MFX Parameters

MFX Common Parameters

Parameter	Value	Explanation
Type	Selects the MFX type.	
Switch	OFF, ON	Switches the MFX on/off.
Cho Send	0–127	Adjusts the amount of chorus. If you don't want to add the chorus effect, set it to 0.
Rev Send	0–127	Adjusts the amount of reverb. If you don't want to add the reverb effect, set it to 0.
MFX parameter	Differs depending on the MFX type.	➡ For details, refer to the parameters for each MFX.
Src1–4	OFF, CC01–CC31, CC33–CC95, BEND, AFT, SYS-CTRL1, SYS-CTRL2, SYS-CTRL3, SYS-CTRL4	Specifies the MIDI message that will control the corresponding MFX CONTROL parameter.
Sens1–4	-63–+63	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.
Asgn1–4	Differs depending on the MFX type.	Specifies the parameters that are assigned to assign 1–4.

MFX List

Lo-fi effects

Pitch effects

Combination effects

Other

00 Thru

01 Equalizer

This is a four-band stereo equalizer (low, mid x 2, high).

L in ——→ 4-Band EQ ——→ L out

R in ——→ 4-Band EQ ——→ R out

Parameter	Value	Explanation
Low Freq	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	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	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	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
Asgn1–4	OFF, Low Gain, High Gain, Level	Specifies the parameters that are assigned to assign 1–4.

02 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.

L in ——→ Spectrum ——→ L out

R in ——→ Spectrum ——→ R out
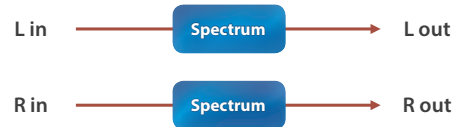
Parameter	Value	Explanation
Band1		
Band2		
Band3		
Band4	-15–+15 [dB]	Gain of each frequency band
Band5		
Band6		
Band7		
Band8		
Q	0.5, 1.0, 2.0, 4.0, 8.0	Simultaneously adjusts the width of the adjusted ranges for all the frequency bands.
Level	0–127	Output Level
Asgn1–4	OFF, Level	Specifies the parameters that are assigned to assign 1–4.

03 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.

L in ——→ Isolator ——→ Low Boost ——→ L out

R in ——→ Isolator ——→ Low Boost ——→ R out
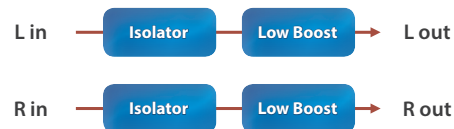
Parameter	Value	Explanation
Low Level	-60–+4 [dB]	These boost and cut each of the High, Middle, and Low frequency ranges. At -60 dB, the sound becomes inaudible. 0 dB is equivalent to the input level of the sound.
Mid Level	-60–+4 [dB]	
High Level	-60–+4 [dB]	
Low AP Sw	OFF, ON	Turns the Anti-Phase function on and off for the Low frequency ranges. When turned on, the counter-channel of stereo sound is inverted and added to the signal.
Low AP Lv	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.).
Mid AP 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.
Mid AP Lv	0–127	
Boost Sw	OFF, ON	Turns Low Booster on/off. This emphasizes the bottom to create a heavy bass sound.
Boost Lv	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
Asgn1–4	OFF, Low Level, Mid Level, High Level	Specifies the parameters that are assigned to assign 1–4.

04 Low Boost

Boosts the volume of the lower range, creating powerful lows.

L in → Low Boost → 2-Band EQ → L out

R in → Low Boost → 2-Band EQ → R out

Parameter	Value	Explanation
Boost Freq	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 Wid	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
Asgn1–4	OFF, Boost Freq, Boost Gain	Specifies the parameters that are assigned to assign 1–4.

05 SuperFilter

This is a filter with an extremely sharp slope. The cutoff frequency can be varied cyclically.

L in → Super Filter → L out

R in → Super Filter → R out

Parameter	Value	Explanation
Type	LPF, BPF, HPF, NOTCH	Filter type 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
Slope	-12, -24, -36 [dB]	Amount of attenuation per octave **-12 dB:** Gentle **-24 dB:** Steep **-36 dB:** Extremely steep
Cutoff	0–127	Cutoff frequency of the filter Increasing this value will raise the cutoff frequency.
Resonance	0–100	Filter resonance level Increasing this value will emphasize the region near the cutoff frequency.
Gain	0–+12 [dB]	Amount of boost for the filter output
Mod Sw	OFF, ON	On/off switch for cyclic change
Mod 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	OFF, ON	If this is ON, the rate synchronizes with the tempo of the rhythm. ➡ "Tempo" (p. 3, p. 29)
Rate	0.05–10.00 [Hz]	Frequency of modulation
Rate Note	Note ➡ "Note" (p. 70)	Frequency of modulation

Parameter	Value	Explanation
Depth	0–127	Depth of modulation
Attack	0–127	Speed at which the cutoff frequency will change This is effective if Mod Wave is SQR, SAW1, or SAW2.
Level	0–127	Output Level
Asgn1–4	OFF, Cutoff, Resonance, Rate, Attack	Specifies the parameters that are assigned to assign 1–4.

06 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.

L in → Step Filter → L out

R in → Step Filter → R out

Parameter	Value	Explanation
Step 1–16	0–127	Cutoff frequency at each step
Rate Sync	OFF, ON	If this is ON, the rate synchronizes with the tempo of the rhythm. ➡ "Tempo" (p. 3, p. 29)
Rate	0.05–10.00 [Hz]	Frequency of modulation
Rate Note	Note ➡ "Note" (p. 70)	Frequency of modulation
Attack	0–127	Speed at which the cutoff frequency changes between steps
Type	LPF, BPF, HPF, NOTCH	Filter type 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
Slope	-12, -24, -36 [dB]	Amount of attenuation per octave **-12 dB:** Gentle **-24 dB:** Steep **-36 dB:** Extremely steep
Reso	0–127	Filter resonance level Increasing this value will emphasize the region near the cutoff frequency.
Gain	0–+12 [dB]	Amount of boost for the filter output
Level	0–127	Output Level
Asgn1–4	OFF, Rate, Attack, Resonance	Specifies the parameters that are assigned to assign 1–4.

07 Enhancer

Controls the overtone structure of the high frequencies, adding sparkle and tightness to the sound.
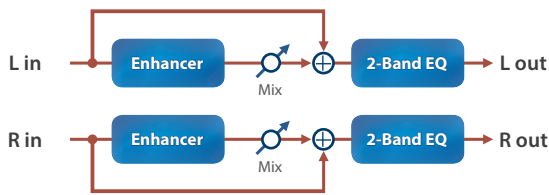
Parameter	Value	Explanation
Sens	0–127	Sensitivity of the enhancer
Mix	0–127	Level of the overtones generated by the enhancer
Low Gain	-15–+15 [dB]	Amount of boost/cut for the low-frequency range
High Gain	-15–+15 [dB]	Amount of boost/cut for the high-frequency range
Level	0–127	Output Level
Asgn1–4	OFF, Sens, Mix	Specifies the parameters that are assigned to assign 1–4.

08 Auto Wah

Cyclically controls a filter to create cyclic change in timbre.

Parameter	Value	Explanation
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.
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	OFF, ON	If this is ON, the rate synchronizes with the tempo of the rhythm. ➡ "Tempo" (p. 3, p. 29)
Rate	0.05–10.00 [Hz]	Frequency of modulation
Rate Note	Note ➡ "Note" (p. 70)	
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
Asgn1–4	OFF, Manual, Sens, Rate (Hz), Depth, Phase	Specifies the parameters that are assigned to assign 1–4.

09 Humanizer

Adds a vowel character to the sound, making it similar to a human voice.

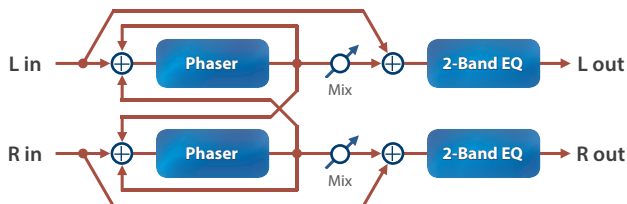| Parameter	Value	Explanation
Drive Sw	OFF, ON	Overdrive on/off
Drive	0–127	Degree of distortion Also changes the volume.
Vowel1	a, e, i, o, u	Selects the vowel.
Vowel2	a, e, i, o, u	
Rate Sync	OFF, ON	If this is ON, the rate synchronizes with the tempo of the rhythm. ➡ "Tempo" (p. 3, p. 29)
Rate	0.05–10.00 [Hz]	Frequency at which the two vowels switch
Rate Note	Note ➡ "Note" (p. 70)	
Depth	0–127	Effect depth
In 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).
InSyncThres	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
Asgn1–4	OFF, Drive, Rate (Hz), Depth, Manual, Pan	Specifies the parameters that are assigned to assign 1–4.

10 Speaker Sim (Speaker Simulater)

Simulates the speaker type and mic settings used to record the speaker sound.

L in ⟶ Speaker ⟶ L out

R in ⟶ Speaker ⟶ R out

Parameter	Value	Explanation		
			Cabinet	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
Type	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	1–3	Adjusts the location of the microphone that is recording the sound of the speaker. This can be adjusted in three steps, with the microphone becoming more distant in the order of 1, 2, and 3.		
Mic Level	0–127	Volume of the microphone		
Direct Lv	0–127	Volume of the direct sound		
Level	0–127	Output Level		
Asgn1–4	OFF, Mic Level, Direct Level, Level	Specifies the parameters that are assigned to assign 1–4.		

11 Phaser

A phase-shifted sound is added to the original sound and modulated.

L in ⊕ Phaser ⊘ Mix ⊕ 2-Band EQ ⟶ L out

R in ⊕ Phaser ⊘ Mix ⊕ 2-Band EQ ⟶ R out

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	OFF, ON	If this is ON, the rate synchronizes with the tempo of the rhythm. ➡ "Tempo" (p. 3, p. 29)
Rate	0.05–10.00 [Hz]	Frequency of modulation
Rate Note	Note ➡ "Note" (p. 70)	
Depth	0–127	Depth of modulation

Parameter	Value	Explanation
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
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
Asgn1–4	OFF, Manual, Rate (Hz), Resonance	Specifies the parameters that are assigned to assign 1–4.

12 Small Phaser

This simulates an analog phaser of the past.

It is particularly suitable for electric piano.

L in ⟶ Phaser ⟶ 2-Band EQ ⟶ L out

R in ⟶ Phaser ⟶ 2-Band EQ ⟶ R out

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
Asgn1–4	OFF, Rate	Specifies the parameters that are assigned to assign 1–4.

13 Script 90

This simulates a different analog phaser than Small Phaser.

It is particularly suitable for electric piano.

L in ⟶ Phaser ⟶ 2-Band EQ ⟶ L out

R in ⟶ Phaser ⟶ 2-Band EQ ⟶ R out
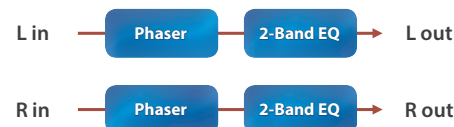
Parameter	Value	Explanation
Speed	0–100	Speed of modulation
Depth	0–127	Depth of modulation
Low Gain	-15–+15 [dB]	Amount of boost/cut for the low-frequency range
High Gain	-15–+15 [dB]	Amount of boost/cut for the high-frequency range
Level	0–127	Output Level
Asgn1–4	OFF, Speed	Specifies the parameters that are assigned to assign 1–4.

14 Step Phaser

The phaser effect will be varied gradually.

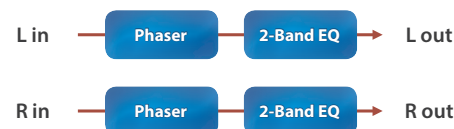| Parameter	Value	Explanation
Mode	4-STAGE, 8-STAGE, 12-STAGE	Number of stages in the phaser
Manual	0–127	Adjusts the basic frequency from which the sound will be modulated.
Rate Sync	OFF, ON	If this is ON, the rate synchronizes with the tempo of the rhythm. ➡ "Tempo" (p. 3, p. 29)
Rate	0.05–10.00 [Hz]	Frequency of modulation
Rate Note	Note ➡ "Note" (p. 70)	
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
Feedback	-98–+98 [%]	Adjusts the proportion of the phaser sound that is fed back into the effect. Negative (-) settings will invert the phase.
S Rate Sync	OFF, ON	If this is ON, the rate synchronizes with the tempo of the rhythm. ➡ "Tempo" (p. 3, p. 29)
S. Rate	0.10–20.00 [Hz]	Rate of the step-wise change in the phaser effect
S. Rate Nt	Note ➡ "Note" (p. 70)	
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
Asgn1–4	OFF, Manual, Rate, Resonance, S. Rate, Mix	Specifies the parameters that are assigned to assign 1–4.

