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00 Thru

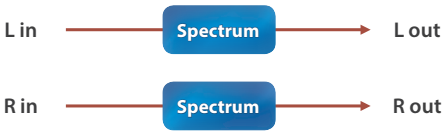
01 Equalizer

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

Parameter	Value	Explanation
Low Freq (Low Frequency)	20, 25, 31, 40, 50, 63, 80, 100, 125, 160, 200, 250, 315, 400 [Hz]	Frequency of the low range
Low Gain	-15–+15 [dB]	Gain of the low range
Mid1 Freq (Mid1 Frequency)	200, 250, 315, 400, 500, 630, 800, 1000, 1250, 1600, 2000, 2500, 3150, 4000, 5000, 6300, 8000 [Hz]	Frequency of the middle range 1
Mid1 Gain	-15–+15 [dB]	Gain of the middle range 1
Mid1 Q	0.5, 1.0, 2.0, 4.0, 8.0	Width of the middle range 1 Set a higher value to narrow the range to be affected.
Mid2 Freq (Mid2 Frequency)	200, 250, 315, 400, 500, 630, 800, 1000, 1250, 1600, 2000, 2500, 3150, 4000, 5000, 6300, 8000 [Hz]	Frequency of the middle range 2
Mid2 Gain	-15–+15 [dB]	Gain of the middle range 2
Mid2 Q	0.5, 1.0, 2.0, 4.0, 8.0	Width of the middle range 2 Set a higher value to narrow the range to be affected.
High Freq (High Frequency)	2000, 2500, 3150, 4000, 5000, 6300, 8000, 10000, 12500, 16000 [Hz]	Frequency of the high range
High Gain	-15–+15 [dB]	Gain of the high range
Level	0–127	Output Level

02 Spectrum

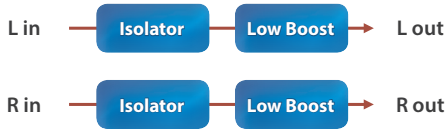
This is a stereo spectrum. Spectrum is a type of filter which modifies the timbre by boosting or cutting the level at specific frequencies.



Parameter	Value	Explanation
Band1 (250 Hz)	-15–+15 [dB]	Gain of each frequency band
Band2 (500 Hz)		
Band3 (1000 Hz)		
Band4 (1250 Hz)		
Band5 (2000 Hz)		
Band6 (3150 Hz)		
Band7 (4000 Hz)		
Band8 (8000 Hz)		
Q	0.5, 1.0, 2.0, 4.0, 8.0	Simultaneously adjusts the width of the adjusted ranges for all the frequency bands.
Level	0–127	Output Level

03 Isolator

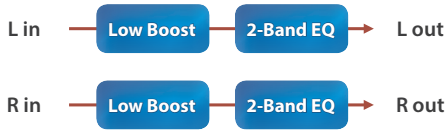
This is an equalizer which cuts the volume greatly, allowing you to add a special effect to the sound by cutting the volume in varying ranges.



Parameter	Value	Explanation
Boost/Cut Low	-60–+4 [dB]	These boost and cut each of the High, Middle, and Low frequency ranges. At -60 dB, the sound becomes inaudible. 0 dB is equivalent to the input level of the sound.
Boost/Cut Mid	-60–+4 [dB]	
Boost/Cut High	-60–+4 [dB]	
Anti Phase Low Sw	OFF, ON	Turns the Anti-Phase function on and off for the Low frequency ranges. When turned on, the counter-channel of stereo sound is inverted and added to the signal.
Anti Phase Low Level	0–127	Level of the Anti-Phase function for the Low frequency ranges. Adjusting this level for certain frequencies allows you to lend emphasis to specific parts. (This is effective only for stereo source.)
Anti Phase Mid Sw	OFF, ON	Settings of the Anti-Phase function for the Middle frequency ranges. The parameters are the same as for the Low frequency ranges.
Anti Phase Mid Level	0–127	
Low Boost Sw	OFF, ON	Turns Low Booster on/off. This emphasizes the bottom to create a heavy bass sound.
Low Boost Level	0–127	Increasing this value gives you a heavier low end. Depending on the Isolator and filter settings this effect may be hard to distinguish.
Level	0–127	Output Level

04 Low Boost

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



Parameter	Value	Explanation
Boost Frequency	50, 56, 63, 71, 80, 90, 100, 112, 125 [Hz]	Center frequency at which the lower range will be boosted
Boost Gain	0–+12 [dB]	Center frequency at which the lower range will be boosted
Boost Width	WIDE, MID, NARROW	Width of the lower range that will be boosted
Low Gain	-15–+15 [dB]	Gain of the low range
High Gain	-15–+15 [dB]	Gain of the high range
Level	0–127	Output Level

05 Super Filter

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

Parameter	Value	Explanation
Filter Type	LPF, BPF, HPF, NOTCH	Type of filter Frequency range that will pass through each filter **LPF:** frequencies below the cutoff **BPF:** frequencies in the region of the cutoff **HPF:** frequencies above the cutoff **NOTCH:** frequencies other than the region of the cutoff
Filter Slope	-12, -24, -36 [dB]	Amount of attenuation per octave **-12 dB:** Gentle, **-24 dB:** Steep, **-36 dB:** Extremely steep
Filter Cutoff	0–127	Cutoff frequency of the filter Increasing this value will raise the cutoff frequency.
Filter Resonance	0–100	Filter resonance level Increasing this value will emphasize the region near the cutoff frequency.
Filter Gain	0–+12 [dB]	Amount of boost for the filter output
Modulation Sw	OFF, ON	On/off switch for cyclic change
Modulation Wave	TRI, SQR, SIN, SAW1, SAW2	How the cutoff frequency will be modulated **TRI:** Triangle wave **SQR:** Square wave **SIN:** Sine wave **SAW1:** Sawtooth wave (upward) **SAW2:** Sawtooth wave (downward)
	SAW1 SAW2 	
Rate (sync sw)	OFF, ON	If this is ON, the rate synchronizes with the tempo of the rhythm. ➡ **"Tempo"** (p. 5)
Rate (Hz)	0.05–10.00 [Hz]	Frequency of modulation
Rate (note)	Note ➡ **"Note"** (p. 76)	
Depth	0–127	Depth of modulation
Attack	0–127	Speed at which the cutoff frequency will change This is effective if Modulation Wave is SQR, SAW1, or SAW2.
Level	0–127	Output Level

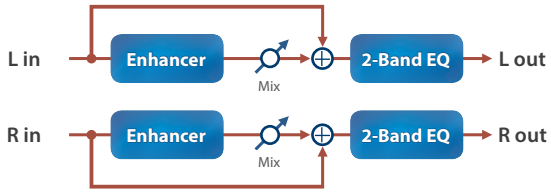
06 Step Filter

This is a filter whose cutoff frequency can be modulated in steps. You can specify the pattern by which the cutoff frequency will change.

Parameter	Value	Explanation
Step 01–16	0–127	Cutoff frequency at each step
Rate (sync sw)	OFF, ON	If this is ON, the rate synchronizes with the tempo of the rhythm. ➡ **"Tempo"** (p. 5)
Rate (Hz)	0.05–10.00 [Hz]	Frequency of modulation
Rate (note)	Note ➡ **"Note"** (p. 76)	
Attack	0–127	Speed at which the cutoff frequency changes between steps
Filter Type	LPF, BPF, HPF, NOTCH	Type of filter Frequency range that will pass through each filter **LPF:** frequencies below the cutoff **BPF:** frequencies in the region of the cutoff **HPF:** frequencies above the cutoff **NOTCH:** frequencies other than the region of the cutoff
Filter Slope	-12, -24, -36 dB	Amount of attenuation per octave **-12 dB:** Gentle, **-24 dB:** Steep, **-36 dB:** Extremely steep
Filter Resonance	0–127	Filter resonance level Increasing this value will emphasize the region near the cutoff frequency.
Filter Gain	0–+12 [dB]	Amount of boost for the filter output
Level	0–127	Output Level

07 Enhancer

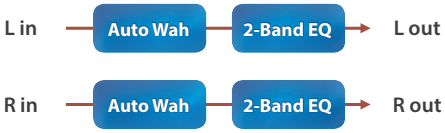
Controls the overtone structure of the high frequencies, adding sparkle and tightness to the sound.



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]	Gain of the low range
High Gain	-15–+15 [dB]	Gain of the high range
Level	0–127	Output Level

08 Auto Wah

Cyclically controls a filter to create cyclic change in timbre.



Parameter	Value	Explanation
Filter Type	LPF, BPF	Type of filter **LPF:** Produces a wah effect in a broad frequency range. **BPF:** Produces a wah effect in 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	Adjusts the sensitivity with which the filter is controlled.
Polarity	UP, DOWN	Direction in which the filter will move **UP:** The filter will change toward a higher frequency. **DOWN:** The filter will change toward a lower frequency.
Rate (sync sw)	OFF, ON	If this is ON, the rate synchronizes with the tempo of the rhythm. ➡ **"Tempo"** (p. 5)
Rate (Hz)	0.05–10.00 [Hz]	Modulation frequency of the wah effect
Rate (note)	Note ➡ **"Note"** (p. 76)	
Depth	0–127	Depth of modulation
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]	Gain of the low range
High Gain	-15–+15 [dB]	Gain of the high range
Level	0–127	Output Level

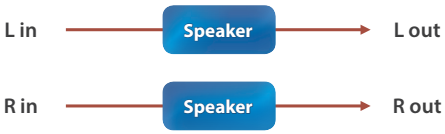
09 Humanizer

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	Vowel2
Rate (sync sw)	OFF, ON	If this is ON, the rate synchronizes with the tempo of the rhythm. ➡ **"Tempo"** (p. 5)
Rate (Hz)	0.05–10.00 [Hz]	Frequency at which the two vowels switch
Rate (note)	Note ➡ **"Note"** (p. 76)	
Depth	0–127	Depth of the effect
Input Sync Sw	OFF, ON	LFO reset on/off If this is ON, the LFO for switching the vowels is reset by the input signal.
Input Sync Threshold	0–127	Volume level at which reset is applied
Manual	0–100	Point at which Vowel 1/2 switch **0–49:** Vowel 1 will have a longer duration. **50:** Vowel 1 and 2 will be of equal duration. **51–100:** Vowel 2 will have a longer duration.
Low Gain	-15–+15 [dB]	Gain of the low range
High Gain	-15–+15 [dB]	Gain of the high range
Pan	L64–63R	Stereo location of the output sound
Level	0–127	Output Level

10 Speaker Simulator

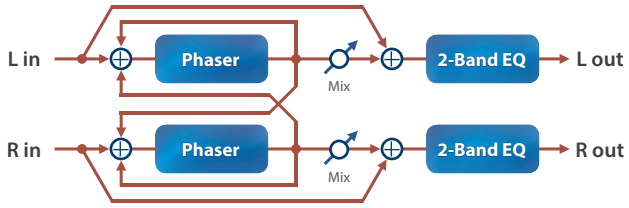
Simulates the speaker type and microphone settings used to record the speaker sound.



Parameter	Value	Explanation		
		Cabinet	Diameter (in inches) and number of the speaker	Microphone
Speaker Type	SMALL 1	Small open-back enclosure	10	Dynamic
	SMALL 2	Small open-back enclosure	10	Dynamic
	MIDDLE	Open back enclosure	12 x 1	Dynamic
	JC-120	Open back enclosure	12 x 2	Dynamic
	BUILT-IN 1	Open back enclosure	12 x 2	Dynamic
	BUILT-IN 2	Open back enclosure	12 x 2	Condenser
	BUILT-IN 3	Open back enclosure	12 x 2	Condenser
	BUILT-IN 4	Open back enclosure	12 x 2	Condenser
	BUILT-IN 5	Open back enclosure	12 x 2	Condenser
	BG STACK 1	Sealed enclosure	12 x 2	Condenser
	BG STACK 2	Large sealed enclosure	12 x 2	Condenser
	MS STACK 1	Large sealed enclosure	12 x 4	Condenser
	MS STACK 2	Large sealed enclosure	12 x 4	Condenser
	METAL STACK	Large double stack	12 x 4	Condenser
	2-STACK	Large double stack	12 x 4	Condenser
	3-STACK	Large triple stack	12 x 4	Condenser
Mic Setting	1, 2, 3	Adjusts the location of the 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		
Level	0–127	Output Level		

11 Phaser 1

This is a stereo phaser. A phase-shifted sound is added to the original sound and modulated.

