut the high frequencies, set this parameter to BYPASS.
Delay Balance	D100: 0W–D0: 100W	Adjusts the volume balance between the sound that is sent through the delay (W) and the sound that is not sent through the delay (D).
Level	0–127	Output Level

to Contents

Chorus → Flanger

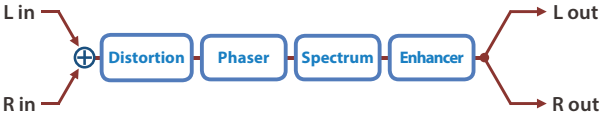


Parameter	Value	Explanation
Chorus Pre Delay	0.0–100 [msec]	Adjusts the time from the original sound until chorus sounds is heard.
Chorus Rate (sync sw)	OFF, ON	Synchronize to the tempo of the DAW if this is ON.
Chorus Rate (Hz)	0.05–10.00 [Hz]	Modulation frequency of the chorus effect
Chorus Rate (note)	Note ➡ **"Note"**	
Chorus Depth	0–127	Modulation depth of the chorus effect
Chorus Balance	D100: 0W–D0: 100W	Volume balance between the direct sound (D) and the chorus sound (W)
Flanger Pre Delay	0.0–100 [msec]	Adjusts the time from the original sound until flanger sounds is heard.
Flanger Rate (sync sw)	OFF, ON	Synchronize to the tempo of the DAW if this is ON.
Flanger Rate (Hz)	0.05–10.00 [Hz]	Modulation frequency of the flanger effect
Flanger Rate (note)	Note ➡ **"Note"**	
Flanger Depth	0–127	Modulation depth of the flanger effect
Flanger Feedback	-98–+98 [%]	Adjusts the proportion of the flanger sound that is fed back into the effect. Negative (-) settings will invert the phase.
Flanger Balance	D100: 0W–D0: 100W	Adjusts the volume balance between the sound that is sent through the flanger (W) and the sound that is not sent through the flanger (D).
Level	0–127	Output Level

to Contents

JD-Multi

Recreates the effects included in group A of the JD-800.



Parameter	Value	Explanation
Structure		**Selects the connection order of the effects.** **DS: Distortion, PH: Phaser, SP: Spectrum, EN: Enhancer**
	1	DS - PH - SP - EN
	2	DS - PH - EN - SP
	3	DS - SP - PH - EN
	4	DS - SP - EN - PH
	5	DS - EN - PH - SP
	6	DS - EN - SP - PH
	7	PH - DS - SP - EN
	8	PH - DS - EN - SP
	9	PH - SP - DS - EN
	10	PH - SP - EN - DS
	11	PH - EN - DS - SP
	12	PH - EN - SP - DS
	13	SP - DS - PH - EN
	14	SP - DS - EN - PH
	15	SP - PH - DS - EN
	16	SP - PH - EN - DS
	17	SP - EN - DS - PH
	18	SP - EN - PH - DS
	19	EN - DS - PH - SP
	20	EN - DS - SP - PH
	21	EN - PH - DS - SP
	22	EN - PH - SP - DS
	23	EN - SP - DS - PH
	24	EN - SP - PH - DS
DISTORTION	OFF, ON	Turns the distortion on/off.
PHASER	OFF, ON	Turns the phaser on/off.
SPECTRUM	OFF, ON	Turns the spectrum on/off.
ENHANCER	OFF, ON	Turns the enhancer on/off.
Distortion Type		**Sets the type of distortion.**
	MELLOW DRIVE	Softer distortion with a slightly darker sound.
	OVERDRIVE	Distortion that resembles a vacuum tube amp being driven.
	CRY DRIVE	Distortion that emphasizes the high end.
	MELLOW DIST	Gives the feeling of distortion playing through a large amp.
	LIGHT DIST	Strong distortion with a bright sound.
	FAT DIST	Thick distortion that emphasizes the low and high ends.
	FUZZ DIST	Distortion that's even more powerful that FAT DIST.
Distortion Drive	0–100	Sets the amount of distortion.
Distortion Level	0–100	Sets the distortion output level.
Phaser Manual	50Hz–15kHz	Sets the basic frequency from which the sound is modulated with the phaser effect.
Phaser Rate	0.1Hz–10.0Hz	Sets the cycle of the phaser modulation.
Phaser Depth	0–100	Sets the depth of the phaser modulation.
Phaser Reso	0–100	Sets the amount of feedback for the phaser. Increasing the value creates a more unusual sound.
Phaser Mix	0–100	Sets the level of the phase-shifted sound.
Spectrum Band1	-15dB–+15dB	Sets the gain (amount of boost/cut) in the 250 Hz range.
Spectrum Band2		Sets the gain (amount of boost/cut) in the 500 Hz range.
Spectrum Band3		Sets the gain (amount of boost/cut) in the 1000 Hz range.
Spectrum Band4		Sets the gain (amount of boost/cut) in the 2000 Hz range.
Spectrum Band5		Sets the gain (amount of boost/cut) in the 4000 Hz range.
Spectrum Band6		Sets the gain (amount of boost/cut) in the 8000 Hz range.
Spectrum Width	1–5	Sets the bandwidth for changing the levels, common to all bands.
Enhancer Sens	0–100	Sets how easily the enhancer effect is applied.
Enhancer Mix	0–100	Sets the ratio at which the harmonics generated by the enhancer are mixed with the original sound.
Level	0–127	Sets the output volume.

Note

	1/64T Sixty-fourth-note triplet		1/64 Sixty-fourth note		1/32T Thirty-second-note triplet		1/32 Thirty-second note
	1/16T Sixteenth-note triplet		1/32D Dotted thirty-second note		1/16 Sixteenth note		1/8T Eighth-note triplet
	1/16D Dotted sixteenth note		1/8 Eighth note		1/4T Quarter-note triplet		1/8D Dotted eighth note
	1/4 Quarter note		1/2T Half-note triplet		1/4D Dotted quarter note		1/2 Half note
	1/1T Whole-note triplet		1/2D Dotted half note		1/1 Whole note		2/1T Double-note triplet
	1/1D Dotted whole note		2/1 Double note				