15 M StagePhsr (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	OFF, ON	If this is ON, the rate synchronizes with the tempo of the rhythm. ➡ "Tempo" (p. 3, p. 29)
Rate	0.05–10.00 [Hz]	Frequency of modulation
Rate Note	Note ➡ "Note" (p. 70)	
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
Asgn1–4	OFF, Manual, Rate (Hz), Resonance, Mix, Pan	Specifies the parameters that are assigned to assign 1–4.

16 Inf Phaser (Infinite Phaser)

A phaser that continues raising/lowering the frequency at which the sound is modulated.
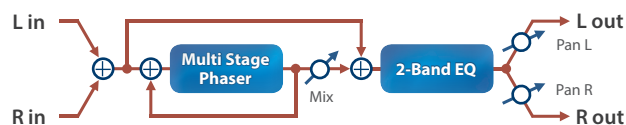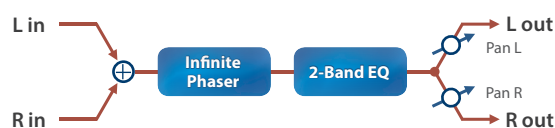

Parameter	Value	Explanation
Mode	1–4	Higher values will produce a deeper phaser effect.
Speed	-100–+100	Speed at which to raise or lower the frequency at which the sound is modulated (+: upward / -: downward)
Resonance	0–127	Amount of feedback
Mix	0–127	Level of the phase-shifted sound
Pan	L64–63R	Stereo 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
Asgn1–4	OFF, Speed, Resonance, Mix, Pan	Specifies the parameters that are assigned to assign 1–4.

17 Ring Mod (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.

L in → Ring Mod → 2-Band EQ → L out

R in → Ring Mod → 2-Band EQ → R out
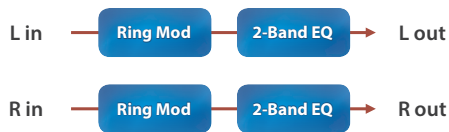
Parameter	Value	Explanation
Frequency	0–127	Adjusts the frequency at which modulation is applied.
Sens	0–127	Adjusts the amount of frequency modulation applied.
Polarity	UP, DOWN	Determines whether the frequency modulation moves towards higher frequencies or lower frequencies. **UP:** The filter will 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
Asgn1–4	OFF, Frequency, Sens, Balance	Specifies the parameters that are assigned to assign 1–4.

18 Tremolo

Cyclically changes the volume.

L in → Tremolo → 2-Band EQ → L out

R in → Tremolo → 2-Band EQ → R out

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
Rate Sync	OFF, ON	If this is ON, the rate synchronizes with the tempo of the rhythm. ➡ "Tempo" (p. 3, p. 29)
Rate	0.05–10.00 [Hz]	Frequency of the change
Rate Note	Note ➡ "Note" (p. 70)	
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
Asgn1–4	OFF, Rate (Hz), Depth	Specifies the parameters that are assigned to assign 1–4.

19 Auto Pan

Cyclically modulates the stereo location of the sound.

L in → Auto Pan → 2-Band EQ → L out

R in → Auto Pan → 2-Band EQ → R out

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
Rate Sync	OFF, ON	If this is ON, the rate synchronizes with the tempo of the rhythm. ➡ "Tempo" (p. 3, p. 29)
Rate	0.05–10.00 [Hz]	Frequency of the change
Rate Note	Note ➡ "Note" (p. 70)	
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
Asgn1–4	OFF, Rate (Hz), Depth	Specifies the parameters that are assigned to assign 1–4.

41

20 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.

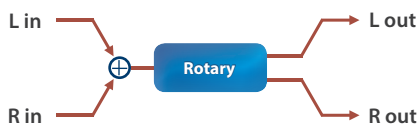| Parameter	Value	Explanation
Step 1–16	0–127	Level at each step
Rate Sync	OFF, ON	If this is ON, the rate synchronizes with the tempo of the rhythm. ➡ "Tempo" (p. 3, p. 29)
Rate	0.05–10.00 [Hz]	Rate at which the 16-step sequence will cycle
Rate Note	Note ➡ "Note" (p. 70)	
Attack	0–127	Speed at which the level changes between steps
In 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)
InSyncThres	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
Asgn1–4	OFF, Rate (Hz), Attack, Shuffle	Specifies the parameters that are assigned to assign 1–4.

21 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.
Wf Slow	0.05–10.00 [Hz]	Slow speed (SLOW) of the low frequency rotor
Wf Fast	0.05–10.00 [Hz]	Fast speed (FAST) of the low frequency rotor
Wf Accel	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.
Wf Level	0–127	Volume of the low frequency rotor

Parameter	Value	Explanation
Tw Slow	0.05–10.00 [Hz]	Settings of the high frequency rotor The parameters are the same as for the low frequency rotor
Tw Fast	0.05–10.00 [Hz]	
Tw Accel	0–15	
Tw Level	0–127	
Separation	0–127	Spatial dispersion of the sound
Level	0–127	Output Level
Asgn1–4	OFF, Speed, Level	Specifies the parameters that are assigned to assign 1–4.

22 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.
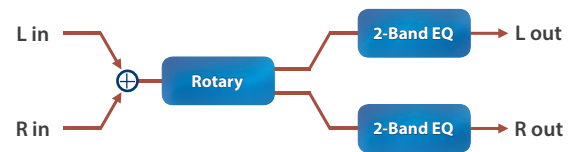
Parameter	Value	Explanation
Speed	SLOW, FAST	Rotational speed of the rotating speaker **SLOW:** Slow **FAST:** Fast
Brake	OFF, ON	Switches the rotation of the rotary speaker. When this is turned on, the rotation will gradually stop. When it is turned off, the rotation will gradually resume.
Wf Slow	0.05–10.00 [Hz]	Low-speed rotation speed of the woofer
Wf Fast	0.05–10.00 [Hz]	High-speed rotation speed of the woofer
Wf Trs Up	0–127	Adjusts the rate at which the woofer rotation speeds up when the rotation is switched from Slow to Fast.
Wf Trs Dw	0–127	Adjusts the rate at which the woofer rotation speeds up when the rotation is switched from Fast to Slow.
Wf Level	0–127	Volume of the woofer
Tw Slow	0.05–10.00 [Hz]	Settings of the tweeter The parameters are the same as for the woofer.
Tw Fast	0.05–10.00 [Hz]	
Tw Trs Up	0–127	
Tw Trs Dw	0–127	
Tw 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
Asgn1–4	OFF, Speed, Brake, OD Gain, OD Drive, OD Level	Specifies the parameters that are assigned to assign 1–4.

23 Chorus

This is a stereo chorus. A filter is provided so that you can adjust the timbre of the chorus sound.

Parameter	Value	Explanation
Type	OFF, LPF, HPF	Filter type **OFF**: No filter is used **LPF**: Cuts the frequency range above the Cutoff Freq **HPF**: Cuts the frequency range below the Cutoff Freq
Cutoff	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 [ms]	Adjusts the delay time from the direct sound until the chorus sound is heard.
Rate Sync	OFF, ON	If this is ON, the rate synchronizes with the tempo of the rhythm. ➡ "Tempo" (p. 3, p. 29)
Rate	0.05–10.00 [Hz]	Frequency of modulation
Rate Note	Note ➡ "Note" (p. 70)	
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
Asgn1–4	OFF, Rate (Hz), Balance	Specifies the parameters that are assigned to assign 1–4.

24 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
Type	OFF, LPF, HPF	Filter type **OFF:** No filter is used **LPF:** Cuts the frequency range above the Cutoff Freq **HPF:** Cuts the frequency range below the Cutoff Freq
Cutoff	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 [ms]	Adjusts the delay time from the direct sound until the flanger sound is heard.
Rate Sync	OFF, ON	If this is ON, the rate synchronizes with the tempo of the rhythm. ➡ "Tempo" (p. 3, p. 29)
Rate	0.05–10.00 [Hz]	Frequency of modulation
Rate Note	Note ➡ "Note" (p. 70)	
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
Asgn1–4	OFF, Rate (Hz), Feedback, Balance	Specifies the parameters that are assigned to assign 1–4.

25 StepFlanger

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
Type	OFF, LPF, HPF	Filter type **OFF**: No filter is used **LPF**: Cuts the frequency range above the Cutoff Freq **HPF:** Cuts the frequency range below the Cutoff Freq
Cutoff	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 [ms]	Adjusts the delay time from the direct sound until the flanger sound is heard.
Rate Sync	OFF, ON	If this is ON, the rate synchronizes with the tempo of the rhythm. ➡ "Tempo" (p. 3, p. 29)
Rate	0.05–10.00 [Hz]	Frequency of modulation
Rate Note	Note ➡ "Note" (p. 70)	
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.
S. Rate Sync	OFF, ON	If this is ON, the rate synchronizes with the tempo of the rhythm. ➡ "Tempo" (p. 3, p. 29)
S. Rate	0.10–20.00 [Hz]	Rate (period) of pitch change
S. Rate Nt	Note ➡ "Note" (p. 70)	
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
Asgn1–4	OFF, Rate, Feedback, S. Rate, Balance	Specifies the parameters that are assigned to assign 1–4.

26 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 [ms]	Adjusts the delay time from the direct sound until the chorus sound is heard.
Rate Sync	OFF, ON	If this is ON, the rate synchronizes with the tempo of the rhythm. ➡ "Tempo" (p. 3, p. 29)
Rate	0.05–10.00 [Hz]	Frequency of modulation
Rate Note	Note ➡ "Note" (p. 70)	
Depth	0–127	Depth of modulation
PreDly Dev	0–20	Adjusts the differences in Pre Delay between each chorus sound.
Depth Dev	-20–+20	Adjusts the difference in modulation depth between each chorus sound.
Pan Dev	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
Asgn1–4	OFF, Rate (Hz), Balance	Specifies the parameters that are assigned to assign 1–4.

27 Trem Chorus (Tremolo Chorus)

This is a chorus effect with added Tremolo (cyclic modulation of volume).

Parameter	Value	Explanation
Pre Delay	0.0–100 [ms]	Adjusts the delay time from the direct sound until the chorus sound is heard.
Cho Sync	OFF, ON	If this is ON, the rate synchronizes with the tempo of the rhythm. ➡ "Tempo" (p. 3, p. 29)
C. Rate	0.05–10.00 [Hz]	Modulation frequency of the chorus effect
C. Rate Nt	Note ➡ "Note" (p. 70)	
Cho Depth	0–127	Modulation depth of the chorus effect
Trm Sync	OFF, ON	If this is ON, the rate synchronizes with the tempo of the rhythm. ➡ "Tempo" (p. 3, p. 29)
T. Rate	0.05–10.00 [Hz]	Modulation frequency of the tremolo effect
T. Rate Nt	Note ➡ "Note" (p. 70)	
Trm Separate	0–127	Depth of the tremolo effect
Trm 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
Asgn1–4	OFF, C. Rate, T. Rate, Balance	Specifies the parameters that are assigned to assign 1–4.

28 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 [ms]	Adjusts the delay time from the direct sound until the chorus sound is heard.
Rate Sync	OFF, ON	If this is ON, the rate synchronizes with the tempo of the rhythm. ➡ "Tempo" (p. 3, p. 29)
Rate	0.05–10.00 [Hz]	Frequency of modulation
Rate Note	Note ➡ "Note" (p. 70)	
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)

Parameter	Value	Explanation
Level	0–127	Output Level
Asgn1–4	OFF, Rate (Hz), Balance	Specifies the parameters that are assigned to assign 1–4.

29 Overdrive

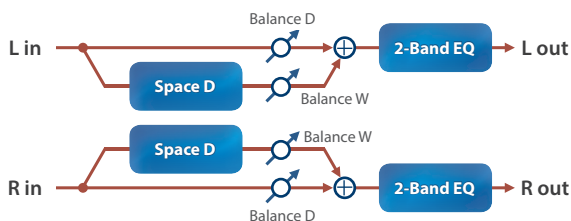This is an overdrive that provides heavy distortion.

Parameter	Value	Explanation
Drive	0–127	Degree of distortion Also changes the volume.
Tone	0–127	Sound quality of the Overdrive effect
Amp Switch	OFF, ON	Turns the Amp Simulator on/off.
AmpType	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
Asgn1–4	OFF, Drive, Tone, Pan	Specifies the parameters that are assigned to assign 1–4.

30 Distortion

Produces a more intense distortion than Overdrive.