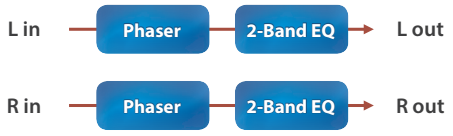


Parameter	Value	Explanation
Mode	4-STAGE, 8-STAGE, 12-STAGE	Number of stages in the phaser
Manual	0–127	Center frequency at which the sound is modulated
Rate (sync sw)	OFF, ON	If this is ON, the rate synchronizes with the tempo of the rhythm. ➡ "Tempo" (p. 5)
Rate (Hz)	0.05–10.00 [Hz]	Modulation rate
Rate (note)	Note ➡ "Note" (p. 76)	
Depth	0–127	Depth of modulation
Polarity	INVERSE, SYNCHRO	Selects whether the left and right phase of the modulation will be the same or the opposite. INVERSE: The left and right phase will be opposite. When using a mono source, this spreads the sound. SYNCHRO: The left and right phase will be the same. Select this when inputting a stereo source.
Resonance	0–127	Amount of feedback
Cross Feedback	-98–+98 [%]	Adjusts the proportion of the phaser sound that is fed back into the effect. Negative (-) settings will invert the phase.
Mix	0–127	Level of the phase-shifted sound
Low Gain	-15–+15 [dB]	Gain of the low range
High Gain	-15–+15 [dB]	Gain of the high range
Level	0–127	Output Level

12 Phaser 2

This simulates an analog phaser of the past.

It is particularly suitable for electric piano.

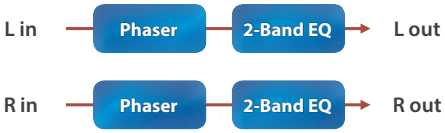


Parameter	Value	Explanation
Rate	0–100	Modulation rate
Color	1, 2	Modulation character
Low Gain	-15–+15 [dB]	Gain of the low range
High Gain	-15–+15 [dB]	Gain of the high range
Level	0–127	Output Level

13 Phaser 3

This simulates a different analog phaser than Phaser 2.

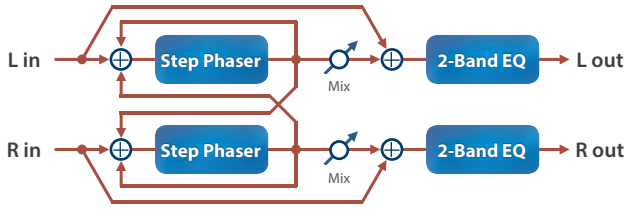
It is particularly suitable for electric piano.



Parameter	Value	Explanation
Speed	0–100	Speed of modulation
Depth	0–127	Depth of modulation
Low Gain	-15–+15 [dB]	Gain of the low range
High Gain	-15–+15 [dB]	Gain of the high range
Level	0–127	Output Level

14 Step Phaser

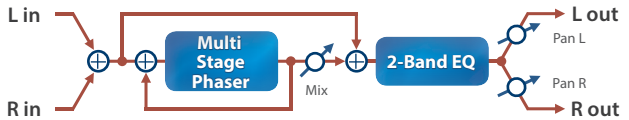
This is a stereo phaser. The phaser effect will be varied gradually.



Parameter	Value	Explanation
Mode	4-STAGE, 8-STAGE, 12-STAGE	Number of stages in the phaser
Manual	0–127	Center frequency at which the sound is modulated
Rate (sync sw)	OFF, ON	If this is ON, the rate synchronizes with the tempo of the rhythm. ➡ "Tempo" (p. 5)
Rate (Hz)	0.05–10.00 [Hz]	Modulation rate
Rate (note)	Note ➡ "Note" (p. 76)	
Depth	0–127	Depth of modulation
Polarity	INVERSE, SYNCHRO	Selects whether the left and right phase of the modulation will be the same or the opposite. **INVERSE:** The left and right phase will be opposite. When using a mono source, this spreads the sound. **SYNCHRO:** The left and right phase will be the same. Select this when inputting a stereo source.
Resonance	0–127	Amount of feedback
Cross Feedback	-98–+98 [%]	Adjusts the proportion of the phaser sound that is fed back into the effect. Negative (-) settings will invert the phase.
Step Rate (sync sw)	OFF, ON	If this is ON, the rate synchronizes with the tempo of the rhythm. ➡ "Tempo" (p. 5)
Step Rate (Hz)	0.10–20.00 [Hz]	Rate of the step-wise change in the phaser effect
Step Rate (note)	Note ➡ "Note" (p. 76)	
Mix	0–127	Level of the phase-shifted sound
Low Gain	-15–+15 [dB]	Gain of the low range
High Gain	-15–+15 [dB]	Gain of the high range
Level	0–127	Output Level

15 Multi Stage Phaser

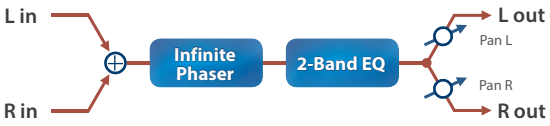
Extremely high settings of the phase difference produce a deep phaser effect.



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	Center frequency at which the sound is modulated
Rate (sync sw)	OFF, ON	If this is ON, the rate synchronizes with the tempo of the rhythm. ➡ "Tempo" (p. 5)
Rate (Hz)	0.05–10.00 [Hz]	Modulation rate
Rate (note)	Note ➡ "Note" (p. 76)	
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]	Gain of the low range
High Gain	-15–+15 [dB]	Gain of the high range
Level	0–127	Output Level

16 Infinite Phaser

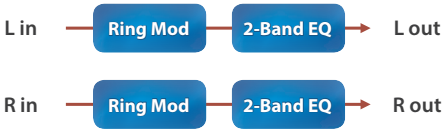
A phaser that continues raising/lowering the frequency at which the sound is modulated.



Parameter	Value	Explanation
Mode	1, 2, 3, 4	Higher values will produce a deeper phaser effect.
Speed	-100–100	Speed at which to raise or lower the frequency at which the sound is modulated (+: upward / -: downward)
Resonance	0–127	Amount of feedback
Mix	0–127	Level of the phase-shifted sound
Pan	L64–63R	Stereo location of the output sound
Low Gain	-15–+15 [dB]	Gain of the low range
High Gain	-15–+15 [dB]	Gain of the high range
Level	0–127	Output Level

17 Ring Modulator

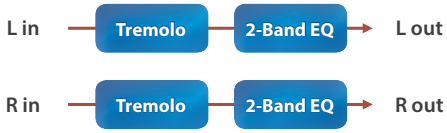
This is an effect that applies amplitude modulation (AM) to the input signal, producing bell-like sounds. You can also change the modulation frequency in response to changes in the volume of the sound sent into the effect.



Parameter	Value	Explanation
Frequency	0–127	Adjusts the frequency at which modulation is applied.
Sens	0–127	Adjusts the amount of frequency modulation applied.
Polarity	UP, DOWN	Determines whether the frequency modulation moves towards higher frequencies or lower frequencies. **UP:** The filter will change toward a higher frequency. **DOWN:** The filter will change toward a lower frequency.
Low Gain	-15–+15 [dB]	Gain of the low range
High Gain	-15–+15 [dB]	Gain of the high range
Balance	D100:0W–D0:100W	Volume balance between the direct sound (D) and the effect sound (W)
Level	0–127	Output Level

18 Tremolo

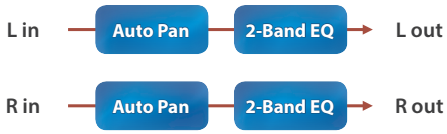
Cyclically changes the volume.



Parameter	Value	Explanation
Mod Wave	TRI, SQR, SIN, SAW1, SAW2, TRP	Modulation wave **TRI:** Triangle wave **SQR:** Square wave **SIN:** Sine wave **SAW1/2:** Sawtooth wave **TRP:** Trapezoidal wave
	SAW1 SAW2 	
Rate (sync sw)	OFF, ON	If this is ON, the rate synchronizes with the tempo of the rhythm. ➡ **"Tempo"** (p. 5)
Rate (Hz)	0.05–10.00 [Hz]	Frequency of the change
Rate (note)	Note ➡ **"Note"** (p. 76)	
Depth	0–127	Depth to which the effect is applied
Low Gain	-15–+15 [dB]	Gain of the low range
High Gain	-15–+15 [dB]	Gain of the high range
Level	0–127	Output Level

19 Auto Pan

Cyclically modulates the stereo location of the sound.



Parameter	Value	Explanation
Mod Wave	TRI, SQR, SIN, SAW1, SAW2, TRP	How the pan changes **TRI:** Triangle wave **SQR:** Square wave **SIN:** Sine wave **SAW1/2:** Sawtooth wave **TRP:** Trapezoidal wave
	SAW1 SAW2 R R  L L	
Rate (sync sw)	OFF, ON	If this is ON, the rate synchronizes with the tempo of the rhythm. ➡ **"Tempo"** (p. 5)
Rate (Hz)	0.05–10.00 [Hz]	Frequency of the change
Rate (note)	Note ➡ **"Note"** (p. 76)	
Depth	0–127	Depth to which the effect is applied
Low Gain	-15–+15 [dB]	Gain of the low range
High Gain	-15–+15 [dB]	Gain of the high range
Level	0–127	Output Level

20 Slicer

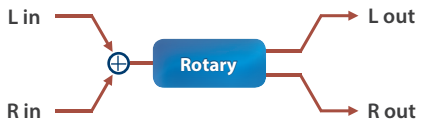
By applying successive cuts to the sound, this effect turns a conventional sound into a sound that appears to be played as a backing phrase. This is especially effective when applied to sustain-type sounds.

Parameter	Value	Explanation
Step 01–16	0–127	Level at each step
Rate (sync sw)	OFF, ON	If this is ON, the rate synchronizes with the tempo of the rhythm. ➡ **"Tempo"** (p. 5)
Rate (Hz)	0.05–10.00 [Hz]	Rate at which the 16-step sequence will cycle
Rate (note)	Note ➡ **"Note"** (p. 76)	
Attack	0–127	Speed at which the level changes between steps
Input Sync Sw	OFF, ON	Specifies whether an input note will cause the sequence to resume from the first step of the sequence (ON) or not (OFF)
Input Sync Threshold	0–127	Volume at which an input note will be detected
Mode	LEGATO, SLASH	Sets the manner in which the volume changes as one step progresses to the next. **LEGATO:** The change in volume from one step's level to the next remains unaltered. If the level of a following step is the same as the one preceding it, there is no change in volume. **SLASH:** The level is momentarily set to 0 before progressing to the level of the next step. This change in volume occurs even if the level of the following step is the same as the preceding step.
Shuffle	0–127	Timing of volume changes in levels for even-numbered steps (step 2, step 4, step 6...). The higher the value, the later the beat progresses.
Level	0–127	Output Level

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.

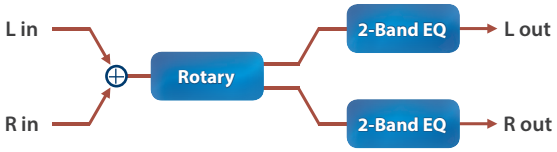


Parameter	Value	Explanation
Speed	SLOW, FAST	Simultaneously switch the rotational speed of the low frequency rotor and high frequency rotor. **SLOW:** Slows down the rotation to the Slow Rate. **FAST:** Speeds up the rotation to the Fast Rate.
Woofer Slow Speed	0.05–10.00 [Hz]	Slow speed (SLOW) of the low frequency rotor
Woofer Fast Speed	0.05–10.00 [Hz]	Fast speed (FAST) of the low frequency rotor
Woofer Acceleration	0–15	Adjusts the time it takes the low frequency rotor to reach the newly selected speed when switching from fast to slow (or slow to fast) speed.
Woofer Level	0–127	Volume of the low frequency rotor
Tweeter Slow Speed	0.05–10.00 [Hz]	Settings of the high frequency rotor The parameters are the same as for the low frequency rotor
Tweeter Fast Speed	0.05–10.00 [Hz]	
Tweeter Acceleration	0–15	
Tweeter Level	0–127	
Separation	0–127	Spatial dispersion of the sound
Level	0–127	Output Level

22 VK Rotary

This type provides modified response for the rotary speaker, with the low end boosted further.

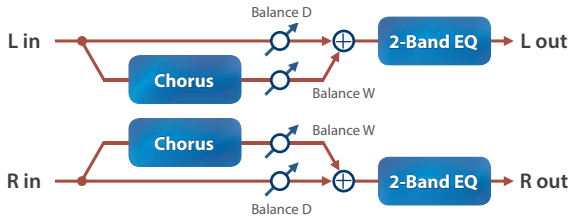
This effect features the same specifications as the VK-7's built-in rotary speaker.