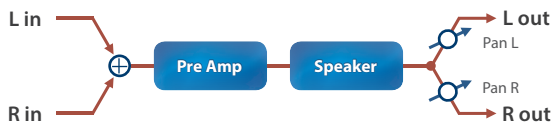| Parameter	Value	Explanation
Drive	0–127	Degree of distortion Also changes the volume.
Tone	0–127	Sound quality of the Overdrive effect
Amp Switch	OFF, ON	Turns the Amp Simulator on/off.
AmpType	SMALL, BUILT-IN, 2-STACK, 3-STACK	Type of guitar amp **SMALL:** Small amp **BUILT-IN:** Single-unit type 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
Asgn1–4	OFF, Drive, Tone, Pan	Specifies the parameters that are assigned to assign 1–4.

31 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
Asgn1–4	OFF, Distortion, Tone	Specifies the parameters that are assigned to assign 1–4.

32 Gt Amp Sim (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.
ATyp	**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.
Drive	0–127	Volume and amount of distortion of the amp
Master Lv	0–127	Volume of the entire pre-amp
Gain	LOW, MIDDLE, HIGH	Amount of pre-amp distortion

Parameter	Value	Explanation		
Bass	0–127	Tone of the bass/mid/treble frequency range		
Middle	0–127			
Treble	0–127			
Presence	0–127	Tone for the ultra-high frequency range		
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)		
STyp		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 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	1–3	Adjusts the location of the microphone that is recording the sound of the speaker. This can be adjusted in three steps, with the microphone 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		
Asgn1–4	OFF, Volume, Master Lv, Pan, Level	Specifies the parameters that are assigned to assign 1–4.		

33 Compressor

Flattens out high levels and boosts low levels, smoothing out fluctuations in volume.

L in → Compressor → 2-Band EQ → L out

R in → Compressor → 2-Band EQ → R out

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
Asgn1–4	OFF, Attack, Threshold, Level	Specifies the parameters that are assigned to assign 1–4.

34 Limiter

Compresses signals that exceed a specified volume level, preventing distortion from occurring.

L in → Limiter → 2-Band EQ → L out

R in → Limiter → 2-Band EQ → R out

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
Asgn1–4	OFF, Release, Threshold, Level	Specifies the parameters that are assigned to assign 1–4.

35 Sustainer

By compressing loud input and boosting low input, this effect keeps the volume consistent to produce a sustain effect without distortion.

L in → Sustainer → 2-Band EQ → L out

R in → Sustainer → 2-Band EQ → R out

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
Asgn1–4	OFF, Sustain, Attack, Release	Specifies the parameters that are assigned to assign 1–4.

36 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.

L in → Gate → L out

R in → Gate → R out

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
Asgn1–4	OFF, Threshold, Balance	Specifies the parameters that are assigned to assign 1–4.

37 Delay

This is a stereo delay.

When Feedback Mode is NORMAL:

When Feedback Mode is CROSS:

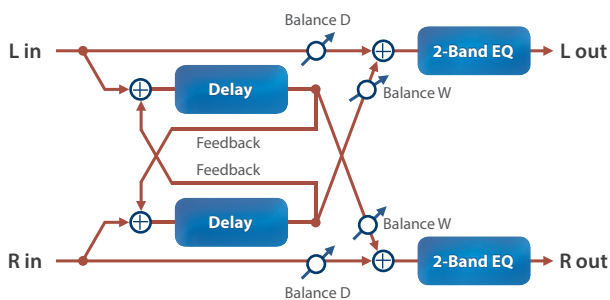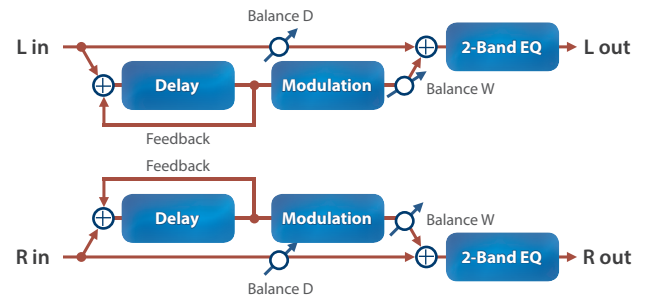| Parameter	Value	Explanation
Dly L Sync	OFF, ON	If this is ON, the rate synchronizes with the tempo of the rhythm. ➡ "Tempo" (p. 3, p. 29)
DL. Time	1–1300	Adjusts the time until the left delay sound is heard.
DLTime Nt	Note ➡ "Note" (p. 70)	
Dly R Sync	OFF, ON	If this is ON, the rate synchronizes with the tempo of the rhythm. ➡ "Tempo" (p. 3, p. 29)
DR. Time	1–1300	Adjusts the time until the right delay sound is heard.
DRTime Nt	Note ➡ "Note" (p. 70)	
Phase L	NORMAL, INVERSE	Phase of left and right delay sound
Phase R	NORMAL, INVERSE	**NORMAL:** Non-inverted **INVERT:** Inverted
Fbk 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
Asgn1–4	OFF, Feedback, Balance	Specifies the parameters that are assigned to assign 1–4.

38 Mod Delay (Modulation Delay)

Adds modulation to the delayed sound.

When Feedback Mode is NORMAL:

When Feedback Mode is CROSS:

Parameter	Value	Explanation
Dly L Sync	OFF, ON	If this is ON, the rate synchronizes with the tempo of the rhythm. ➡ "Tempo" (p. 3, p. 29)
DL. Time	1–1300	Adjusts the time until the left delay sound is heard.
DLTime Nt	Note ➡ "Note" (p. 70)	
Dly R Sync	OFF, ON	If this is ON, the rate synchronizes with the tempo of the rhythm. ➡ "Tempo" (p. 3, p. 29)
DR. Time	1–1300	Adjusts the time until the right delay sound is heard.
DRTime Nt	Note ➡ "Note" (p. 70)	
Fbk 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	OFF, ON	If this is ON, the rate synchronizes with the tempo of the rhythm. ➡ "Tempo" (p. 3, p. 29)
Rate	0.05–10.00 [Hz]	Frequency of modulation
Rate Note	Note ➡ "Note" (p. 70)	
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
Asgn1–4	OFF, Feedback, Rate (Hz), Balance	Specifies the parameters that are assigned to assign 1–4.

39 3Tap PanDly (3 Tap Pan Delay)

Produces three delay sounds; center, left and right.

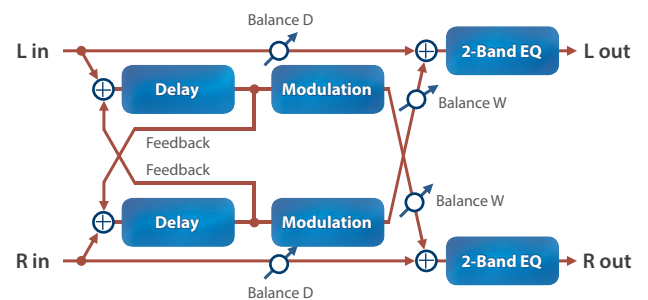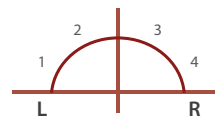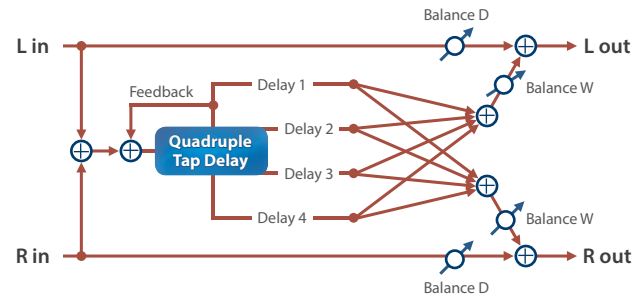| Parameter	Value	Explanation
Dly L Sync	OFF, ON	If this is ON, the rate synchronizes with the tempo of the rhythm. ➡ "Tempo" (p. 3, p. 29)
DL. Time	1–2600	Adjusts the time until the left delay sound is heard.
DLTime Nt	Note ➡ "Note" (p. 70)	
Dly R Sync	OFF, ON	If this is ON, the rate synchronizes with the tempo of the rhythm. ➡ "Tempo" (p. 3, p. 29)
DR. Time	1–2600	Adjusts the time until the right delay sound is heard.
DRTime Nt	Note ➡ "Note" (p. 70)	
Dly C Sync	OFF, ON	If this is ON, the rate synchronizes with the tempo of the rhythm. ➡ "Tempo" (p. 3, p. 29)
DC. Time	1–2600	Adjusts the time until the center delay sound is heard.
DCTime Nt	Note ➡ "Note" (p. 70)	
C 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 Lv	0–127	
Right Lv	0–127	Volume of each delay sound
Center Lv	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
Asgn1–4	OFF, C Feedback, Balance	Specifies the parameters that are assigned to assign 1–4.

40 4Tap PanDly (4 Tap Pan Delay)

This effect has four delays.

Parameter	Value	Explanation
Dly1 Sync	OFF, ON	If this is ON, the rate synchronizes with the tempo of the rhythm. ➡ "Tempo" (p. 3, p. 29)
D1. Time	1–2600	Adjusts the time from the original sound until delay 1 sounds is heard.
D1Time Nt	Note ➡ "Note" (p. 70)	
Dly2 Sync	OFF, ON	If this is ON, the rate synchronizes with the tempo of the rhythm. ➡ "Tempo" (p. 3, p. 29)
D2. Time	1–2600	Adjusts the time from the original sound until delay 2 sounds is heard.
D2Time Nt	Note ➡ "Note" (p. 70)	
Dly3 Sync	OFF, ON	If this is ON, the rate synchronizes with the tempo of the rhythm. ➡ "Tempo" (p. 3, p. 29)
D3. Time	1–2600	Adjusts the time from the original sound until delay 3 sounds is heard.
D3Time Nt	Note ➡ "Note" (p. 70)	
Dly4 Sync	OFF, ON	If this is ON, the rate synchronizes with the tempo of the rhythm. ➡ "Tempo" (p. 3, p. 29)
D4. Time	1–2600	Adjusts the time from the original sound until delay 4 sounds is heard.
D4Time Nt	Note ➡ "Note" (p. 70)	
Dly1 Fbk	-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.
Dly1 Lv	0–127	
Dly2 Lv	0–127	Volume of each delay
Dly3 Lv	0–127	
Dly4 Lv	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
Asgn1–4	OFF, Dly1 Fbk, Balance	Specifies the parameters that are assigned to assign 1–4.

41　MultiTapDly (Multi Tap Delay)

This effect has 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.
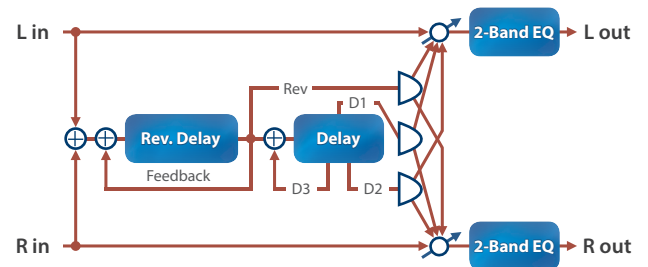

Parameter	Value	Explanation
Dly1 Sync	OFF, ON	If this is ON, the rate synchronizes with the tempo of the rhythm. ➡ "Tempo" (p. 3, p. 29)
D1. Time	1–2600	Adjusts the time from the original sound until delay 1 sounds is heard.
D1Time Nt	Note ➡ "Note" (p. 70)	
Dly2 Sync	OFF, ON	If this is ON, the rate synchronizes with the tempo of the rhythm. ➡ "Tempo" (p. 3, p. 29)
D2. Time	1–2600	Adjusts the time from the original sound until delay 2 sounds is heard.
D2Time Nt	Note ➡ "Note" (p. 70)	
Dly3 Sync	OFF, ON	If this is ON, the rate synchronizes with the tempo of the rhythm. ➡ "Tempo" (p. 3, p. 29)
D3. Time	1–2600	Adjusts the time from the original sound until delay 3 sounds is heard.
D3Time Nt	Note ➡ "Note" (p. 70)	
Dly4 Sync	OFF, ON	If this is ON, the rate synchronizes with the tempo of the rhythm. ➡ "Tempo" (p. 3, p. 29)
D4. Time	1–2600	Adjusts the time from the original sound until delay 4 sounds is heard.
D4Time Nt	Note ➡ "Note" (p. 70)	
Dly1 Fbk	-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.
Dly1 Pan	L64–63R	
Dly2 Pan	L64–63R	
Dly3 Pan	L64–63R	Stereo location of Delays 1–4
Dly4 Pan	L64–63R	
Dly1 Lv	0–127	
Dly2 Lv	0–127	
Dly3 Lv	0–127	Volume of each delay
Dly4 Lv	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 effect sound (W)
Level	0–127	Output Level
Asgn1–4	OFF, Dly1 Fbk, Balance	Specifies the parameters that are assigned to assign 1–4.