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.
Woofer Slow Speed	0.05–10.00 [Hz]	Low-speed rotation speed of the woofer
Woofer Fast Speed	0.05–10.00 [Hz]	High-speed rotation speed of the woofer
Woofer Trans Up	0–127	Adjusts the rate at which the woofer rotation speeds up when the rotation is switched from Slow to Fast.
Woofer Trans Down	0–127	Adjusts the rate at which the woofer rotation speeds up when the rotation is switched from Fast to Slow.
Woofer Level	0–127	Volume of the woofer
Tweeter Slow Speed	0.05–10.00 [Hz]	Settings of the tweeter The parameters are the same as for the woofer.
Tweeter Fast Speed	0.05–10.00 [Hz]	
Tweeter Trans Up	0–127	
Tweeter Trans Down	0–127	
Tweeter Level	0–127	
Spread	0–10	Sets the rotary speaker stereo image.
Low Gain	-15–+15 [dB]	Gain of the low range
High Gain	-15–+15 [dB]	Gain of the high 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

23 Chorus

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



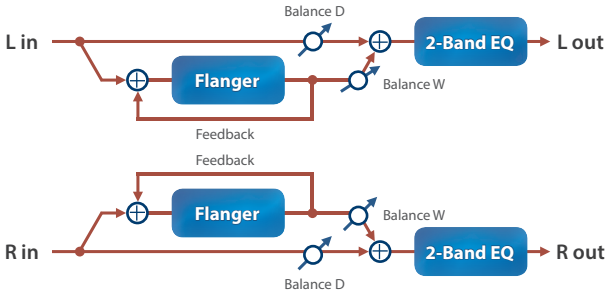
Parameter	Value	Explanation
Filter Type	OFF, LPF, HPF	Type of filter **OFF:** No filter is used. **LPF:** Cuts the frequency range above the Cutoff Freq **HPF:** Cuts the frequency range below the Cutoff Freq
Cutoff Freq	200, 250, 315, 400, 500, 630, 800, 1000, 1250, 1600, 2000, 2500, 3150, 4000, 5000, 6300, 8000 [Hz]	Basic frequency of the filter
Pre Delay	0.0–100 [msec]	Adjusts the delay time from the direct sound until the chorus sound is heard.
Rate (sync sw)	OFF, ON	If this is ON, the rate synchronizes with the tempo of the rhythm. ➡ **"Tempo"** (p. 5)
Rate (Hz)	0.05–10.00 [Hz]	Frequency of modulation
Rate (note)	Note ➡ **"Note"** (p. 76)	
Depth	0–127	Depth of modulation
Phase	0–180 [deg]	Spatial spread of the sound
Low Gain	-15–+15 [dB]	Gain of the low range
High Gain	-15–+15 [dB]	Gain of the high range
Balance	D100:0W–D0:100W	Volume balance between the direct sound (D) and the chorus sound (W)
Level	0–127	Output Level

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.

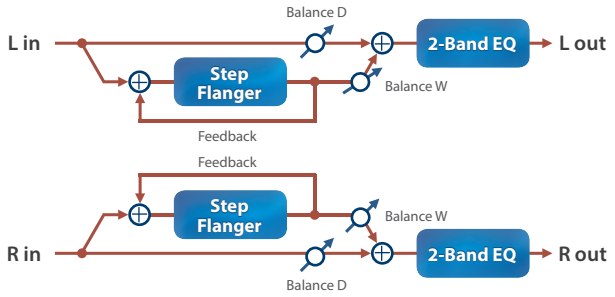


Parameter	Value	Explanation
Filter Type	OFF, LPF, HPF	Type of filter **OFF:** No filter is used. **LPF:** Cuts the frequency range above the Cutoff Freq **HPF:** Cuts the frequency range below the Cutoff Freq
Cutoff Freq	200, 250, 315, 400, 500, 630, 800, 1000, 1250, 1600, 2000, 2500, 3150, 4000, 5000, 6300, 8000 [Hz]	Basic frequency of the filter
Pre Delay	0.0–100 [msec]	Adjusts the delay time from the direct sound until the flanger sound is heard.
Rate (sync sw)	OFF, ON	If this is ON, the rate synchronizes with the tempo of the rhythm. ➡ **"Tempo"** (p. 5)
Rate (Hz)	0.05–10.00 [Hz]	Frequency of modulation
Rate (note)	Note ➡ **"Note"** (p. 76)	
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]	Gain of the low range
High Gain	-15–+15 [dB]	Gain of the high range
Balance	D100:0W–D0:100W	Volume balance between the direct sound (D) and the flanger sound (W)
Level	0–127	Output Level

25 Step Flanger

This is a flanger in which the flanger pitch changes in steps.

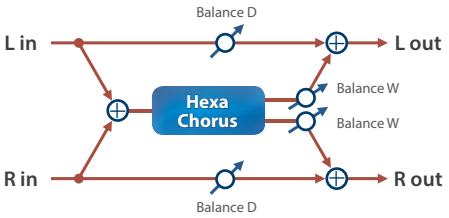
The speed at which the pitch changes can also be specified in terms of a note-value of a specified tempo.



Parameter	Value	Explanation
Filter Type	OFF, LPF, HPF	Type of filter **OFF:** No filter is used. **LPF:** Cuts the frequency range above the Cutoff Freq **HPF:** Cuts the frequency range below the Cutoff Freq
Cutoff Freq	200, 250, 315, 400, 500, 630, 800, 1000, 1250, 1600, 2000, 2500, 3150, 4000, 5000, 6300, 8000 [Hz]	Basic frequency of the filter
Pre Delay	0.0–100.0 [msec]	Adjusts the delay time from the direct sound until the flanger sound is heard.
Rate (sync sw)	OFF, ON	If this is ON, the rate synchronizes with the tempo of the rhythm. ➡ **"Tempo"** (p. 5)
Rate (Hz)	0.05–10.00 [Hz]	Frequency of modulation
Rate (note)	Note ➡ **"Note"** (p. 76)	
Depth	0–127	Depth of modulation
Phase	0–180 [deg]	Spatial spread of the sound
Feedback	-98–+98 [%]	Adjusts the proportion of the flanger sound that is fed back into the effect. Negative (-) settings will invert the phase.
Step Rate (sync sw)	OFF, ON	If this is ON, the rate synchronizes with the tempo of the rhythm. ➡ **"Tempo"** (p. 5)
Step Rate (Hz)	0.10–20.00 [Hz]	Rate (period) of pitch change
Step Rate (note)	Note ➡ **"Note"** (p. 76)	
Low Gain	-15–+15 [dB]	Gain of the low range
High Gain	-15–+15 [dB]	Gain of the high range
Balance	D100:0W–D0:100W	Volume balance between the direct sound (D) and the flanger sound (W)
Level	0–127	Output Level

26 Hexa-Chorus

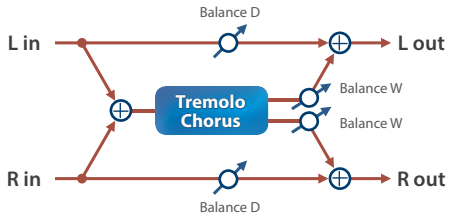
Uses a six-phase chorus (six layers of chorused sound) to give richness and spatial spread to the sound.



Parameter	Value	Explanation
Pre Delay	0.0–100 [msec]	Adjusts the delay time from the direct sound until the chorus sound is heard.
Rate (sync sw)	OFF, ON	If this is ON, the rate synchronizes with the tempo of the rhythm. ➡ **"Tempo"** (p. 5)
Rate (Hz)	0.05–10.00 [Hz]	Frequency of modulation
Rate (note)	Note ➡ **"Note"** (p. 76)	
Depth	0–127	Depth of modulation
Pre Delay Deviation	0–20	Adjusts the differences in Pre Delay between each chorus sound.
Depth Deviation	-20–20	Adjusts the difference in modulation depth between each chorus sound.
Pan Deviation	0–20	Adjusts the difference in stereo location between each chorus sound. **0:** All chorus sounds will be in the center. **20:** Each chorus sound will be spaced at 60 degree intervals relative to the center.
Balance	D100:0W–D0:100W	Volume balance between the direct sound (D) and the chorus sound (W)
Level	0–127	Output Level

27 Tremolo Chorus

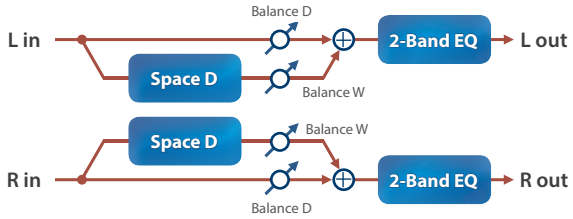
This is a chorus effect with added Tremolo (cyclic modulation of volume).



Parameter	Value	Explanation
Pre Delay	0.0–100 [msec]	Adjusts the delay time from the direct sound until the chorus sound is heard.
Chorus Rate (sync sw)	OFF, ON	If this is ON, the rate synchronizes with the tempo of the rhythm. ➡ "Tempo" (p. 5)
Chorus Rate (Hz)	0.05–10.00 [Hz]	Modulation frequency of the chorus effect
Cho Note (Chorus Rate (note))	Note ➡ "Note" (p. 76)	
Chorus Depth	0–127	Modulation depth of the chorus effect
Tremolo Rate (sync sw)	OFF, ON	If this is ON, the rate synchronizes with the tempo of the rhythm. ➡ "Tempo" (p. 5)
Tremolo Rate (Hz)	0.05–10.00 [Hz]	Modulation frequency of the tremolo effect
Tremolo Rate (note)	Note ➡ "Note" (p. 76)	
Tremolo Separation	0–127	Depth of the tremolo effect
Tremolo Phase	0–180 [deg]	Spread of the tremolo effect
Balance	D100:0W–D0:100W	Volume balance between the direct sound (D) and the tremolo chorus sound (W)
Level	0–127	Output Level

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 [msec]	Adjusts the delay time from the direct sound until the chorus sound is heard.
Rate (sync sw)	OFF, ON	If this is ON, the rate synchronizes with the tempo of the rhythm. ➡ "Tempo" (p. 5)
Rate (Hz)	0.05–10.00 [Hz]	Frequency of modulation
Rate (note)	Note ➡ "Note" (p. 76)	
Depth	0–127	Depth of modulation
Phase	0–180 [deg]	Spatial spread of the sound
Low Gain	-15–+15 [dB]	Gain of the low range
High Gain	-15–+15 [dB]	Gain of the high range
Balance	D100:0W–D0:100W	Volume balance between the direct sound (D) and the chorus sound (W)
Level	0–127	Output Level

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 Sw	OFF, ON	Turns the Amp Simulator on/off.
Amp Type	SMALL, BUILT-IN, 2-STACK, 3-STACK	Type of guitar amp **SMALL:** Small amp **BUILT-IN:** Single-unit type amp **2-STACK:** Large double stack amp **3-STACK:** Large triple stack amp
Low Gain	-15–+15 [dB]	Gain of the low range
High Gain	-15–+15 [dB]	Gain of the high range
Pan	L64–63R	Stereo location of the output sound
Level	0–127	Output Level

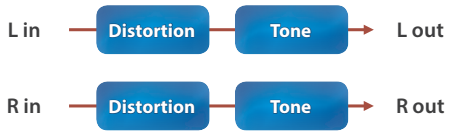
30 Distortion

This is a distortion effect that provides heavy distortion.

Parameter	Value	Explanation
Drive	0–127	Degree of distortion Also changes the volume.
Tone	0–127	Sound quality of the Overdrive effect
Amp Sw	OFF, ON	Turns the Amp Simulator on/off.
Amp Type	SMALL, BUILT-IN, 2-STACK, 3-STACK	Type of guitar amp **SMALL:** Small amp **BUILT-IN:** Single-unit type amp **2-STACK:** Large double stack amp **3-STACK:** Large triple stack amp
Low Gain	-15–+15 [dB]	Gain of the low range
High Gain	-15–+15 [dB]	Gain of the high range
Pan	L64–63R	Stereo location of the output sound
Level	0–127	Output Level

31 T-Scream

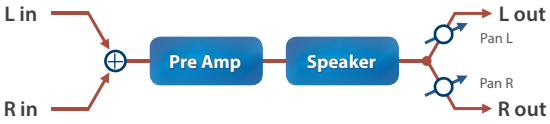
This models a classic analog overdrive. It is distinctive in adding an appropriate amount of overtones without muddying the sound.



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

32 Guitar Amp Simulator

This is an effect that simulates the sound of a guitar amplifier.