42　Reverse Dly (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.

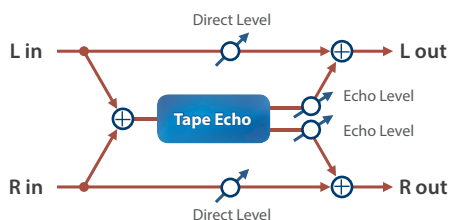| Parameter	Value	Explanation
Threshold	0–127	Volume at which the reverse delay will begin to be applied
RDly Sync	OFF, ON	If this is ON, the rate synchronizes with the tempo of the rhythm. ➡ "Tempo" (p. 3, p. 29)
RD. Time	1–1300	Delay time from when sound is input into the reverse delay until the delay sound is heard
RD. Time Nt	Note ➡ "Note" (p. 70)	
RDly Fbk	-98–+98 [%]	Proportion of the delay sound that is to be returned to the input of the reverse delay negative (-) values invert the phase)
RDly HF	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)
RDly Pan	L64–63R	Panning of the reverse delay sound
RDly Level	0–127	Volume of the reverse delay sound
Dly1 Sync	OFF, ON	If this is ON, the rate synchronizes with the tempo of the rhythm. ➡ "Tempo" (p. 3, p. 29)
D1. Time	1–1300	Delay time from when sound is input into the tap delay until the delay sound is heard
D1Time Nt	Note ➡ "Note" (p. 70)	
Dly2 Sync	OFF, ON	If this is ON, the rate synchronizes with the tempo of the rhythm. ➡ "Tempo" (p. 3, p. 29)
D2. Time	1–1300	Delay time from when sound is input into the tap delay until the delay sound is heard
D2Time Nt	Note ➡ "Note" (p. 70)	
Dly3 Sync	OFF, ON	If this is ON, the rate synchronizes with the tempo of the rhythm. ➡ "Tempo" (p. 3, p. 29)
D3. Time	1–1300	Delay time from when sound is input into the tap delay until the delay sound is heard
D3Time Nt	Note ➡ "Note" (p. 70)	
Dly3 Fbk	-98–+98 [%]	Proportion of the delay sound that is to be returned to the input of the tap delay (negative (-) values invert the phase)
Dly HF	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)
Dly1 Pan	L64–63R	Panning of the tap delay sounds
Dly2 Pan	L64–63R	
Dly1 Lv	0–127	Volume of the tap delay sounds
Dly2 Lv	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
Asgn1–4	OFF, RDly Fbk, Dly3 Fbk, Balance	Specifies the parameters that are assigned to assign 1–4.

43　TimeCtrlDly (Time Control Delay)

A stereo delay in which the delay time can be varied smoothly.

Parameter	Value	Explanation
Delay Sync	OFF, ON	If this is ON, the rate synchronizes with the tempo of the rhythm. ➡ "Tempo" (p. 3, p. 29)
D. Time	1–1300	Delay time from when the original sound is heard to when the delay sound is heard
D. Time Nt	Note ➡ "Note" (p. 70)	
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
Asgn1–4	OFF, D. Time, Feedback, Balance	Specifies the parameters that are assigned to assign 1–4.

44　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

Parameter	Value	Explanation
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	
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.
Wf Rate	0–127	Speed of wow/flutter (complex variation in pitch caused by tape wear and rotational irregularity)
Wf Depth	0–127	Depth of wow/flutter
Echo Level	0–127	Volume of the echo sound
Direct Lv	0–127	Volume of the original sound
Level	0–127	Output Level
Asgn1–4	OFF, Mode, Repeat Rate, Intensity	Specifies the parameters that are assigned to assign 1–4.

45　LOFI Comp (Lo-Fi Compressor)

Degrades the sound quality.

Parameter	Value	Explanation
Pre Filter	1–6	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	1–9	Degrades the sound quality. The sound quality grows poorer as this value is increased.
Post Filter	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	200–8000 [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
Asgn1–4	OFF, Balance, Level	Specifies the parameters that are assigned to assign 1–4.

46 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
Asgn1–4	OFF, Sample Rate, Filter	Specifies the parameters that are assigned to assign 1–4.

47 PitchShiftr (Pitch Shifter)

A stereo pitch shifter.

Parameter	Value	Explanation
Coarse	-24–+12 [sem]	Adjusts the pitch of the pitch shifted sound in semitone steps.
Fine	-100–+100	Adjusts the pitch of the pitch shifted sound in 2-cent steps.
Delay Sync	OFF, ON	If this is ON, the rate synchronizes with the tempo of the rhythm. ➡ "Tempo" (p. 3, p. 29)
D. Time	1–1300	Adjusts the delay time from the direct sound until the pitch shifted sound is heard.
D. Time Nt	Note ➡ "Note" (p. 70)	
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
Asgn1–4	OFF, Coarse, Fine, Feedback, Balance	Specifies the parameters that are assigned to assign 1–4.

48 2V PShifter (2 Voice 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
P1Coarse	-24–+12 [sem]	Adjusts the pitch of Pitch Shift 1 in semitone steps.
P1 Fine	-100–+100	Adjusts the pitch of Pitch Shift Pitch 1 in 2-cent steps.
P1 Dly Sync	OFF, ON	If this is ON, the rate synchronizes with the tempo of the rhythm. ➡ "Tempo" (p. 3, p. 29)
P1D.Time	1–1300	Adjusts the delay time from the direct sound until the Pitch Shift 1 sound is heard.
P1DRate Nt	Note ➡ "Note" (p. 70)	
P1 Feedback	-98–+98 [%]	Adjusts the proportion of the pitch shifted sound that is fed back into the effect. Negative (-) settings will invert the phase.
P1 Pan	L64–63R	Stereo location of the Pitch Shift 1 sound
P1 Level	0–127	Volume of the Pitch Shift 1 sound
P2Coarse	-24–+12 [sem]	Settings of the Pitch Shift 2 sound. The parameters are the same as for the Pitch Shift 1 sound.
P2 Fine	-100–+100	
P2 Dly Sync	OFF, ON	
P2D.Time	1–1300	
P2DRate Nt	Note	
P2 Feedback	-98–+98 [%]	
P2 Pan	L64–63R	
P2 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
Asgn1–4	OFF, P1Coarse, P1 Fine, P1 Feedback, P1 Pan, P2Coarse, P2 Fine, P2 Feedback, P2 Pan, Balance	Specifies the parameters that are assigned to assign 1–4.

49 OD → Chorus (Overdrive → Chorus)

Parameter	Value	Explanation
OD Drive	0–127	Degree of distortion Also changes the volume.
OD Pan	L64–63R	Stereo location of the overdrive sound
Cho PreDly	0.0–100 [ms]	Adjusts the delay time from the direct sound until the chorus sound is heard.
Cho Sync	OFF, ON	If this is ON, the rate synchronizes with the tempo of the rhythm. ➡ "Tempo" (p. 3, p. 29)
C. Rate	0.05–10.00 [Hz]	Frequency of modulation
C. Rate Nt	Note ➡ "Note" (p. 70)	
Cho Depth	0–127	Depth of modulation
Cho Bal	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
Asgn1–4	OFF, OD Drive, OD Pan, C. Rate, Cho Bal	Specifies the parameters that are assigned to assign 1–4.

50 OD → Flanger (Overdrive → Flanger)

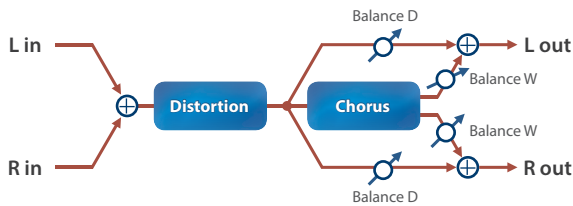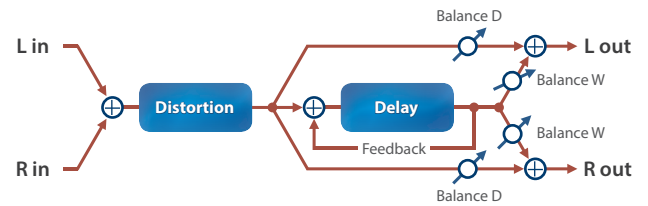| Parameter	Value	Explanation
OD Drive	0–127	Degree of distortion Also changes the volume.
OD Pan	L64–63R	Stereo location of the overdrive sound
Flg PreDly	0.0–100 [ms]	Adjusts the delay time from the direct sound until the flanger sound is heard.
Flg Sync	OFF, ON	If this is ON, the rate synchronizes with the tempo of the rhythm. ➡ "Tempo" (p. 3, p. 29)
F. Rate	0.05–10.00 [Hz]	Frequency of modulation
F. Rate Nt	Note ➡ "Note" (p. 70)	
Flg Depth	0–127	Depth of modulation
Flg Fbk	-98–+98 [%]	Adjusts the proportion of the flanger sound that is fed back into the effect. Negative (-) settings will invert the phase.
Flg Bal	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
Asgn1–4	OFF, OD Drive, OD Pan, F. Rate, Flg Fbk, Flg Bal	Specifies the parameters that are assigned to assign 1–4.

51 OD → Delay (Overdrive → Delay)

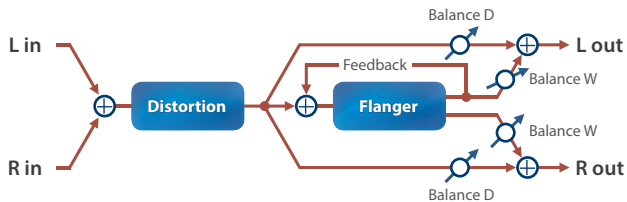| Parameter	Value	Explanation
OD Drive	0–127	Degree of distortion Also changes the volume.
OD Pan	L64–63R	Stereo location of the overdrive sound
Delay Sync	OFF, ON	If this is ON, the rate synchronizes with the tempo of the rhythm. ➡ "Tempo" (p. 3, p. 29)
D. Time	1–2600	Delay time from when the original sound is heard to when the delay sound is heard
D. Time Nt	Note ➡ "Note" (p. 70)	
Delay Fbk	-98–+98 [%]	Adjusts the proportion of the delay sound that is fed back into the effect. Negative (-) settings will invert the phase.
Dly HF	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.
Dly Bal	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
Asgn1–4	OFF, OD Drive, OD Pan, Delay Fbk, Dly Bal	Specifies the parameters that are assigned to assign 1–4.

52 | DS → Chorus (Distortion → Chorus)

Parameter	Value	Explanation
Dist Drive	0–127	Degree of distortion Also changes the volume.
Dist Pan	L64–63R	Stereo location of the overdrive sound
Cho PreDly	0.0–100 [ms]	Adjusts the delay time from the direct sound until the chorus sound is heard.
Cho Sync	OFF, ON	If this is ON, the rate synchronizes with the tempo of the rhythm. ➡ "Tempo" (p. 3, p. 29)
C. Rate	0.05–10.00 [Hz]	Frequency of modulation
C. Rate Nt	Note ➡ "Note" (p. 70)	
Cho Depth	0–127	Depth of modulation
Cho Bal	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
Asgn1–4	OFF, Dist Drive, Dist Pan, C. Rate, Cho Bal	Specifies the parameters that are assigned to assign 1–4.

53 | DS → Flanger (Distortion → Flanger)

Parameter	Value	Explanation
Dist Drive	0–127	Degree of distortion Also changes the volume.
Dist Pan	L64–63R	Stereo location of the overdrive sound
Flg PreDly	0.0–100 [ms]	Adjusts the delay time from the direct sound until the flanger sound is heard.
Flg Sync	OFF, ON	If this is ON, the rate synchronizes with the tempo of the rhythm. ➡ "Tempo" (p. 3, p. 29)
F. Rate	0.05–10.00 [Hz]	Frequency of modulation
F. Rate Nt	Note ➡ "Note" (p. 70)	
Flg Depth	0–127	Depth of modulation
Flg Fbk	-98–+98 [%]	Adjusts the proportion of the flanger sound that is fed back into the effect. Negative (-) settings will invert the phase.
Flg Bal	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
Asgn1–4	OFF, Dist Drive, Dist Pan, F. Rate, Flg Fbk, Flg Bal	Specifies the parameters that are assigned to assign 1–4.