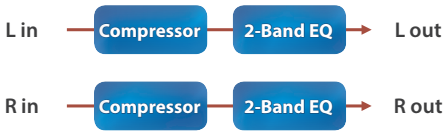


Parameter	Value	Explanation
Pre Amp Sw	OFF, ON	Turns the amp switch on/off.
Pre Amp Type		Type of guitar amp
	JC-120	This models the sound of the Roland JC-120.
	CLEAN TWIN	This models a Fender Twin Reverb.
	MATCH DRIVE	This models the sound input to left input on a Matchless D/C-30. A simulation of the latest tube amp widely used in styles from blues and rock.
	BG LEAD	This models the lead sound of the MESA/Boogie combo amp. The sound of a tube amp typical of the late '70s to '80s.
	MS1959I	This models the sound input to Input I on a Marshall 1959. This is a trebly sound suited to hard rock.
	MS1959II	This models the sound input to Input II on a Marshall 1959.
	MS1959I+II	This models the sound of connecting inputs I and II on a Marshall 1959 in parallel. It creates 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 EVH5150.
	METAL LEAD	This is distortion sound that is ideal for performances of heavy riffs.
	OD-1	This models the sound of the BOSS OD-1. This produces sweet, mild distortion.
	OD-2 TURBO	This is the high-gain overdrive sound of the BOSS OD-2.
	DISTORTION	This gives a basic, traditional distortion sound.
	FUZZ	A fuzz sound with rich harmonic content.
Pre Amp Volume	0–127	Volume and amount of distortion of the amp
Pre Amp Master	0–127	Volume of the entire pre-amp
Pre Amp Gain	LOW, MIDDLE, HIGH	Amount of pre-amp distortion
Pre Amp Bass Pre Amp Middle Pre Amp Treble	0–127	Tone of the bass/mid/treble frequency range
Pre Amp Presence	0–127	Tone for the ultra-high frequency range
Pre Amp Bright	OFF, ON	Turning this "On" produces a sharper and brighter sound. * This parameter applies to the "JC-120," "CLEAN TWIN," "MATCH DRIVE," and "BG LEAD" Pre Amp Types.

Parameter	Value	Explanation		
Speaker Sw	OFF, ON	Determines whether the signal passes through the speaker (ON), or not (OFF).		
Speaker Type		Cabinet	Diameter (in inches) and number of the speaker	Microphone
	SMALL 1	Small open-back enclosure	10	Dynamic
	SMALL 2	Small open-back enclosure	10	Dynamic
	MIDDLE	Open back enclosure	12 x 1	Dynamic
	JC-120	Open back enclosure	12 x 2	Dynamic
	BUILT-IN 1	Open back enclosure	12 x 2	Dynamic
	BUILT-IN 2	Open back enclosure	12 x 2	Condenser
	BUILT-IN 3	Open back enclosure	12 x 2	Condenser
	BUILT-IN 4	Open back enclosure	12 x 2	Condenser
	BUILT-IN 5	Open back enclosure	12 x 2	Condenser
	BG STACK1	Sealed enclosure	12 x 2	Condenser
	BG STACK2	Large sealed enclosure	12 x 2	Condenser
	MS STACK1	Large sealed enclosure	12 x 4	Condenser
	MS STACK2	Large sealed enclosure	12 x 4	Condenser
	MTL STACK	Large double stack	12 x 4	Condenser
	2-STACK	Large double stack	12 x 4	Condenser
	3-STACK	Large triple stack	12 x 4	Condenser
Mic Setting	1, 2, 3	Adjusts the location of the 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		

33 Compressor

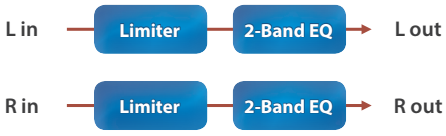
Flattens out high levels and boosts low levels, smoothing out fluctuations in volume.



Parameter	Value	Explanation
Attack	0–124	Sets the time from when the input exceeds the Threshold until the volume starts being compressed
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]	Adjusts the output gain.
Level	0–127	Output Level

34 Limiter

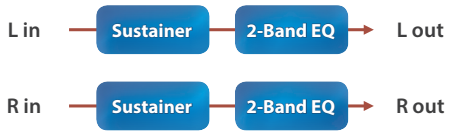
Compresses signals that exceed a specified volume level, preventing distortion from occurring.



Parameter	Value	Explanation
Release	0–127	Adjusts the time after the signal volume falls below the Threshold Level until compression is no longer applied.
Threshold	0–127	Adjusts the volume at which compression begins
Ratio	1.5:1, 2:1, 4:1, 100:1	Compression ratio
Post Gain	0–+18 [dB]	Adjusts the output gain.
Low Gain	-15–+15 [dB]	Gain of the low range
High Gain	-15–+15 [dB]	Gain of the high range
Level	0–127	Output Level

35 Sustainer

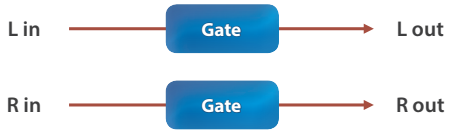
By compressing loud input and boosting low input, this effect keeps the volume consistent to produce a sustain effect without distortion.



Parameter	Value	Explanation
Sustain	0–127	Adjusts the range in which a low input signal is boosted to a consistent volume. Higher values produce longer sustain.
Attack	0–127	Time until the volume is compressed
Release	0–127	Time until compression is removed
Post Gain	-15–+15 [dB]	Adjusts the output gain.
Low Gain	-15–+15 [dB]	Gain of the low range
High Gain	-15–+15 [dB]	Gain of the high range
Level	0–127	Output Level

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.

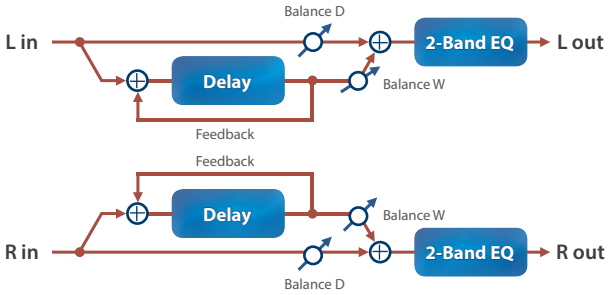


Parameter	Value	Explanation
Threshold	0–127	Volume level at which the gate begins to close
Mode	GATE, DUCK	Type of gate **GATE:** The gate will close when the volume of the original sound decreases, cutting the original sound. **DUCK (Duking):** The gate will close when the volume of the original sound 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

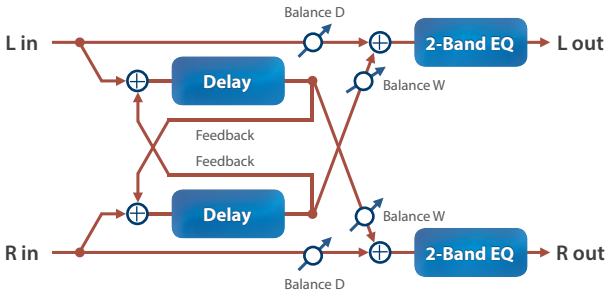
37 Delay

This is a stereo delay.

When Feedback Mode is NORMAL:



When Feedback Mode is CROSS:

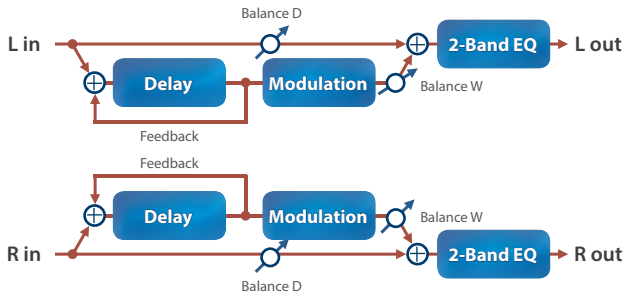


Parameter	Value	Explanation
Delay Left (sync sw)	OFF, ON	If this is ON, the rate synchronizes with the tempo of the rhythm. ➡ **"Tempo"** (p. 5)
Delay Left (msec)	1–1300 [msec]	Adjusts the time until the left delay sound is heard.
Delay Left (note)	Note ➡ **"Note"** (p. 76)	
Delay Right (sync sw)	OFF, ON	If this is ON, the rate synchronizes with the tempo of the rhythm. ➡ **"Tempo"** (p. 5)
Delay Right (msec)	1–1300 [msec]	Adjusts the time until the right delay sound is heard.
Delay Right (note)	Note ➡ **"Note"** (p. 76)	
Phase Left	NORMAL, INVERSE	Phase of left and right delay sound **NORMAL:** Non-inverted **INVERT:** Inverted
Phase Right		
Feedback Mode	NORMAL, CROSS	Selects the way in which delay sound is fed back into the effect. (See the figures above.)
Feedback	-98–+98 [%]	Adjusts the proportion of the delay sound that is fed back into the effect. Negative (-) settings will invert the phase.
HF Damp	200, 250, 315, 400, 500, 630, 800, 1000, 1250, 1600, 2000, 2500, 3150, 4000, 5000, 6300, 8000, BYPASS [Hz]	Adjusts the frequency above which the delay sound fed back to the effect is filtered out (BYPASS: no cut).
Low Gain	-15–+15 [dB]	Gain of the low range
High Gain	-15–+15 [dB]	Gain of the high range
Balance	D100:0W–D0:100W	Volume balance between the direct sound (D) and the delay sound (W)
Level	0–127	Output Level

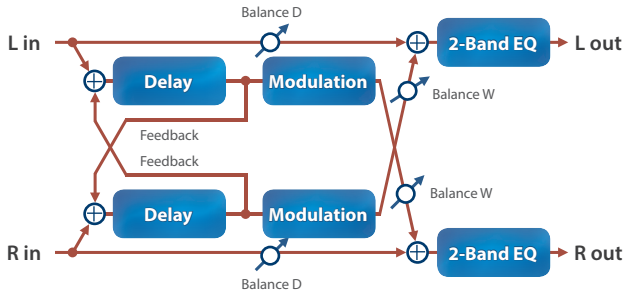
38 Modulation Delay

Adds modulation to the delayed sound.

When Feedback Mode is NORMAL:



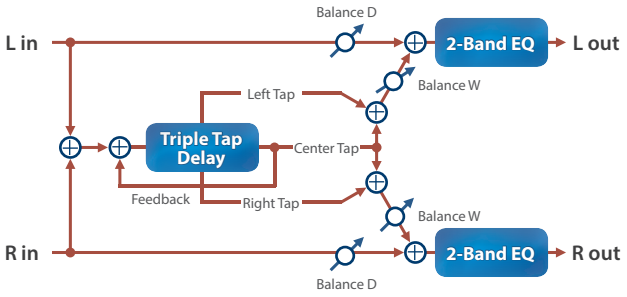
When Feedback Mode is CROSS:



Parameter	Value	Explanation
Delay Left (sync sw)	OFF, ON	If this is ON, the rate synchronizes with the tempo of the rhythm. ➡ "Tempo" (p. 5)
Delay Left (msec)	1–1300 [msec]	Adjusts the time until the left delay sound is heard.
Delay Left (note)	Note ➡ "Note" (p. 76)	
Delay Right (sync sw)	OFF, ON	If this is ON, the rate synchronizes with the tempo of the rhythm. ➡ "Tempo" (p. 5)
Delay Right (msec)	1–1300 [msec]	Adjusts the time until the right delay sound is heard.
Delay Right (note)	Note ➡ "Note" (p. 76)	
Feedback Mode	NORMAL, CROSS	Selects the way in which delay sound is fed back into the effect. (See the figures above.)
Feedback	-98–+98 [%]	Adjusts the proportion of the delay sound that is fed back into the effect. Negative (-) settings will invert the phase.
HF Damp	200, 250, 315, 400, 500, 630, 800, 1000, 1250, 1600, 2000, 2500, 3150, 4000, 5000, 6300, 8000, BYPASS [Hz]	Adjusts the frequency above which the delay sound fed back to the effect is filtered out (**BYPASS:** no cut).
Rate (sync sw)	OFF, ON	If this is ON, the rate synchronizes with the tempo of the rhythm. ➡ "Tempo" (p. 5)
Rate (Hz)	0.05–10.00 [Hz]	Frequency of modulation
Rate (note)	Note ➡ "Note" (p. 76)	
Depth	0–127	Depth of modulation
Phase	0–180 [deg]	Spatial spread of the sound
Low Gain	-15–+15 [dB]	Gain of the low range
High Gain	-15–+15 [dB]	Gain of the high range
Balance	D100:0W–D0:100W	Volume balance between the direct sound (D) and the delay sound (W)
Level	0–127	Output Level

39 3Tap Pan Delay

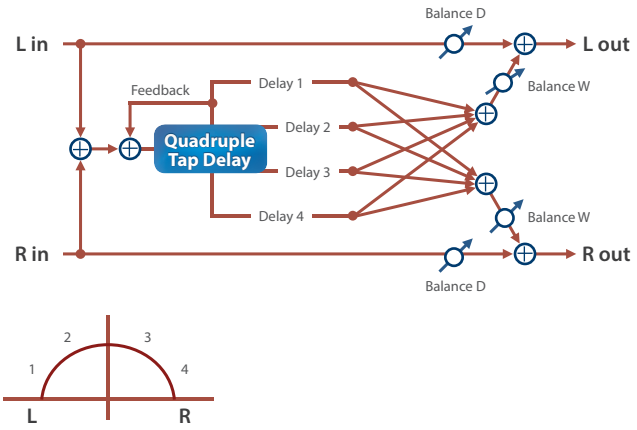
Produces three delay sounds; center, left and right.