54 | DS → Delay (Distortion → Delay)

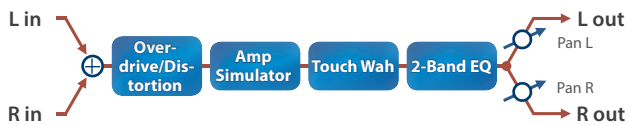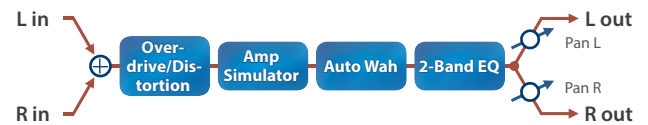| Parameter	Value	Explanation
Dist Drive	0–127	Degree of distortion Also changes the volume.
Dist Pan	L64–63R	Stereo location of the overdrive sound
Delay Sync	OFF, ON	If this is ON, the rate synchronizes with the tempo of the rhythm. ➡ "Tempo" (p. 3, p. 29)
D. Time	1–2600	Delay time from when the original sound is heard to when the delay sound is heard
D. Time Nt	Note ➡ "Note" (p. 70)	
Delay Fbk	-98–+98 [%]	Adjusts the proportion of the delay sound that is fed back into the effect. Negative (-) settings will invert the phase.
Dly HF	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.
Dly Bal	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
Asgn1–4	OFF, Dist Drive, Dist Pan, Delay Fbk, Dly Bal	Specifies the parameters that are assigned to assign 1–4.

55 OD/DS ➡ T. Wah
(Overdrive/Distortion ➡ Touch Wah)

L in → ⊕ → Over-drive/Dis-tortion → Amp Simulator → Touch Wah → 2-Band EQ → L out (Pan L) / R out (Pan R)

R in →

Parameter	Value	Explanation
Drive Switch	OFF, ON	Turns overdrive/distortion on/off
D. 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.
AmpType	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 Polar	DOWN, UP	Direction in which the filter will move **DOWN:** The filter will change toward a lower frequency. **UP:** The filter will change toward a higher 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 Bal	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
Asgn1–4	OFF, Drive, Tone, TWah Sens, TWah Manual, TWah Peak, TWah Balance	Specifies the parameters that are assigned to assign 1–4.

56 OD/DS ➡ A. Wah
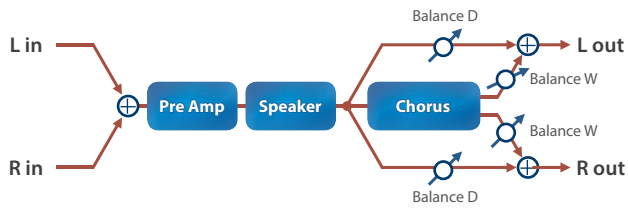### (Overdrive/Distortion ➡ Auto Wah)

L in → ⊕ → Over-drive/Dis-tortion → Amp Simulator → Auto Wah → 2-Band EQ → L out (Pan L) / R out (Pan R)

R in →

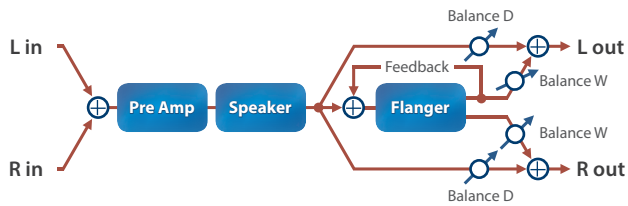| Parameter	Value	Explanation
Drive Switch	OFF, ON	Turns overdrive/distortion on/off
D. Type	OVERDRIVE, DISTORTION	Type of distortion
Drive	0–127	Degree of distortion Also changes the volume.
Tone	0–127	Sound quality of the Overdrive effect
Amp Switch	OFF, ON	Turns the Amp Simulator on/off.
AmpType	SMALL, 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
AWah Switch	OFF, ON	Wah on/off
AWah 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.
AWah Manual	0–127	Center frequency at which the wah effect is applied
AWah Peak	0–127	Width of the frequency region at which the wah effect is applied Increasing this value will make the frequency region narrower.
AWah Sync	OFF, ON	If this is ON, the rate synchronizes with the tempo of the rhythm. ➡ "Tempo" (p. 3, p. 29)
AWRate	0.05–10.00 [Hz]	Frequency of modulation
AWRate Nt	Note ➡ "Note" (p. 70)	
AWah Depth	0–127	Depth at which the wah effect is modulated
AWah Bal	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
Asgn1–4	OFF, Drive, Tone, AWah Manual, AWah Peak, AWRate, AWah Depth, AWah Bal	Specifies the parameters that are assigned to assign 1–4.

57 Gt → Chorus
(Guitar Amp Simulator → Chorus)

Parameter	Value	Explanation
Pre Amp Sw	OFF, ON	Turns the amp switch on/off.
ATyp		**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.
Drive	0–127	Volume and amount of distortion of the amp
Master Lv	0–127	Volume of the entire pre-amp
Gain	LOW, MIDDLE, HIGH	Amount of pre-amp distortion
Bass	0–127	
Middle	0–127	Tone of the bass/mid/treble frequency range
Treble	0–127	
Speaker Sw	OFF, ON	Selects whether the sound will be sent through the speaker simulation (ON) or not (OFF)

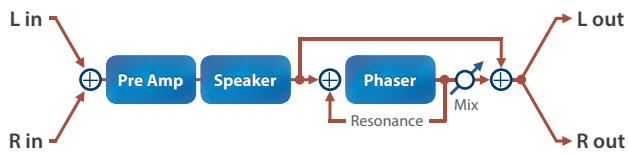| Parameter	Value	Explanation		
STyp		Cabinet	Diameter (in inches) and number of the speaker	Microphone
	SMALL 1	small open-back enclosure	10	dynamic
	SMALL 2	small open-back enclosure	10	dynamic
	MIDDLE	open back enclosure	12 x 1	dynamic
	JC-120	open back enclosure	12 x 2	dynamic
	BUILT-IN 1	open back 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 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
Chorus Sw	OFF, ON	Chorus on/off		
Cho PreDly	0.0–100 [ms]	Adjusts the delay time from the direct sound until the chorus sound is heard.		
C. Rate	0.05–10.00 [Hz]	Frequency of modulation		
Cho Depth	0–127	Depth of modulation		
Cho Bal	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		
Asgn1–4	OFF, Volume, Master Lv, Chorus Sw, C. Rate, Cho Depth, Cho Bal	Specifies the parameters that are assigned to assign 1–4.		

58 Gt → Flanger
(Guitar Amp Simulator → Flanger)

Parameter	Value	Explanation
Pre Amp Sw	OFF, ON	Turns the amp switch on/off.
		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.
ATyp	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.
Drive	0–127	Volume and amount of distortion of the amp
Master Lv	0–127	Volume of the entire pre-amp
Gain	LOW, MIDDLE, HIGH	Amount of pre-amp distortion
Bass	0–127	
Middle	0–127	Tone of the bass/mid/treble frequency range
Treble	0–127	
Speaker Sw	OFF, ON	Selects whether the sound will be sent through the speaker simulation (ON) or not (OFF)

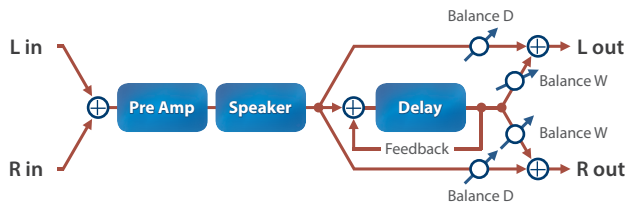| Parameter	Value	Explanation		
			Cabinet	Diameter (in inches) and number of the speaker	Microphone
	SMALL 1	small open-back enclosure	10	dynamic
	SMALL 2	small open-back enclosure	10	dynamic
	MIDDLE	open back enclosure	12 x 1	dynamic
	JC-120	open back enclosure	12 x 2	dynamic
	BUILT-IN 1	open back 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
STyp	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
Flg Switch	OFF, ON	Flanger on/off		
Flg PreDly	0.0–100 [ms]	Adjusts the delay time from the direct sound until the flanger sound is heard.		
F. Rate	0.05–10.00 [Hz]	Frequency of modulation		
Flg Depth	0–127	Depth of modulation		
Flg Fbk	-98–+98 [%]	Adjusts the proportion of the flanger sound that is fed back into the effect. Negative (-) settings will invert the phase.		
Flg Bal	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		
Asgn1–4	OFF, Volume, Master Lv, Flg Switch, F. Rate, Flg Depth, Flg Fbk, Flg Bal	Specifies the parameters that are assigned to assign 1–4.		

59 Gt → Phaser
(Guitar Amp Simulator → Phaser)

Parameter	Value	Explanation
Pre Amp Sw	OFF, ON	Turns the amp switch on/off.
		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.
ATyp	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.
Drive	0–127	Volume and amount of distortion of the amp
Master Lv	0–127	Volume of the entire pre-amp
Gain	LOW, MIDDLE, HIGH	Amount of pre-amp distortion
Bass	0–127	
Middle	0–127	Tone of the bass/mid/treble frequency range
Treble	0–127	
Speaker Sw	OFF, ON	Selects whether the sound will be sent through the speaker simulation (ON) or not (OFF)

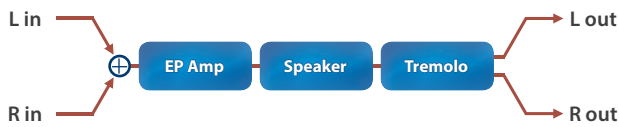| Parameter	Value	Explanation		
		Cabinet	Diameter (in inches) and number of the speaker	Microphone
	SMALL 1	small open-back enclosure	10	dynamic
	SMALL 2	small open-back enclosure	10	dynamic
	MIDDLE	open back enclosure	12 x 1	dynamic
	JC-120	open back enclosure	12 x 2	dynamic
	BUILT-IN 1	open back enclosure	12 x 2	dynamic
	BUILT-IN 2	open back enclosure	12 x 2	condenser
STyp	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
Phaser Sw	OFF, ON	Phaser on/off		
P. Rate	0.05–10.00 [Hz]	Frequency of modulation		
Phs Manual	0–127	Adjusts the basic frequency from which the sound will be modulated.		
Phs Depth	0–127	Depth of modulation		
Phs Reso	0–127	Amount of feedback		
Phs Mix	0–127	Level of the phase-shifted sound		
Level	0–127	Output Level		
Asgn1–4	OFF, Volume, Master Lv, Phaser Sw, P. Rate, Phs Manual, Phs Depth, Phs Reso, Phs Mix	Specifies the parameters that are assigned to assign 1–4.		

60 Gt → Delay
(Guitar Amp Simulator → Delay)

Parameter	Value	Explanation
Pre Amp Sw	OFF, ON	Turns the amp switch on/off.
ATyp		**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.
Drive	0–127	Volume and amount of distortion of the amp
Master Lv	0–127	Volume of the entire pre-amp
Gain	LOW, MIDDLE, HIGH	Amount of pre-amp distortion
Bass	0–127	
Middle	0–127	Tone of the bass/mid/treble frequency range
Treble	0–127	
Speaker Sw	OFF, ON	Selects whether the sound will be sent through the speaker simulation (ON) or not (OFF)

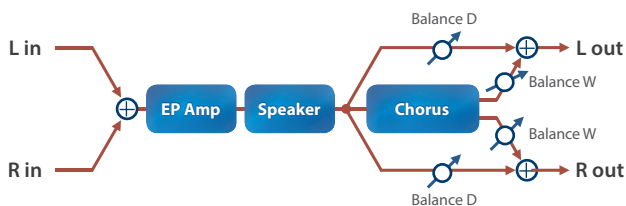| Parameter	Value	Explanation		
STyp		Cabinet	Diameter (in inches) and number of the speaker	Microphone
	SMALL 1	small open-back enclosure	10	dynamic
	SMALL 2	small open-back enclosure	10	dynamic
	MIDDLE	open back enclosure	12 x 1	dynamic
	JC-120	open back enclosure	12 x 2	dynamic
	BUILT-IN 1	open back 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 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
Delay Sw	OFF, ON	Delay on/off		
Dly Time	1–1300	Delay time from when the original sound is heard to when the delay sound is heard		
Delay Fbk	-98–+98 [%]	Adjusts the proportion of the delay sound that is fed back into the effect. Negative (-) settings will invert the phase.		
Dly HF	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)		
Dly Bal	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		
Asgn1–4	OFF, Volume, Master Lv, Delay Sw, Dly Time, Delay Fbk, Dly Bal	Specifies the parameters that are assigned to assign 1–4.		

61 EP → Tremolo
(EP Amp Simulator → 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 Sw	OFF, ON	Tremolo on/off
Tremolo Sync	OFF, ON	If this is ON, the rate synchronizes with the tempo of the rhythm. ➡ "Tempo" (p. 3, p. 29)
T. Speed	0.05–10.00 [Hz]	Rate of the tremolo effect
T. Spd Nt	Note ➡ "Note" (p. 70)	
Trm Depth	0–127	Depth of the tremolo effect
Trm Duty	-10–+10	Adjusts the duty cycle of the LFO waveform used to apply tremolo.
Sp 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
Asgn1–4	OFF, Bass, Treble, Tremolo Sw, T. Speed, Trm Depth	Specifies the parameters that are assigned to assign 1–4.

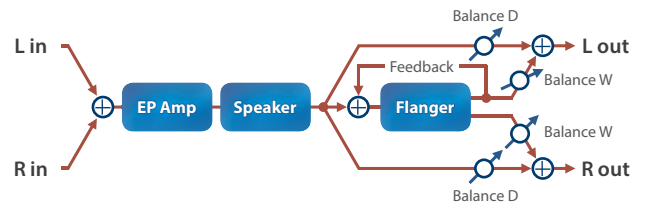## 62 EP → Chorus
(EP Amp Simulator → Chorus)

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
Cho Switch	OFF, ON	Chorus on/off
Cho PreDly	0.0–100 [ms]	Adjusts the delay time from the direct sound until the chorus sound is heard.
Cho Sync	OFF, ON	If this is ON, the rate synchronizes with the tempo of the rhythm. ➡ "Tempo" (p. 3, p. 29)

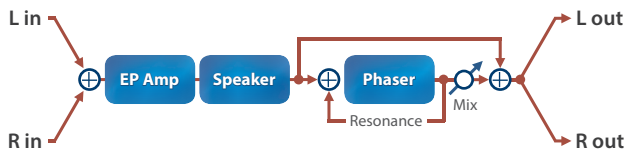| Parameter	Value	Explanation
C. Rate	0.05–10.00 [Hz]	Frequency of modulation
C. Rate Nt	Note ➡ "Note" (p. 70)	
Cho Depth	0–127	Depth of modulation
Cho Bal	D100: 0W–D0: 100W	Adjusts the volume balance between the sound that is sent through the chorus (W) and the sound that is not sent through the chorus (D).
Sp 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
Asgn1–4	OFF, Bass, Treble, Cho Switch, C. Rate, Cho Depth, Cho Bal	Specifies the parameters that are assigned to assign 1–4.

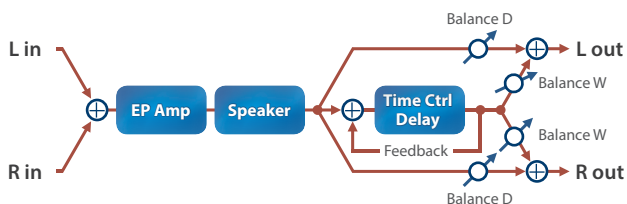## 63 EP → Flanger
(EP Amp Simulator → Flanger)

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
Flg Switch	OFF, ON	Flanger on/off
Flg PreDly	0.0–100 [ms]	Adjusts the delay time from the direct sound until the flanger sound is heard.
Flg Sync	OFF, ON	If this is ON, the rate synchronizes with the tempo of the rhythm. ➡ "Tempo" (p. 3, p. 29)
F. Rate	0.05–10.00 [Hz]	Frequency of modulation
F. Rate Nt	Note ➡ "Note" (p. 70)	
Flg Depth	0–127	Depth of modulation
Flg Fbk	-98–+98 [%]	Adjusts the proportion of the flanger sound that is fed back into the effect. Negative (-) settings will invert the phase.
Flg Bal	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).
Sp 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
Asgn1–4	OFF, Bass, Treble, Flg Switch, F. Rate, Flg Depth, Flg Fbk, Flg Bal	Specifies the parameters that are assigned to assign 1–4.

64 EP ➡ Phaser (EP Amp Simulator ➡ Phaser)

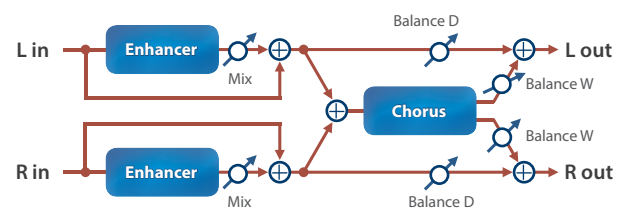| Parameter	Value	Explanation
Type		Type of amp
	OLDCASE	A standard electric piano sound of the early 70s
	NEWCASE	A standard electric piano sound of the late 70s and early 80s
Bass	-50–+50	Amount of low-frequency boost/cut
Treble	-50–+50	Amount of high-frequency boost/cut
Phs Switch	OFF, ON	Phaser on/off
Phs Sync	OFF, ON	If this is ON, the rate synchronizes with the tempo of the rhythm. ➡ "Tempo" (p. 3, p. 29)
P. Rate	0.05–10.00 [Hz]	Frequency of modulation
P. Rate Nt	Note ➡ "Note" (p. 70)	Frequency of modulation
Phs Manual	0–127	Adjusts the basic frequency from which the sound will be modulated.
Phs Depth	0–127	Depth of modulation
Phs Reso	0–127	Amount of feedback
Phs Mix	0–127	Level of the phase-shifted sound
Sp 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
Asgn1–4	OFF, Bass, Treble, Phs Switch, P. Rate, Phs Manual, Phs Depth, Phs Reso, Phs Mix	Specifies the parameters that are assigned to assign 1–4.

65 EP ➡ Delay (EP Amp Simulator ➡ Delay)

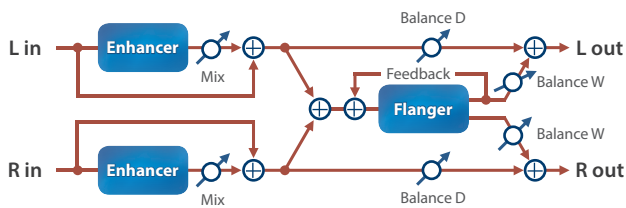| Parameter	Value	Explanation
Type		Type of amp
	OLDCASE	A standard electric piano sound of the early 70s
	NEWCASE	A standard electric piano sound of the late 70s and early 80s
Bass	-50–+50	Amount of low-frequency boost/cut
Treble	-50–+50	Amount of high-frequency boost/cut
Dly Switch	OFF, ON	Delay on/off
Delay Sync	OFF, ON	If this is ON, the rate synchronizes with the tempo of the rhythm. ➡ "Tempo" (p. 3, p. 29)
D. Time	1–1300	Delay time from when the original sound is heard to when the delay sound is heard
D. Time Nt	Note ➡ "Note" (p. 70)	Delay time from when the original sound is heard to when the delay sound is heard

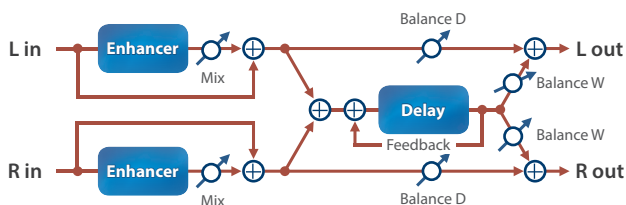| Parameter	Value	Explanation
Dly Accel	0–15	Speed at which the current delay time changes to the specified delay time when you change the delay time. The speed of the pitch change will change simultaneously with the delay time.
Delay Fbk	-98–+98 [%]	Adjusts the proportion of the delay sound that is fed back into the effect. Negative (-) settings will invert the phase.
Dly HF	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)
Dly Bal	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).
Sp 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
Asgn1–4	OFF, Bass, Treble, Dly Switch, D. Time, Delay Fbk	Specifies the parameters that are assigned to assign 1–4.

66 Enhncr ➡ Cho (Enhancer ➡ Chorus)

Parameter	Value	Explanation
Enh Sens	0–127	Sensitivity of the enhancer
Enh Mix	0–127	Level of the overtones generated by the enhancer
Cho PreDly	0.0–100 [ms]	Adjusts the delay time from the direct sound until the chorus sound is heard.
Cho Sync	OFF, ON	If this is ON, the rate synchronizes with the tempo of the rhythm. ➡ "Tempo" (p. 3, p. 29)
C. Rate	0.05–10.00 [Hz]	Frequency of modulation
C. Rate Nt	Note ➡ "Note" (p. 70)	Frequency of modulation
Cho Depth	0–127	Depth of modulation
Cho Bal	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
Asgn1–4	OFF, Enh Sens, Enh Mix, C. Rate, Cho Bal	Specifies the parameters that are assigned to assign 1–4.

67 Enhncr → Fl (Enhancer → Flanger)

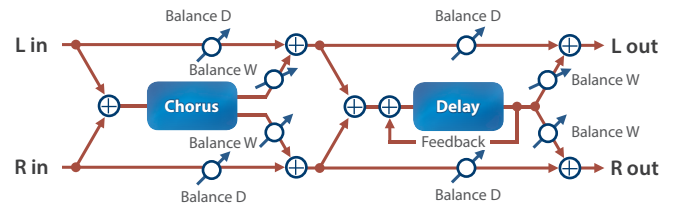| Parameter	Value	Explanation
Enh Sens	0–127	Sensitivity of the enhancer
Enh Mix	0–127	Level of the overtones generated by the enhancer
Flg PreDly	0.0–100 [ms]	Adjusts the delay time from the direct sound until the flanger sound is heard.
Flg Sync	OFF, ON	If this is ON, the rate synchronizes with the tempo of the rhythm. ➡ "Tempo" (p. 3, p. 29)
F. Rate	0.05–10.00 [Hz]	Frequency of modulation
F. Rate Nt	Note ➡ "Note" (p. 70)	
Flg Depth	0–127	Depth of modulation
Flg Fbk	-98–+98 [%]	Adjusts the proportion of the flanger sound that is fed back into the effect. Negative (-) settings will invert the phase.
Flg Bal	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
Asgn1–4	OFF, Enh Sens, Enh Mix, F. Rate, Flg Fbk, Flg Bal	Specifies the parameters that are assigned to assign 1–4.

68 Enhncr → Dly (Enhancer → Delay)

Parameter	Value	Explanation
Enh Sens	0–127	Sensitivity of the enhancer
Enh Mix	0–127	Level of the overtones generated by the enhancer
Delay Sync	OFF, ON	If this is ON, the rate synchronizes with the tempo of the rhythm. ➡ "Tempo" (p. 3, p. 29)
D. Time	1–2600	Delay time from when the original sound is heard to when the delay sound is heard
D. Time Nt	Note ➡ "Note" (p. 70)	
Delay Fbk	-98–+98 [%]	Adjusts the proportion of the delay sound that is fed back into the effect. Negative (-) settings will invert the phase.
Dly HF	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.
Dly Bal	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

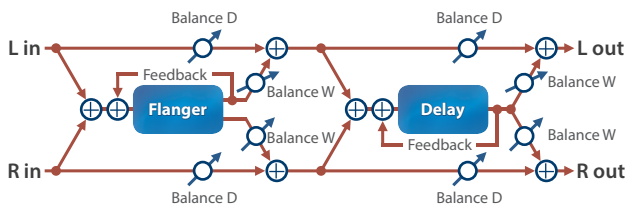| Parameter	Value	Explanation
Asgn1–4	OFF, Enh Sens, Enh Mix, D. Time, Delay Fbk, Dly Bal	Specifies the parameters that are assigned to assign 1–4.

69 Chorus → Dly (Chorus → Delay)

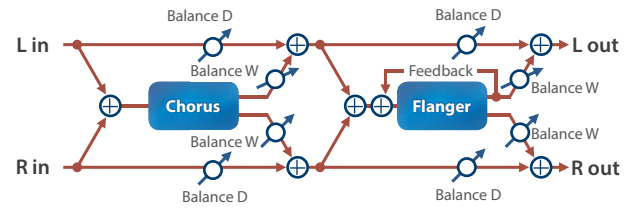| Parameter	Value	Explanation
Cho PreDly	0.0–100 [ms]	Adjusts the delay time from the direct sound until the chorus sound is heard.
Cho Sync	OFF, ON	If this is ON, the rate synchronizes with the tempo of the rhythm. ➡ "Tempo" (p. 3, p. 29)
C. Rate	0.05–10.00 [Hz]	Frequency of modulation
C. Rate Nt	Note ➡ "Note" (p. 70)	
Cho Depth	0–127	Depth of modulation
Cho Bal	D100: 0W–D0: 100W	Volume balance between the direct sound (D) and the chorus sound (W)
Delay Sync	OFF, ON	If this is ON, the rate synchronizes with the tempo of the rhythm. ➡ "Tempo" (p. 3, p. 29)
D. Time	1–2600	Delay time from when the original sound is heard to when the delay sound is heard
D. Time Nt	Note ➡ "Note" (p. 70)	
Delay Fbk	-98–+98 [%]	Adjusts the proportion of the delay sound that is fed back into the effect. Negative (-) settings will invert the phase.
Dly HF	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.
Dly Bal	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
Asgn1–4	OFF, C. Rate, Cho Bal, Delay Fbk, Dly Bal	Specifies the parameters that are assigned to assign 1–4.