Parameter	Value	Explanation
Delay Left (sync switch)	OFF, ON	If this is ON, the rate synchronizes with the tempo of the rhythm. ➡ "Tempo" (p. 5)
Delay Left (msec)	1–2600 [msec]	Adjusts the time until the left delay sound is heard.
Delay Left (note)	Note ➡ "Note" (p. 76)	
Delay Right (sync switch)	OFF, ON	If this is ON, the rate synchronizes with the tempo of the rhythm. ➡ "Tempo" (p. 5)
Delay Right (msec)	1–2600 [msec]	Adjusts the time until the right delay sound is heard.
Delay Right (note)	Note ➡ "Note" (p. 76)	
Delay Center (sync sw)	OFF, ON	If this is ON, the rate synchronizes with the tempo of the rhythm. ➡ "Tempo" (p. 5)
Delay Center (msec)	1–2600 [msec]	Adjusts the time until the center delay sound is heard.
Delay Center (note)	Note ➡ "Note" (p. 76)	
Center Feedback	-98–+98 [%]	Adjusts the proportion of the delay sound that is fed back into the effect. Negative (-) settings will invert the phase.
HF Damp	200, 250, 315, 400, 500, 630, 800, 1000, 1250, 1600, 2000, 2500, 3150, 4000, 5000, 6300, 8000, BYPASS [Hz]	Adjusts the frequency above which the delay sound fed back to the effect is filtered out (**BYPASS:** no cut).
Left Level	0–127	Volume of each delay sound
Right Level	0–127	
Center Level	0–127	
Low Gain	-15–+15 [dB]	Gain of the low range
High Gain	-15–+15 [dB]	Gain of the high range
Balance	D100:0W–D0:100W	Volume balance between the direct sound (D) and the delay sound (W)
Level	0–127	Output Level

40 4Tap Pan Delay

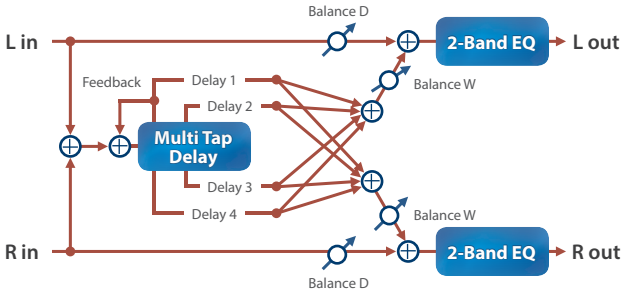
This effect has four delays.



Parameter	Value	Explanation
Delay 1 Time (sync sw)	OFF, ON	If this is ON, the rate synchronizes with the tempo of the rhythm. ➡ **"Tempo"** (p. 5)
Delay 1 Time (msec)	1–2600 [msec]	Adjusts the time until Delay 1 is heard.
Delay 1 Time (note)	Note ➡ **"Note"** (p. 76)	
Delay 2 Time (sync sw)	OFF, ON	If this is ON, the rate synchronizes with the tempo of the rhythm. ➡ **"Tempo"** (p. 5)
Delay 2 Time (msec)	1–2600 [msec]	Adjusts the time until Delay 2 is heard.
Delay 2 Time (note)	Note ➡ **"Note"** (p. 76)	
Delay 3 Time (sync sw)	OFF, ON	If this is ON, the rate synchronizes with the tempo of the rhythm. ➡ **"Tempo"** (p. 5)
Delay 3 Time (msec)	1–2600 [msec]	Adjusts the time until Delay 3 is heard.
Delay 3 Time (note)	Note ➡ **"Note"** (p. 76)	
Delay 4 Time (sync sw)	OFF, ON	If this is ON, the rate synchronizes with the tempo of the rhythm. ➡ **"Tempo"** (p. 5)
Delay 4 Time (msec)	1–2600 [msec]	Adjusts the time from the original sound until Delay 4 is heard.
Delay 4 Time (note)	Note ➡ **"Note"** (p. 76)	
Delay 1 Feedback	-98–+98 [%]	Adjusts the proportion of the delay sound that is fed back into the effect. Negative (-) settings will invert the phase.
HF Damp	200, 250, 315, 400, 500, 630, 800, 1000, 1250, 1600, 2000, 2500, 3150, 4000, 5000, 6300, 8000, BYPASS [Hz]	Adjusts the frequency above which the delay sound fed back to the effect is filtered out (**BYPASS:** no cut).
Delay 1 Level	0–127	Output level of Delays 1–4
Delay 2 Level		
Delay 3 Level		
Delay 4 Level		
Low Gain	-15–+15 [dB]	Gain of the low range
High Gain	-15–+15 [dB]	Gain of the high range
Balance	D100:0W–D0:100W	Volume balance between the direct sound (D) and the delay sound (W)
Level	0–127	Output Level

41 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.

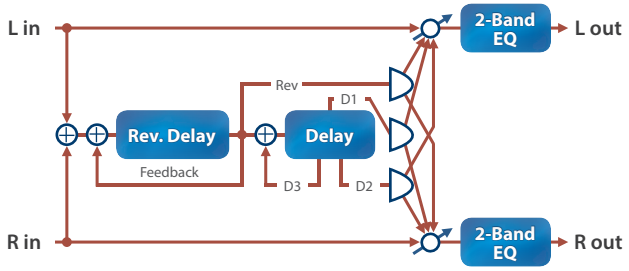


Parameter	Value	Explanation
Delay 1 Time (sync sw)	OFF, ON	If this is ON, the rate synchronizes with the tempo of the rhythm. ➡ **"Tempo"** (p. 5)
Delay 1 Time (msec)	1–2600 [msec]	Adjusts the time from the original sound until Delay 1 is heard.
Delay 1 Time (note)	Note ➡ **"Note"** (p. 76)	
Delay 2 Time (sync sw)	OFF, ON	If this is ON, the rate synchronizes with the tempo of the rhythm. ➡ **"Tempo"** (p. 5)
Delay 2 Time (msec)	1–2600 [msec]	Adjusts the time from the original sound until Delay 2 is heard.
Delay 2 Time (note)	Note ➡ **"Note"** (p. 76)	
Delay 3 Time (sync sw)	OFF, ON	If this is ON, the rate synchronizes with the tempo of the rhythm. ➡ **"Tempo"** (p. 5)
Delay 3 Time (msec)	1–2600 [msec]	Adjusts the time from the original sound until Delay 3 is heard.
Delay 3 Time (note)	Note ➡ **"Note"** (p. 76)	
Delay 4 Time (sync sw)	OFF, ON	If this is ON, the rate synchronizes with the tempo of the rhythm. ➡ **"Tempo"** (p. 5)
Delay 4 Time (msec)	1–2600 [msec]	Adjusts the time from the original sound until Delay 4 is heard.
Delay 4 Time (note)	Note ➡ **"Note"** (p. 76)	
Delay 1 Feedback	-98–+98 [%]	Adjusts the proportion of the delay sound that is fed back into the effect. Negative (-) settings will invert the phase.
HF Damp	200, 250, 315, 400, 500, 630, 800, 1000, 1250, 1600, 2000, 2500, 3150, 4000, 5000, 6300, 8000, BYPASS [Hz]	Adjusts the frequency above which the delay sound fed back to the effect is filtered out (**BYPASS:** no cut).
Delay 1 Pan	L64–63R	Stereo location of Delays 1–4
Delay 2 Pan		
Delay 3 Pan		
Delay 4 Pan		
Delay 1 Level	0–127	Output level of Delays 1–4
Delay 2 Level		
Delay 3 Level		
Delay 4 Level		
Low Gain	-15–+15 [dB]	Gain of the low range
High Gain	-15–+15 [dB]	Gain of the high range
Balance	D100:0W–D0:100W	Volume balance between the direct sound (D) and the effect sound (W)
Level	0–127	Output Level

42 Reverse Delay

This is a reverse delay that adds a reversed and delayed sound to the input sound.

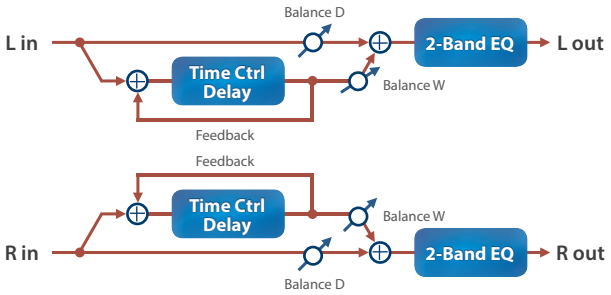
A tap delay is connected immediately after the reverse delay.



Parameter	Value	Explanation
Threshold	0–127	Volume at which the reverse delay will begin to be applied
Rev Delay Time (sync sw)	OFF, ON	If this is ON, the rate synchronizes with the tempo of the rhythm. ➡ "Tempo" (p. 5)
Rev Delay Time (msec)	1–1300 [msec]	Delay time from when sound is input into the reverse delay until the delay sound is heard
Rev Delay Time (note)	Note ➡ "Note" (p. 76)	
Rev Delay Feedback	-98–+98 [%]	Proportion of the delay sound that is to be returned to the input of the reverse delay (negative (-) values invert the phase)
Rev Delay HF Damp	200, 250, 315, 400, 500, 630, 800, 1000, 1250, 1600, 2000, 2500, 3150, 4000, 5000, 6300, 8000, BYPASS [Hz]	Frequency at which the high-frequency content of the reverse-delayed sound will be cut (BYPASS: no cut)
Rev Delay Pan	L64–63R	Panning of the reverse delay sound
Rev Delay Level	0–127	Volume of the reverse delay sound
Delay 1 Time (sync sw)	OFF, ON	If this is ON, the rate synchronizes with the tempo of the rhythm. ➡ "Tempo" (p. 5)
Delay 1 Time (msec)	1–1300 [msec]	Delay time from when sound is input into the tap delay until the delay sound is heard
Delay 1 Time (note)	Note ➡ "Note" (p. 76)	
Delay 2 Time (sync sw)	OFF, ON	If this is ON, the rate synchronizes with the tempo of the rhythm. ➡ "Tempo" (p. 5)
Delay 2 Time (msec)	1–1300 [msec]	Delay time from when sound is input into the tap delay until the delay sound is heard
Delay 2 Time (note)	Note ➡ "Note" (p. 76)	
Delay 3 Time (sync sw)	OFF, ON	If this is ON, the rate synchronizes with the tempo of the rhythm. ➡ "Tempo" (p. 5)
Delay 3 Time (msec)	1–1300 [msec]	Delay time from when sound is input into the tap delay until the delay sound is heard
Delay 3 Time (note)	Note ➡ "Note" (p. 76)	
Delay 3 Feedback	-98–+98 [%]	Proportion of the delay sound that is to be returned to the input of the tap delay (negative (-) values invert the phase)
Delay HF Damp	200, 250, 315, 400, 500, 630, 800, 1000, 1250, 1600, 2000, 2500, 3150, 4000, 5000, 6300, 8000, BYPASS [Hz]	Frequency at which the hi-frequency content of the tap delay sound will be cut (BYPASS: no cut)
Delay 1 Pan	L64–63R	Panning of the tap delay sounds
Delay 2 Pan	L64–63R	
Delay 1 Level	0–127	Volume of the tap delay sounds
Delay 2 Level	0–127	
Low Gain	-15–+15 [dB]	Gain of the low range
High Gain	-15–+15 [dB]	Gain of the high range
Balance	D100:0W–D0:100W	Volume balance between the direct sound (D) and the delay sound (W)
Level	0–127	Output Level

43 Time Ctrl Delay

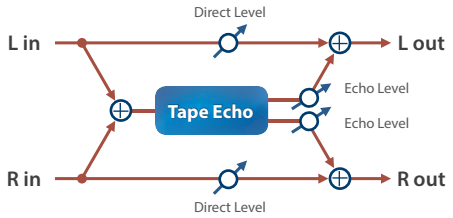
A stereo delay in which the delay time can be varied smoothly.