70 Flanger → Dly (Flanger → Delay)

Parameter	Value	Explanation
Flg PreDly	0.0–100 [ms]	Adjusts the delay time from the direct sound until the flanger sound is heard.
Flg Sync	OFF, ON	If this is ON, the rate synchronizes with the tempo of the rhythm. ➡ "Tempo" (p. 3, p. 29)
F. Rate	0.05–10.00 [Hz]	Frequency of modulation
F. Rate Nt	Note ➡ "Note" (p. 70)	
Flg Depth	0–127	Depth of modulation
Flg Fbk	-98–+98 [%]	Adjusts the proportion of the flanger sound that is fed back into the effect. Negative (-) settings will invert the phase.
Flg Bal	D100: 0W–D0: 100W	Volume balance between the direct sound (D) and the flanger sound (W)
Delay Sync	OFF, ON	If this is ON, the rate synchronizes with the tempo of the rhythm. ➡ "Tempo" (p. 3, p. 29)
D. Time	1–2600	Delay time from when the original sound is heard to when the delay sound is heard
D. Time Nt	Note ➡ "Note" (p. 70)	
Delay Fbk	-98–+98 [%]	Adjusts the proportion of the delay sound that is fed back into the effect. Negative (-) settings will invert the phase.
Dly HF	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.
Dly Bal	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
Asgn1–4	OFF, F. Rate, Flg Fbk, Flg Bal, Delay Fbk, Dly Bal	Specifies the parameters that are assigned to assign 1–4.

71 Chorus → Fl (Chorus → Flanger)

Parameter	Value	Explanation
Cho PreDly	0.0–100 [ms]	Adjusts the delay time from the direct sound until the chorus sound is heard.
Cho Sync	OFF, ON	If this is ON, the rate synchronizes with the tempo of the rhythm. ➡ "Tempo" (p. 3, p. 29)
C. Rate	0.05–10.00 [Hz]	Modulation frequency of the chorus effect
C. Rate Nt	Note ➡ "Note" (p. 70)	
Cho Depth	0–127	Modulation depth of the chorus effect
Cho Bal	D100: 0W–D0: 100W	Volume balance between the direct sound (D) and the chorus sound (W)
Flg PreDly	0.0–100 [ms]	Adjusts the delay time from the direct sound until the flanger sound is heard.
Flg Sync	OFF, ON	If this is ON, the rate synchronizes with the tempo of the rhythm. ➡ "Tempo" (p. 3, p. 29)
F. Rate	0.05–10.00 [Hz]	Modulation frequency of the flanger effect
F. Rate Nt	Note ➡ "Note" (p. 70)	
Flg Depth	0–127	Modulation depth of the flanger effect
Flg Fbk	-98–+98 [%]	Adjusts the proportion of the flanger sound that is fed back into the effect. Negative (-) settings will invert the phase.
Flg Bal	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
Asgn1–4	OFF, C. Rate, Cho Bal, F. Rate, Flg Fbk, Flg Bal	Specifies the parameters that are assigned to assign 1–4.

72 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
Asgn1–4	OFF, Intensity	Specifies the parameters that are assigned to assign 1–4.

73 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.

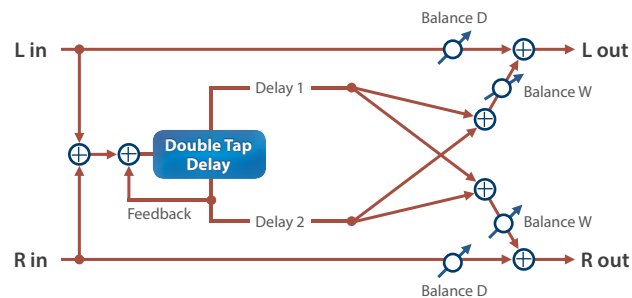| Parameter	Value	Explanation
Mode		Types of flanging effect
	FL1	A typical mono flanger
	FL2	A stereo flanger that preserves the stereo positioning of the original sound
	FL3	A cross-mix flanger that produces a more intense effect
	CHO	A chorus effect
Rate Sync	OFF, ON	If this is ON, the rate synchronizes with the tempo of the rhythm. ➡ "Tempo" (p. 3, p. 29)
Rate	0.02–5.00 [Hz]	Modulation frequency of the flanger effect
Rate Note	Note ➡ "Note" (p. 70)	
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.
RMod 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.
L Phase	NORM, INV	Phase when mixing the flanging sound with the original sound
R Phase	NORM, INV	**NORM:** normal phase **INV:** inverse phase
Level	0–127	Output Level
Asgn1–4	OFF, Rate (Hz), Depth, Manual	Specifies the parameters that are assigned to assign 1–4.

74 SDD-320 (DIMENSION D)

This models Roland's DIMENSION D (SDD-320). It provides a clear chorus sound.

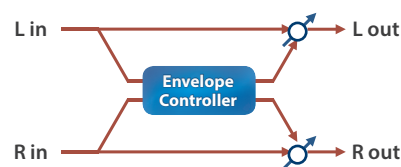| Parameter	Value	Explanation
Mode	1, 2, 3, 4, 1+4, 2+4, 3+4	Switches the mode.
Low Gain	-15–+15 [dB]	Amount of boost/cut for the low-frequency range
High Gain	-15–+15 [dB]	Amount of boost/cut for the high-frequency range
Level	0–127	Output Level
Asgn1–4	OFF, Mode	Specifies the parameters that are assigned to assign 1–4.

75 2Tap PanDly (2 Tap Pan Delay)

Parameter	Value	Explanation
Delay Sync	OFF, ON	If this is ON, the delay synchronizes with the tempo.
D. Time (ms)	1–2600	Adjusts the time until the second delay sound is heard.
D. Time (Nt)	Note ➡ "Note" (p. 70)	
Delay Fbk	-98–+98 [%]	Adjusts the proportion of the delay sound that is fed back into the effect. Negative (-) settings will invert the phase.
Dly HF	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.
Dly1 Pan	L64–63R	Stereo location of Delay 1
Dly2 Pan	L64–63R	Stereo location of Delay 2
Dly1 Lv	0–127	Volume of delay 1
Dly2 Lv	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
Asgn1–4	OFF, D. Time (ms), Delay Fbk, Balance	Specifies the parameters that are assigned to assign 1–4.

76 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 cutoff quickly.
Out Gain	-24–+12 [dB]	Output gain
Sens	LOW, MID, HIGH	Quickness with which the attack is detected
Level	0–127	Output Level
Asgn1–4	OFF, Attack, Release	Specifies the parameters that are assigned to assign 1–4.

77 Mid-Side EQ (Mid-Side Equalizer)

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.
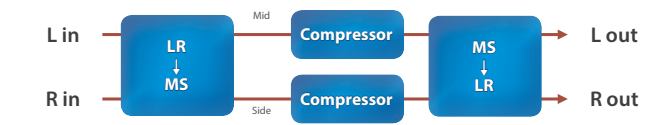

Parameter	Value	Explanation
M EQ Switch	OFF, ON	Switches whether to apply tonal adjustment to left/right input signals whose phase is similar (in phase).
M In G	-12.00–+12.00 [dB]	Volume of left/right input signals whose phase is similar (in phase)
M Low F	20, 25, 31, 40, 50, 63, 80, 100, 125, 160, 200, 250, 315, 400 [Hz]	Frequency of the low range
M Low G	-12.00–+12.00 [dB]	Amount of boost/cut for the low-frequency range
M Mid1 F	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 Mid1G	-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 F	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 Mid2G	-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 F	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 Mid3G	-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 F	2000, 2500, 3150, 4000, 5000, 6300, 8000, 10000, 12500, 16000 [Hz]	Frequency of the high range
M HighG	-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 In G	-12.00–+12.00 [dB]	Volume of left/right signals whose phase is distant (opposite phase)
S Low F	20, 25, 31, 40, 50, 63, 80, 100, 125, 160, 200, 250, 315, 400 [Hz]	Frequency of the low range
S Low G	-12.00–+12.00 [dB]	Amount of boost/cut for the low-frequency range
S Mid1 F	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 Mid1G	-12.00–+12.00 [dB]	Gain of the middle range 1

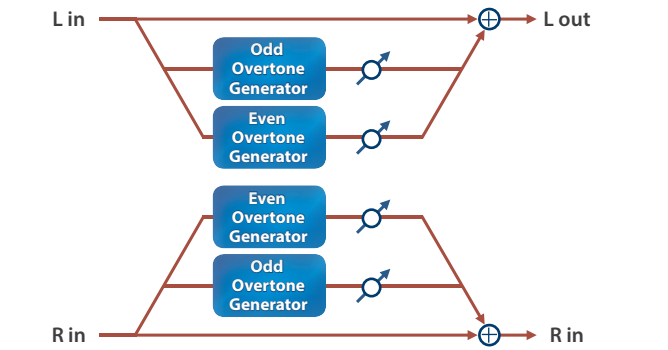| Parameter	Value	Explanation
S Mid1 Q	0.5, 1.0, 2.0, 4.0, 8.0	Width of the middle range 1 Set a higher value for Q to narrow the range to be affected.
S Mid2 F	200, 250, 315, 400, 500, 630, 800, 1000, 1250, 1600, 2000, 2500, 3150, 4000, 5000, 6300, 8000 [Hz]	Frequency of the middle range 2
S Mid2G	-12.00–+12.00 [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 F	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 Mid3G	-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 F	2000, 2500, 3150, 4000, 5000, 6300, 8000, 10000, 12500, 16000 [Hz]	Frequency of the high range
S HighG	-12.00–+12.00 [dB]	Amount of boost/cut for the high-frequency range
Level	0–127	Output Level
Asgn1–4	OFF, M Low Gain, M Mid1 Gain, M Mid2 Gain, M Mid3 Gain, M High Gain, S Low Gain, S Mid1 Gain, S Mid2 Gain, S Mid3 Gain, S High Gain	Specifies the parameters that are assigned to assign 1–4.

78 | M/S Comp (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.

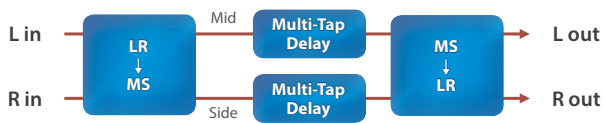| Parameter	Value	Explanation
M Comp Sw	OFF, ON	Switches whether to adjust the sense of volume for left/right input signals whose phase is similar (in phase).
M Attack	0–124	Sets the speed at which compression starts
M Release	0–124	Adjusts the time after the signal volume falls below the M Thres Level until compression is no longer applied.
M Thres	-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 M Thres. Higher values produce a smoother transition.
M Ratio	1: 1, 1.5: 1, 2: 1, 4: 1, 16: 1, INF: 1	Compression ratio
M Gain	0–+18 [dB]	Level of the output sound
S Comp Sw	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 S Thres Level until compression is no longer applied.
S Thres	-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 S Thres. Higher values produce a smoother transition.
S Ratio	1: 1, 1.5: 1, 2: 1, 4: 1, 16: 1, INF: 1	Compression ratio
S Gain	0–+18 [dB]	Level of the output sound
Level	0–127	Output Level
Asgn1–4	OFF, M Attack, M Release, M Threshold, M Post Gain, S Attack, S Release, S Threshold, S Post Gain	Specifies the parameters that are assigned to assign 1–4.

79 | Fattener (Tone Fattener)

This effect applies distinctive distortion, adding overtones to give more depth to the sound.

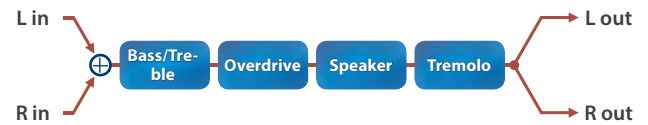| Parameter	Value	Explanation
Odd Level	0–400 [%]	Raising the value adds odd-order overtones.
Even Level	0–400 [%]	Raising the value adds even-order overtones.
Level	0–127	Output Level
Asgn1–4	OFF, Odd Level, Even Level	Specifies the parameters that are assigned to assign 1–4.

80 M/S Delay (Mid-Side Delay)

This effect applies different amounts of delay to left/right signals of similar phase and differing phase.