Parameter	Value	Explanation
Delay Time (sync sw)	OFF, ON	If this is ON, the rate synchronizes with the tempo of the rhythm. ➡ "Tempo" (p. 5)
Delay Time (msec)	1–1300 [msec]	Delay time from when the original sound is heard to when the delay sound is heard
Delay Time (note)	Note ➡ "Note" (p. 76)	
Acceleration	0–15	Speed at which the current delay time changes to the specified delay time when you change the delay time. This affects the speed of pitch change as well as the delay time.
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 the delay sound fed back to the effect is filtered out (BYPASS: no cut).
Low Gain	-15–+15 [dB]	Gain of the low range
High Gain	-15–+15 [dB]	Gain of the high range
Balance	D100:0W–D0:100W	Volume balance between the direct sound (D) and the delay sound (W)
Level	0–127	Output Level

44 Tape Echo

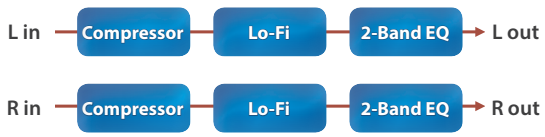
A virtual tape echo that produces a realistic tape delay sound. This simulates the tape echo section of a Roland RE-201 Space Echo.



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
Bass	-15–+15 [dB]	Boost/cut for the lower range of the echo sound
Treble	-15–+15 [dB]	Boost/cut for the upper range of the echo sound
Head S Pan	L64–63R	Independent panning for the short, middle, and long playback heads
Head M Pan	L64–63R	
Head L Pan	L64–63R	
Tape Distortion	0–5	Amount of tape-dependent distortion to be added This simulates the slight tonal changes that can be detected by signal-analysis equipment. Increasing this value will increase the distortion.
W/F Rate	0–127	Speed of wow/flutter (complex variation in pitch caused by tape wear and rotational irregularity)
W/F Depth	0–127	Depth of wow/flutter
Echo Level	0–127	Volume of the echo sound
Direct Level	0–127	Volume of the original sound
Level	0–127	Output Level

45 LOFI Compress

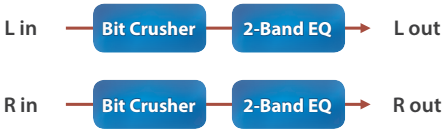
Degrades the sound quality.



Parameter	Value	Explanation
Pre Filter Type	1, 2, 3, 4, 5, 6	Selects the type of filter applied to the sound before it passes through the Lo-Fi effect. **1:** Compressor off **2–6:** Compressor on
LoFi Type	1, 2, 3, 4, 5, 6, 7, 8, 9	Degrades the sound quality. The sound quality grows poorer as this value is increased.
Post Filter Type	OFF, LPF, HPF	Selects the type of filter applied to the sound after it passes through the Lo-Fi effect. **OFF:** No filter is used. **LPF:** Cuts the frequency range above the Cutoff Freq **HPF:** Cuts the frequency range below the Cutoff Freq
Post Filter Cutoff	200, 250, 315, 400, 500, 630, 800, 1000, 1250, 1600, 2000, 2500, 3150, 4000, 5000, 6300, 8000 [Hz]	Basic frequency of the Post Filter
Low Gain	-15–+15 [dB]	Gain of the low range
High Gain	-15–+15 [dB]	Gain of the high range
Balance	D100:0W–D0:100W	Volume balance between the direct sound (D) and the effect sound (W)
Level	0–127	Output Level

46 Bit Crusher

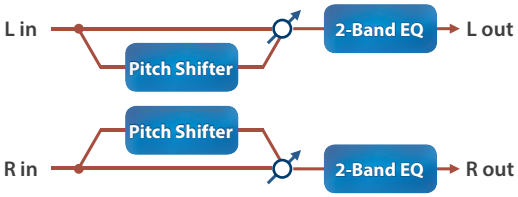
This creates a lo-fi sound.



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]	Gain of the low range
High Gain	-15–+15 [dB]	Gain of the high range
Level	0–127	Output Level

47 Pitch Shifter

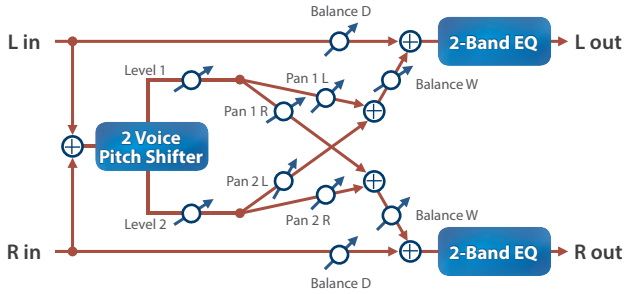
A stereo pitch shifter.



Parameter	Value	Explanation
Coarse	-24–+12 [semi]	Adjusts the pitch of the pitch shifted sound in semitone steps.
Fine	-100–+100 [cent]	Adjusts the pitch of the pitch shifted sound in 2-cent steps.
Delay Time (sync sw)	OFF, ON	If this is ON, the rate synchronizes with the tempo of the rhythm. ➡ **"Tempo"** (p. 5)
Delay Time (msec)	1–1300 [msec]	Adjusts the delay time from the direct sound until the pitch shifted sound is heard.
Delay Time (note)	Note ➡ **"Note"** (p. 76)	
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]	Gain of the low range
High Gain	-15–+15 [dB]	Gain of the high range
Balance	D100:0W–D0:100W	Volume balance between the direct sound (D) and the pitch shifted sound (W)
Level	0–127	Output Level

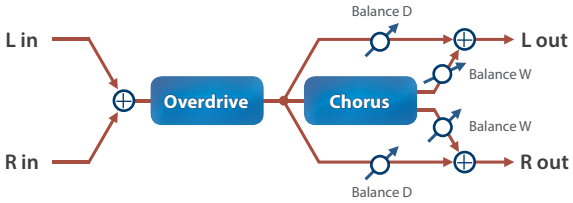
48 2Voice Pitch Shifter

Shifts the pitch of the original sound. This 2-voice pitch shifter has two pitch shifters, and can add two pitch shifted sounds to the original sound.



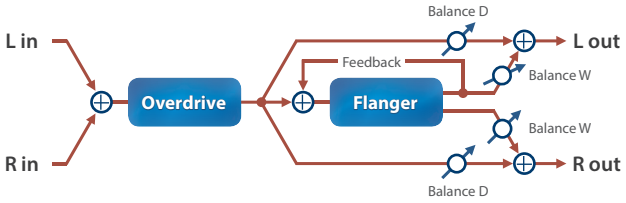
Parameter	Value	Explanation
Pitch1 Coarse	-24–+12 [semi]	Adjusts the pitch of Pitch Shift 1 in semitone steps.
Pitch1 Fine	-100–+100 [cent]	Adjusts the pitch of Pitch Shift Pitch 1 in 2-cent steps.
Pitch1 Delay (sync sw)	OFF, ON	If this is ON, the rate synchronizes with the tempo of the rhythm. ➡ "Tempo" (p. 5)
Pitch1 Delay (msec)	1–1300 [msec]	Adjusts the delay time from the direct sound until the Pitch Shift 1 sound is heard.
Pitch1 Delay (note)	Note ➡ "Note" (p. 76)	
Pitch1 Feedback	-98–+98 [%]	Adjusts the proportion of the pitch shifted sound that is fed back into the effect. Negative (-) settings will invert the phase.
Pitch1 Pan	L64–63R	Stereo location of the Pitch Shift 1 sound
Pitch1 Level	0–127	Volume of the Pitch Shift 1 sound
Pitch2 Coarse	-24–+12 [semi]	Settings of the Pitch Shift 2 sound. The parameters are the same as for the Pitch Shift 1 sound.
Pitch2 Fine	-100–+100 [cent]	
Pitch2 Delay (sync sw)	OFF, ON	
Pitch2 Delay (msec)	1–1300 [msec]	
Pitch2 Delay (note)	Note ➡ "Note" (p. 76)	
Pitch2 Feedback	-98–+98 [%]	
Pitch2 Pan	L64–63R	
Pitch2 Level	0–127	
Low Gain	-15–+15 [dB]	Gain of the low range
High Gain	-15–+15 [dB]	Gain of the high range
Balance	D100:0W–D0:100W	Volume balance between the direct sound (D) and the pitch shifted sound (W)
Level	0–127	Output Level

49 Overdrive → Chorus



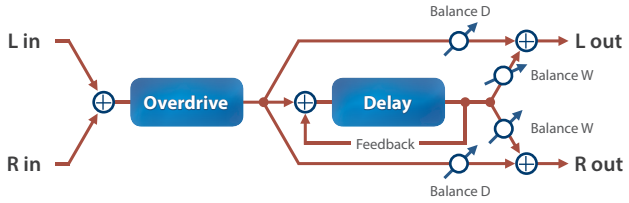
Parameter	Value	Explanation
Overdrive Drive	0–127	Degree of distortion Also changes the volume.
Overdrive Pan	L64–63R	Stereo location of the overdrive sound
Chorus Pre Delay	0.0–100 [msec]	Adjusts the delay time from the direct sound until the chorus sound is heard.
Chorus Rate (sync sw)	OFF, ON	If this is ON, the rate synchronizes with the tempo of the rhythm. ➡ "Tempo" (p. 5)
Chorus Rate (Hz)	0.05–10.00 [Hz]	Frequency of modulation
Chorus Rate (note)	Note ➡ "Note" (p. 76)	
Chorus Depth	0–127	Depth of modulation
Chorus Balance	D100:0W–D0:100W	Adjusts the volume balance between the sound that is sent through the chorus (W) and the sound that is not sent through the chorus (D).
Level	0–127	Output Level

50 Overdrive → Flanger



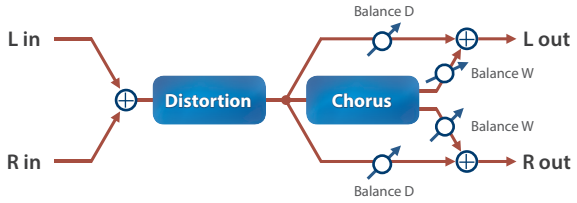
Parameter	Value	Explanation
Overdrive Drive	0–127	Degree of distortion Also changes the volume.
Overdrive Pan	L64–63R	Stereo location of the overdrive sound
Flanger Pre Delay	0.0–100 [msec]	Adjusts the delay time from the direct sound until the flanger sound is heard.
Flanger Rate (sync sw)	OFF, ON	If this is ON, the rate synchronizes with the tempo of the rhythm. ➡ "Tempo" (p. 5)
Flanger Rate (Hz)	0.05–10.00 [Hz]	Frequency of modulation
Flanger Rate (note)	Note ➡ "Note" (p. 76)	
Flanger Depth	0–127	Depth of modulation
Flanger Feedback	-98–+98 [%]	Adjusts the proportion of the flanger sound that is fed back into the effect. Negative (-) settings will invert the phase.
Flanger Balance	D100:0W–D0:100W	Adjusts the volume balance between the sound that is sent through the flanger (W) and the sound that is not sent through the flanger (D).
Level	0–127	Output Level

51 Overdrive → Delay



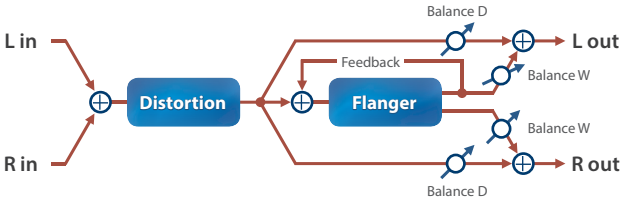
Parameter	Value	Explanation
Overdrive Drive	0–127	Degree of distortion Also changes the volume.
Overdrive Pan	L64–63R	Stereo location of the overdrive sound
Delay Time (sync sw)	OFF, ON	If this is ON, the rate synchronizes with the tempo of the rhythm. ➡ **"Tempo"** (p. 5)
Delay Time (msec)	1–2600 [msec]	Delay time from when the original sound is heard to when the delay sound is heard
Delay Time (note)	Note ➡ **"Note"** (p. 76)	
Delay Feedback	-98–+98 [%]	Adjusts the proportion of the delay sound that is fed back into the effect. Negative (-) settings will invert the phase.
Delay HF Damp	200, 250, 315, 400, 500, 630, 800, 1000, 1250, 1600, 2000, 2500, 3150, 4000, 5000, 6300, 8000, BYPASS [Hz]	Adjusts the frequency above which the delay sound fed back to the effect is filtered out (**BYPASS:** no cut).
Delay Balance	D100:0W–D0:100W	Adjusts the volume balance between the sound that is sent through the delay (W) and the sound that is not sent through the delay (D).
Level	0–127	Output Level