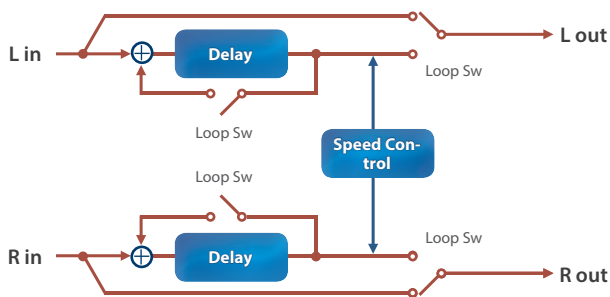| Parameter	Value	Explanation
MD Level	0–127	Delay volume of left/right input signals whose phase is similar (in phase)
MD Mode	2TAP, 3TAP, 4TAP	Delay divisions for the input signals whose left/right phase is similar (identical phase)
MD Tm Sync	OFF, ON	If this is ON, the delay synchronizes with the tempo.
MD. Time	1–1300	Adjusts the time from the original sound until the delay sound is heard.
MDTime Nt	Note ➡ "Note" (p. 70)	
MD Feedback	-98–+98 [%]	Adjusts the proportion of the delay sound that is fed back into the effect. Negative (-) settings will invert the phase.
MD HFDamp	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.
MD1 Pan	L64–63R	Panning of the first delay sound
MD2 Pan	L64–63R	Panning of the second delay sound
MD3 Pan	L64–63R	Panning of the third delay sound
MD4 Pan	L64–63R	Panning of the fourth delay sound
SD Level	0–127	Delay volume of left/right input signals whose phase is distant (opposite phase)
SD Mode	2TAP, 3TAP, 4TAP	Delay divisions for the input signals whose left/right phase is distant (reverse phase)
SD Tm Sync	OFF, ON	If this is ON, the delay synchronizes with the tempo.
SD Time	1–1300	Adjusts the time from the original sound until the delay sound is heard.
SDTime Nt	Note ➡ "Note" (p. 70)	
SD Feedback	-98–+98 [%]	Adjusts the proportion of the delay sound that is fed back into the effect. Negative (-) settings will invert the phase.
SD HFDamp	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.
SD1 Pan	L64–63R	Panning of the first delay sound
SD2 Pan	L64–63R	Panning of the second delay sound
SD3 Pan	L64–63R	Panning of the third delay sound
SD4 Pan	L64–63R	Panning of the fourth delay sound
Level	0–127	Output Level
Asgn1–4	OFF, MD Level, MD Feedback, SD Level, SD Feedback	Specifies the parameters that are assigned to assign 1–4.

81 EP Amp Sim (RD EP Amp Simulator)

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 Sw	OFF, ON	Tremolo on/off
Type		Type of tremolo effect
	OLDCASE MO	A standard electric piano sound of the early 70s (mono)
	OLDCASE ST	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
Speed Sync	OFF, ON	If this is ON, the rate synchronizes with the tempo of the rhythm. ➡ "Tempo" (p. 3, p. 29)
Speed	0.05–10.00 [Hz]	Rate of the tremolo effect
Speed Nt	Note ➡ "Note" (p. 70)	
Depth	0–127	Depth of the tremolo effect
Shape	0–20	Adjusts the waveform of the tremolo.
AMP	OFF, ON	Turns the speaker and distortion on/off
Speaker	LINE, OLD, NEW, WURLY, TWIN	Type of speaker If LINE is selected, the sound will not be sent through the speaker simulation.
Drive	0–127	Degree of distortion Also changes the volume.
Level	0–127	Output Level
Asgn1–4	OFF, Bass, Treble, Tremolo Sw, Speed, Depth	Specifies the parameters that are assigned to assign 1–4.

82 | DJFX Looper

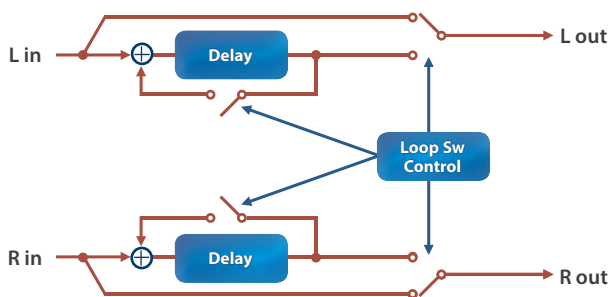Loops a short portion of the input sound. You can vary the playback direction and playback speed of the input sound to add turntable-type effects.

Parameter	Value	Explanation
Length	230–23 (not straight)	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
Asgn1–4	OFF, Length, Speed, Loop Sw	Specifies the parameters that are assigned to assign 1–4.

83 | BPM Looper

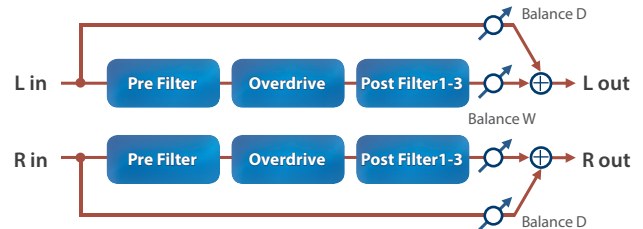Loops a short portion of the input sound. This can automatically turn the loop on/off in synchronization with the rhythm.

Parameter	Value	Explanation
Length	230–23 (not straight)	Specifies the length of the loop.
Rate Sync	OFF, ON	If this is ON, the rate synchronizes with the tempo of the rhythm. ➡ "Tempo" (p. 3, p. 29)
Rate	0.05–10.00 [Hz]	Cycle at which the loop automatically turns on/off
Rate Note	Note ➡ "Note" (p. 70)	
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)
Lenth	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.**

Parameter	Value	Explanation
Level	0–127	Output Level
Asgn1–4	OFF, Length, Rate (Hz)	Specifies the parameters that are assigned to assign 1–4.

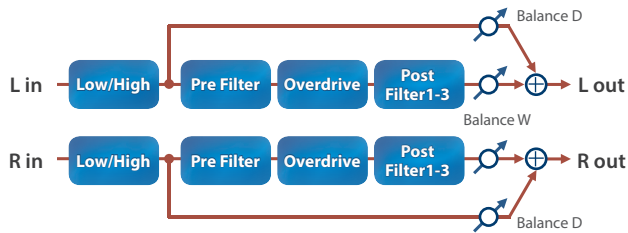## 84 | Saturator

This effect combines overdrive and filter.

Parameter	Value	Explanation
Pre 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
Pre Freq	20–16000 [Hz]	Frequency at which the pre-distortion filter operates
Pre 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
Post1 Type	THRU, LPF, HPF, LSV, HSV	Type of filter 1 which follows the distortion processing
Post1Frq	20–16000 [Hz]	Frequency at which post-distortion filter 1 operates
Post1Gain	-24.0–+24.0 [dB]	For the LSV/HSV types, the amount of boost/cut
Post2 Type	THRU, LPF, HPF, LSV, HSV	Type of filter 2 which follows the distortion processing
Post2Frq	20–16000 [Hz]	Frequency at which post-distortion filter 2 operates
Post2Gain	-24.0–+24.0 [dB]	For the LSV/HSV types, the amount of boost/cut
Post3 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
Post3Frq	20–16000 [Hz]	Frequency at which post-distortion filter 3 operates
Post3Gain	-24.0–+24.0 [dB]	For the PKG type, the amount of boost/cut
Post3 Q	0.5–16.0	Width of the frequency range affected by the filter
Sense	-60.0–0.0 [dB]	Adjust this value so that the sound is not made louder when distortion is applied.
PostGain	-48.0 +12.0 [dB]	Gain following distortion processing
Balance	D100: 0W–D0: 100W	Volume balance between the dry sound (D) and effect sound (W)
Level	0–127	Output Level
Asgn1–4	OFF, Drive, Drive Balance, Level	Specifies the parameters that are assigned to assign 1–4.

85 W Saturator (Worm Saturator)

This is a variety of saturator, and is distinctive for its warmer sound.

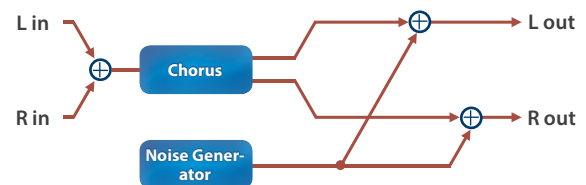| Parameter	Value	Explanation
LowFreq	20–16000 [Hz]	Input filter (low range) Boosts/cuts the sound below the specified frequency.
LowGain	-24.0–+24.0 [dB]	Amount of boost/cut
Hi Slope	THRU, -12dB, -24dB	Input filter (high range) Boosts/cuts the sound above the specified frequency.
Hi Freq	20–16000 [Hz]	Amount of boost/cut
Pre1 Type	THRU, LPF, HPF, LSV, HSV	Types 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
Pre1Freq	20–16000 [Hz]	Frequency at which the pre-distortion filter operates
Pre1Gain	-24.0–+24.0 [dB]	For the LSV/HSV types, the amount of boost/cut
Drive	0.0–48.0 [dB]	Strength of distortion
Post1 Type	THRU, LPF, HPF, LSV, HSV	Type of filter 1 which follows the distortion processing
Post1Frq	20–16000 [Hz]	Frequency at which post-distortion filter 1 operates
Post1Gain	-24.0–+24.0 [dB]	For the LSV/HSV types, the amount of boost/cut
Post2 Type	THRU, LPF, HPF, LSV, HSV	Type of filter 2 which follows the distortion processing
Post2Frq	20–16000 [Hz]	Frequency at which post-distortion filter 2 operates
Post2Gain	-24.0–+24.0 [dB]	For the LSV/HSV types, the amount of boost/cut
Post3 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
Post3Frq	20–16000 [Hz]	Frequency at which post-distortion filter 3 operates
Post3Gain	-24.0–+24.0 [dB]	For the PKG type, the amount of boost/cut
Post3 Q	0.5–16.0	Width of the frequency range affected by the filter
Sense	-60.0–0.0 [dB]	Adjust this value so that the sound is not made louder when distortion is applied.
PostGain	-48.0–+12.0 [dB]	Gain following distortion processing
Balance	D100: 0W–D0: 100W	Volume balance between the dry sound (D) and effect sound (W)
Level	0–127	Output Level
Asgn1–4	OFF, LowGain, Hi Freq, Drive, Balance, Level	Specifies the parameters that are assigned to assign 1–4.

86 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	0–127	Sound quality of the Overdrive effect
Level	0–127	Output Level
Asgn1–4	OFF, Drive, Tone	Specifies the parameters that are assigned to assign 1–4.

87 JUNO Chorus (JUNO-106Chorus)

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 Lv	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
Asgn1–4	OFF, Noise Level, Balance	Specifies the parameters that are assigned to assign 1–4.

88 | MM Filter (Multi-mode Filter)

This is a filter that is adjusted for effective use in a DJ performance.

L in → Multimode Filter → L out

R in → Multimode Filter → R out
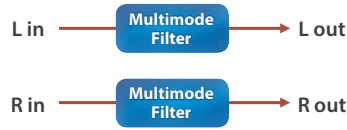
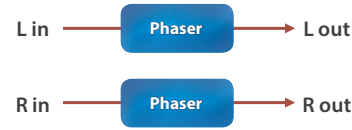| Parameter	Value	Explanation
Type	LPF/HPF, LPF, HPF, BPF	Type of filter LPF/HPF: The filter type is automatically switched according to the Filter Tone parameter value.
Tone	0–255	Frequency at which the filter operates
Color	0–255	Filter resonance level Higher values more strongly emphasize the region of the operating frequency.
Slope	-12, -24, -36 [dB]	Amount of attenuation per octave **-12 dB:** gentle **-24 dB:** steep **-36 dB:** extremely steep
Gain	0–+12 [dB]	Amount of boost for the filter output
Level	0–127	Output Level
Asgn1–4	OFF, Filter Type, Filter Tone, Filter Color, Filter Slope	Specifies the parameters that are assigned to assign 1–4.

89 | HMS Distort (HMS Distortion)

This is a distortion-type effect that models the vacuum tube amp section of a rotary speaker of the past.

L in → ⊕ → Tube Model Distortion → L out, R out
R in → ⊕

Parameter	Value	Explanation
Dist	0–127	Strength of distortion
Level	0–127	Output Level
Asgn1–4	OFF, Distortion	Specifies the parameters that are assigned to assign 1–4.

90 | Script 100

This simulates an analog phaser of the past.

L in → Phaser → L out

R in → Phaser → R out

Parameter	Value	Explanation
Rate Sync	OFF, ON	If this is ON, the rate synchronizes with the tempo of the rhythm. ➡ "Tempo" (p. 3, p. 29)
Rate	0.05–10.00 [Hz]	Frequency of modulation
Rate Note	Note ➡ "Note" (p. 70)	
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	Applies modulation according to the value of the Manual parameter, rather than modulating automatically.
Manual	0–100	Adjusts the basic frequency from which the sound will be modulated.
Resonance	0–66	Amount of feedback
Mix	0–127	Level of the phase-shifted sound
Level	0–127	Output Level
Asgn1–4	OFF, Rate (Hz), Min, Max, Manual, Resonance, Mix	Specifies the parameters that are assigned to assign 1–4.

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	1/32.	Dotted thirty-second note
1/16	Sixteenth note	1/8T	Eighth-note triplet	1/16.	Dotted sixteenth note
1/8	Eighth note	1/4T	Quarter-note triplet	1/8.	Dotted eighth note
1/4	Quarter note	1/2T	Half-note triplet	1/4.	Dotted quarter note
1/2	Half note	1T	Whole-note triplet	1/2.	Dotted half note
1	Whole note	2T	Double-note triplet	1.	Dotted whole note
2	Double note				