52 Distortion → Chorus



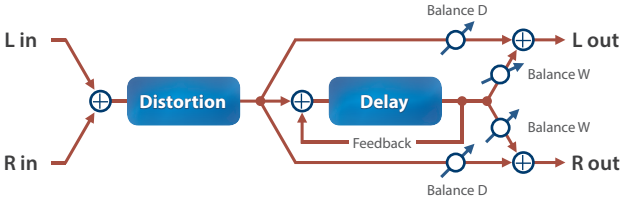
Parameter	Value	Explanation
Distortion Drive	0–127	Degree of distortion Also changes the volume.
Distortion Pan	L64–63R	Stereo location of the overdrive sound
Chorus Pre Delay	0.0–100 [msec]	Adjusts the delay time from the direct sound until the chorus sound is heard.
Chorus Rate (sync sw)	OFF, ON	If this is ON, the rate synchronizes with the tempo of the rhythm. ➡ **"Tempo"** (p. 5)
Chorus Rate (Hz)	0.05–10.00 [Hz]	Frequency of modulation
Chorus Rate (note)	Note ➡ **"Note"** (p. 76)	
Chorus Depth	0–127	Depth of modulation
Chorus Balance	D100:0W–D0:100W	Adjusts the volume balance between the sound that is sent through the chorus (W) and the sound that is not sent through the chorus (D).
Level	0–127	Output Level

53 Distortion → Flanger



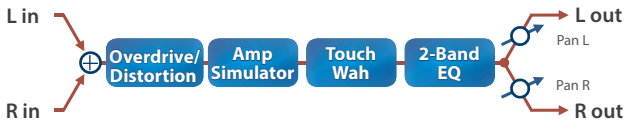
Parameter	Value	Explanation
Distortion Drive	0–127	Degree of distortion Also changes the volume.
Distortion Pan	L64–63R	Stereo location of the overdrive sound
Flanger Pre Delay	0.0–100 [msec]	Adjusts the delay time from the direct sound until the flanger sound is heard.
Flanger Rate (sync sw)	OFF, ON	If this is ON, the rate synchronizes with the tempo of the rhythm. ➡ **"Tempo"** (p. 5)
Flanger Rate (Hz)	0.05–10.00 [Hz]	Frequency of modulation
Flanger Rate (note)	Note ➡ **"Note"** (p. 76)	
Flanger Depth	0–127	Depth of modulation
Flanger Feedback	-98–+98 [%]	Adjusts the proportion of the flanger sound that is fed back into the effect. Negative (-) settings will invert the phase.
Flanger Balance	D100:0W–D0:100W	Adjusts the volume balance between the sound that is sent through the flanger (W) and the sound that is not sent through the flanger (D).
Level	0–127	Output Level

54 Distortion → Delay



Parameter	Value	Explanation
Distortion Drive	0–127	Degree of distortion Also changes the volume.
Distortion Pan	L64–63R	Stereo location of the overdrive sound
Delay Time (sync sw)	OFF, ON	If this is ON, the rate synchronizes with the tempo of the rhythm. ➡ **"Tempo"** (p. 5)
Delay Time (msec)	1–2600 [msec]	Delay time from when the original sound is heard to when the delay sound is heard
Delay Time (note)	Note ➡ **"Note"** (p. 76)	
Delay Feedback	-98–+98 [%]	Adjusts the proportion of the delay sound that is fed back into the effect. Negative (-) settings will invert the phase.
Delay HF Damp	200, 250, 315, 400, 500, 630, 800, 1000, 1250, 1600, 2000, 2500, 3150, 4000, 5000, 6300, 8000, BYPASS [Hz]	Adjusts the frequency above which the delay sound fed back to the effect is filtered out (**BYPASS:** no cut).
Delay Balance	D100:0W–D0:100W	Adjusts the volume balance between the sound that is sent through the delay (W) and the sound that is not sent through the delay (D).
Level	0–127	Output Level

55 OD/DS → TouchWah

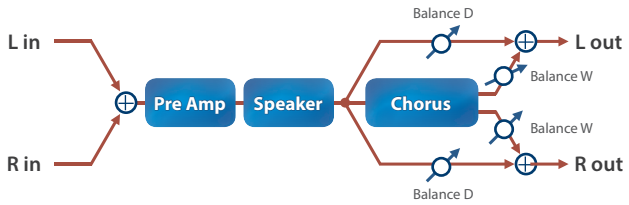


Parameter	Value	Explanation
Drive Switch	OFF, ON	Turns overdrive/distortion on/off
Drive Type	OVERDRIVE, DISTORTION	Type of distortion
Drive	0–127	Degree of distortion Also changes the volume.
Tone	0–127	Sound quality of the Overdrive effect
Amp Switch	OFF, ON	Turns the Amp Simulator on/off.
Amp Type	SMALL, BUILT-IN, 2-STACK, 3-STACK	Type of guitar amp **SMALL:** Small amp **BUILT-IN:** Single-unit type amp **2-STACK:** Large double stack amp **3-STACK:** Large triple stack amp
TWah Switch	OFF, ON	Wah on/off
TWah Mode	LPF, BPF	Type of filter **LPF:** Produces a wah effect in a broad frequency range. **BPF:** Produces a wah effect in a narrow frequency range.
TWah Polarity	DOWN, UP	Direction in which the filter will move **UP:** The filter will change toward a higher frequency. **DOWN:** The filter will change toward a lower frequency.
TWah Sens	0–127	Adjusts the sensitivity with which the filter is controlled.
TWah Manual	0–127	Center frequency at which the wah effect is applied
TWah Peak	0–127	Width of the frequency region at which the wah effect is applied Increasing this value will make the frequency region narrower.
TWah Balance	D100:0W–D0:100W	Volume balance of the sound that passes through the wah (W) and the unprocessed sound (D)
Low Gain	-15–+15 [dB]	Gain of the low range
High Gain	-15–+15 [dB]	Gain of the high range
Level	0–127	Output Level

56 OD/DS → AutoWah

Parameter	Value	Explanation
Drive Switch	OFF, ON	Turns overdrive/distortion on/off
Drive Type	OVERDRIVE, DISTORTION	Type of distortion
Drive	0–127	Degree of distortion Also changes the volume.
Tone	0–127	Sound quality of the Overdrive effect
Amp Switch	OFF, ON	Turns the Amp Simulator on/off.
Amp Type	SMALL, BUILT-IN, 2-STACK, 3-STACK	Type of guitar amp **SMALL:** Small amp **BUILT-IN:** Single-unit type amp **2-STACK:** Large double stack amp **3-STACK:** Large triple stack amp
AutoWah Switch	OFF, ON	Wah on/off
AutoWah Mode	LPF, BPF	Type of filter **LPF:** Produces a wah effect in a broad frequency range. **BPF:** Produces a wah effect in a narrow frequency range.
AutoWah Manual	0–127	Center frequency at which the wah effect is applied
AutoWah Peak	0–127	Width of the frequency region at which the wah effect is applied Increasing this value will make the frequency region narrower.
AutoWah Rate (sync sw)	OFF, ON	If this is ON, the rate synchronizes with the tempo of the rhythm. ➡ **"Tempo"** (p. 5)
AutoWah Rate (Hz)	0.05–10.00 [Hz]	Modulation frequency of the wah effect
AutoWah Rate (note)	Note ➡ **"Note"** (p. 76)	
AutoWah Depth	0–127	Depth of modulation
AutoWah Balance	D100:0W–D0:100W	Volume balance of the sound that passes through the wah (W) and the unprocessed sound (D)
Low Gain	-15–+15 [dB]	Gain of the low range
High Gain	-15–+15 [dB]	Gain of the high range
Level	0–127	Output Level

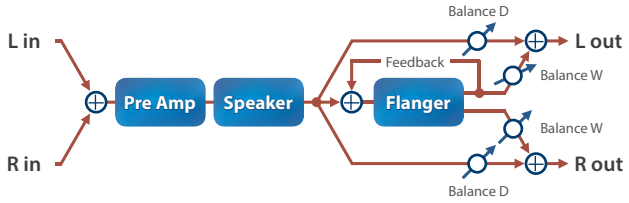
57 GtAmpSim → Chorus



Parameter	Value	Explanation
Pre Amp Sw	OFF, ON	Turns the amp switch on/off.
Pre Amp Type		Type of guitar amp
	JC-120	This models the sound of the Roland JC-120.
	CLEAN TWIN	This models a Fender Twin Reverb.
	MATCH DRIVE	This models the sound input to left input on a Matchless D/C-30. A simulation of the latest tube amp widely used in styles from blues and rock.
	BG LEAD	This models the lead sound of the MESA/Boogie combo amp. The sound of a tube amp typical of the late '70s to '80s.
	MS1959I	This models the sound input to Input I on a Marshall 1959. This is a trebly sound suited to hard rock.
	MS1959II	This models the sound input to Input II on a Marshall 1959.
	MS1959I+II	This models the sound of connecting inputs I and II on a Marshall 1959 in parallel. It creates a sound with a stronger low end than I.
	SLDN LEAD	This models a Soldano SLO-100. This is the typical sound of the eighties.
	METAL 5150	This models the lead channel of a Peavey EVH 5150.
	METAL LEAD	This is distortion sound that is ideal for performances of heavy riffs.
	OD-1	This models the sound of the BOSS OD-1. This produces sweet, mild distortion.
	OD-2 TURBO	This is the high-gain overdrive sound of the BOSS OD-2.
	DISTORTION	This gives a basic, traditional distortion sound.
	FUZZ	A fuzz sound with rich harmonic content.
Pre Amp Volume	0–127	Volume and amount of distortion of the amp
Pre Amp Master	0–127	Volume of the entire pre-amp
Pre Amp Gain	LOW, MIDDLE, HIGH	Amount of pre-amp distortion
Pre Amp Bass	0–127	Tone of the bass/mid/treble frequency range
Pre Amp Middle	0–127	
Pre Amp Treble	0–127	

Parameter	Value	Explanation		
Speaker Sw	OFF, ON	Selects whether the sound will be sent through the speaker (ON) or not (OFF)		
Speaker Type		Cabinet	Diameter (in inches) and number of the speaker	Microphone
	SMALL 1	Small open-back enclosure	10	Dynamic
	SMALL 2	Small open-back enclosure	10	Dynamic
	MIDDLE	Open back enclosure	12 x 1	Dynamic
	JC-120	Open back enclosure	12 x 2	Dynamic
	BUILT-IN1	Open back enclosure	12 x 2	Dynamic
	BUILT-IN2	Open back enclosure	12 x 2	Condenser
	BUILT-IN3	Open back enclosure	12 x 2	Condenser
	BUILT-IN4	Open back enclosure	12 x 2	Condenser
	BUILT-IN5	Open back enclosure	12 x 2	Condenser
	BG STACK1	Sealed enclosure	12 x 2	Condenser
	BG STACK2	Large sealed enclosure	12 x 2	Condenser
	MS STACK1	Large sealed enclosure	12 x 4	Condenser
	MS STACK2	Large sealed enclosure	12 x 4	Condenser
	MTL STACK	Large double stack	12 x 4	Condenser
	2-STACK	Large double stack	12 x 4	Condenser
	3-STACK	Large triple stack	12 x 4	Condenser
Chorus Switch	OFF, ON	Chorus on/off		
Chorus Pre Delay	0.0–100 [msec]	Adjusts the delay time from the direct sound until the chorus sound is heard.		
Chorus Rate (Hz)	0.05–10.00 [Hz]	Frequency of modulation		
Chorus Depth	0–127	Depth of modulation		
Chorus Balance	D100:0W–D0:100W	Adjusts the volume balance between the sound that is sent through the chorus (W) and the sound that is not sent through the chorus (D).		
Level	0–127	Output Level		

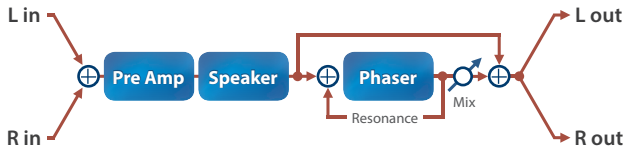
58 GtAmpSim → Flanger



Parameter	Value	Explanation
Pre Amp Sw	OFF, ON	Turns the amp switch on/off.
Pre Amp Type		**Type of guitar amp**
	JC-120	This models the sound of the Roland JC-120.
	CLEAN TWIN	This models a Fender Twin Reverb.
	MATCH DRIVE	This models the sound input to left input on a Matchless D/C-30. A simulation of the latest tube amp widely used in styles from blues and rock.
	BG LEAD	This models the lead sound of the MESA/Boogie combo amp. The sound of a tube amp typical of the late '70s to '80s.
	MS1959I	This models the sound input to Input I on a Marshall 1959. This is a trebly sound suited to hard rock.
	MS1959II	This models the sound input to Input II on a Marshall 1959.
	MS1959I+II	This models the sound of connecting inputs I and II on a Marshall 1959 in parallel. It creates 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 EVH5150.
	METAL LEAD	This is distortion sound that is ideal for performances of heavy riffs.
	OD-1	This models the sound of the BOSS OD-1. This produces sweet, mild distortion.
	OD-2 TURBO	This is the high-gain overdrive sound of the BOSS OD-2.
	DISTORTION	This gives a basic, traditional distortion sound.
	FUZZ	A fuzz sound with rich harmonic content.
Pre Amp Volume	0–127	Volume and amount of distortion of the amp
Pre Amp Master	0–127	Volume of the entire pre-amp
Pre Amp Gain	LOW, MIDDLE, HIGH	Amount of pre-amp distortion
Pre Amp Bass	0–127	Tone of the bass/mid/treble frequency range
Pre Amp Middle	0–127	
Pre Amp Treble	0–127	

Parameter	Value	Explanation		
Speaker Sw	OFF, ON	Determines whether the signal passes through the speaker (ON), or not (OFF).		
Speaker Type		Cabinet	Diameter (in inches) and number of the speaker	Microphone
	SMALL 1	Small open-back enclosure	10	Dynamic
	SMALL 2	Small open-back enclosure	10	Dynamic
	MIDDLE	Open back enclosure	12 x 1	Dynamic
	JC-120	Open back enclosure	12 x 2	Dynamic
	BUILT-IN1	Open back enclosure	12 x 2	Dynamic
	BUILT-IN2	Open back enclosure	12 x 2	Condenser
	BUILT-IN3	Open back enclosure	12 x 2	Condenser
	BUILT-IN4	Open back enclosure	12 x 2	Condenser
	BUILT-IN5	Open back enclosure	12 x 2	Condenser
	BG STACK1	Sealed enclosure	12 x 2	Condenser
	BG STACK2	Large sealed enclosure	12 x 2	Condenser
	MS STACK1	Large sealed enclosure	12 x 4	Condenser
	MS STACK2	Large sealed enclosure	12 x 4	Condenser
	MTL STACK	Large double stack	12 x 4	Condenser
	2-STACK	Large double stack	12 x 4	Condenser
	3-STACK	Large triple stack	12 x 4	Condenser
Flanger Switch	OFF, ON	Flanger on/off		
Flanger Pre Delay	0.0–100 [msec]	Adjusts the delay time from the direct sound until the flanger sound is heard.		
Flanger Rate (Hz)	0.05–10.00 [Hz]	Frequency of modulation		
Flanger Depth	0–127	Depth of modulation		
Flanger Feedback	-98–+98 [%]	Adjusts the proportion of the flanger sound that is fed back into the effect. Negative (-) settings will invert the phase.		
Flanger Balance	D100:0W–D0:100W	Adjusts the volume balance between the sound that is sent through the flanger (W) and the sound that is not sent through the flanger (D).		
Level	0–127	Output Level		

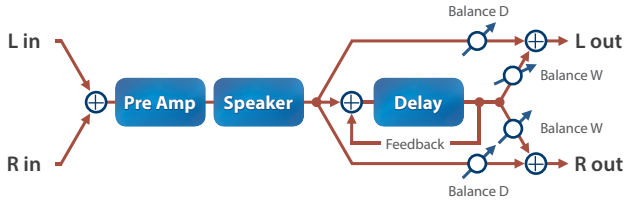
59 GtAmpSim → Phaser



Parameter	Value	Explanation
Pre Amp Sw	OFF, ON	Turns the amp switch on/off.
Pre Amp Type		**Type of guitar amp**
	JC-120	This models the sound of the Roland JC-120.
	CLEAN TWIN	This models a Fender Twin Reverb.
	MATCH DRIVE	This models the sound input to left input on a Matchless D/C-30. A simulation of the latest tube amp widely used in styles from blues and rock.
	BG LEAD	This models the lead sound of the MESA/Boogie combo amp. The sound of a tube amp typical of the late '70s to '80s.
	MS1959I	This models the sound input to Input I on a Marshall 1959. This is a trebly sound suited to hard rock.
	MS1959II	This models the sound input to Input II on a Marshall 1959.
	MS1959I+II	This models the sound of connecting inputs I and II on a Marshall 1959 in parallel. It creates 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 EVH5150.
	METAL LEAD	This is distortion sound that is ideal for performances of heavy riffs.
	OD-1	This models the sound of the BOSS OD-1. This produces sweet, mild distortion.
	OD-2 TURBO	This is the high-gain overdrive sound of the BOSS OD-2.
	DISTORTION	This gives a basic, traditional distortion sound.
	FUZZ	A fuzz sound with rich harmonic content.
Pre Amp Volume	0–127	Volume and amount of distortion of the amp
Pre Amp Master	0–127	Volume of the entire pre-amp
Pre Amp Gain	LOW, MIDDLE, HIGH	Amount of pre-amp distortion
Pre Amp Bass	0–127	Tone of the bass/mid/treble frequency range
Pre Amp Middle	0–127	
Pre Amp Treble	0–127	

Parameter	Value	Explanation		
Speaker Sw	OFF, ON	Determines whether the signal passes through the speaker (ON), or not (OFF).		
Speaker Type		Cabinet	Diameter (in inches) and number of the speaker	Microphone
	SMALL 1	Small open-back enclosure	10	Dynamic
	SMALL 2	Small open-back enclosure	10	Dynamic
	MIDDLE	Open back enclosure	12 x 1	Dynamic
	JC-120	Open back enclosure	12 x 2	Dynamic
	BUILT-IN1	Open back enclosure	12 x 2	Dynamic
	BUILT-IN2	Open back enclosure	12 x 2	Condenser
	BUILT-IN3	Open back enclosure	12 x 2	Condenser
	BUILT-IN4	Open back enclosure	12 x 2	Condenser
	BUILT-IN5	Open back enclosure	12 x 2	Condenser
	BG STACK1	Sealed enclosure	12 x 2	Condenser
	BG STACK2	Large sealed enclosure	12 x 2	Condenser
	MS STACK1	Large sealed enclosure	12 x 4	Condenser
	MS STACK2	Large sealed enclosure	12 x 4	Condenser
	MTL STACK	Large double stack	12 x 4	Condenser
	2-STACK	Large double stack	12 x 4	Condenser
	3-STACK	Large triple stack	12 x 4	Condenser
Phaser Switch	OFF, ON	Phaser on/off		
Phaser Rate (Hz)	0.05–10.00 [Hz]	Modulation rate		
Phaser Manual	0–127	Center frequency at which the sound is modulated		
Phaser Depth	0–127	Depth of modulation		
Phaser Resonance	0–127	Amount of feedback		
Phaser Mix	0–127	Level of the phase-shifted sound		
Level	0–127	Output Level		

60 GtAmpSim → Delay



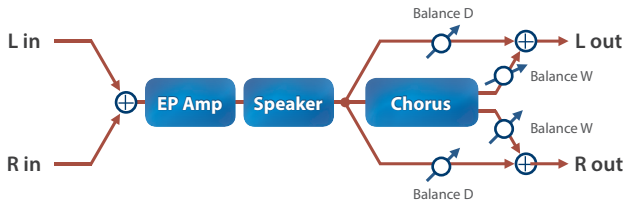
Parameter	Value	Explanation
Pre Amp Sw	OFF, ON	Turns the amp switch on/off.
Pre Amp Type		**Type of guitar amp**
	JC-120	This models the sound of the Roland JC-120.
	CLEAN TWIN	This models a Fender Twin Reverb.
	MATCH DRIVE	This models the sound input to left input on a Matchless D/C-30. A simulation of the latest tube amp widely used in styles from blues and rock.
	BG LEAD	This models the lead sound of the MESA/Boogie combo amp. The sound of a tube amp typical of the late '70s to '80s.
	MS1959I	This models the sound input to Input I on a Marshall 1959. This is a trebly sound suited to hard rock.
	MS1959II	This models the sound input to Input II on a Marshall 1959.
	MS1959I+II	This models the sound of connecting inputs I and II on a Marshall 1959 in parallel. It creates 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 EVH5150.
	METAL LEAD	This is distortion sound that is ideal for performances of heavy riffs.
	OD-1	This models the sound of the BOSS OD-1. This produces sweet, mild distortion.
	OD-2 TURBO	This is the high-gain overdrive sound of the BOSS OD-2.
	DISTORTION	This gives a basic, traditional distortion sound.
	FUZZ	A fuzz sound with rich harmonic content.
Pre Amp Volume	0–127	Volume and amount of distortion of the amp
Pre Amp Master	0–127	Volume of the entire pre-amp
Pre Amp Gain	LOW, MIDDLE, HIGH	Amount of pre-amp distortion
Pre Amp Bass	0–127	Tone of the bass/mid/treble frequency range
Pre Amp Middle	0–127	
Pre Amp Treble	0–127	

Parameter	Value	Explanation		
Speaker Sw	OFF, ON	Determines whether the signal passes through the speaker (ON), or not (OFF).		
Speaker Type		Cabinet	Diameter (in inches) and number of the speaker	Microphone
	SMALL 1	Small open-back enclosure	10	Dynamic
	SMALL 2	Small open-back enclosure	10	Dynamic
	MIDDLE	Open back enclosure	12 x 1	Dynamic
	JC-120	Open back enclosure	12 x 2	Dynamic
	BUILT-IN1	Open back enclosure	12 x 2	Dynamic
	BUILT-IN2	Open back enclosure	12 x 2	Condenser
	BUILT-IN3	Open back enclosure	12 x 2	Condenser
	BUILT-IN4	Open back enclosure	12 x 2	Condenser
	BUILT-IN5	Open back enclosure	12 x 2	Condenser
	BG STACK1	Sealed enclosure	12 x 2	Condenser
	BG STACK2	Large sealed enclosure	12 x 2	Condenser
	MS STACK1	Large sealed enclosure	12 x 4	Condenser
	MS STACK2	Large sealed enclosure	12 x 4	Condenser
	MTL STACK	Large double stack	12 x 4	Condenser
	2-STACK	Large double stack	12 x 4	Condenser
	3-STACK	Large triple stack	12 x 4	Condenser
Delay Switch	OFF, ON	Delay on/off		
Delay Time	1–1300 [msec]	Delay time from when the original sound is heard to when the delay sound is heard		
Delay Feedback	-98–+98 [%]	Adjusts the proportion of the delay sound that is fed back into the effect. Negative (-) settings will invert the phase.		
Delay HF Damp	200, 250, 315, 400, 500, 630, 800, 1000, 1250, 1600, 2000, 2500, 3150, 4000, 5000, 6300, 8000, BYPASS [Hz]	Frequency at which the high-frequency portion of the delay sound will be cut (**BYPASS:** no cut)		
Delay Balance	D100:0W–D0:100W	Adjusts the volume balance between the sound that is sent through the delay (W) and the sound that is not sent through the delay (D).		
Level	0–127	Output Level		

61 EPAmpSim → Tremolo

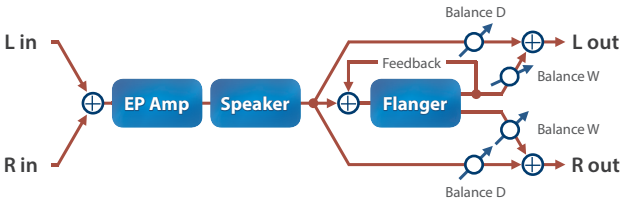
Parameter	Value	Explanation
Type		Type of amp
	OLDCASE	A standard electric piano sound of the early 70s
	NEWCASE	A standard electric piano sound of the late 70s and early 80s
	WURLY	A standard electric piano sound of the 60s
Bass	-50–+50	Amount of low-frequency boost/cut
Treble	-50–+50	Amount of high-frequency boost/cut
Tremolo Switch	OFF, ON	Tremolo on/off
Tremolo Speed (sync sw)	OFF, ON	If this is ON, the rate synchronizes with the tempo of the rhythm. ➡ "Tempo" (p. 5)
Tremolo Speed (Hz)	0.05–10.00 [Hz]	Rate of the tremolo effect
Tremolo Speed (note)	Note ➡ "Note" (p. 76)	
Tremolo Depth	0–127	Depth of the tremolo effect
Tremolo Duty	-10–+10	Adjusts the duty cycle of the LFO waveform used to apply tremolo.
Speaker Type	LINE, OLD, NEW, WURLY, TWIN	Type of speaker If LINE is selected, the sound will not be sent through the speaker simulation.
OD Switch	OFF, ON	Overdrive on/off
OD Gain	0–127	Overdrive input level
OD Drive	0–127	Degree of distortion Also changes the volume.
Level	0–127	Output Level

62 EPAmpSim → Chorus



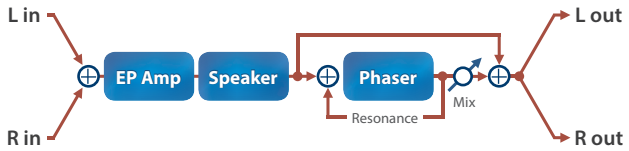
Parameter	Value	Explanation
Type		Type of amp
	OLDCASE	A standard electric piano sound of the early 70s
	NEWCASE	A standard electric piano sound of the late 70s and early 80s
Bass	-50–+50	Amount of low-frequency boost/cut
Treble	-50–+50	Amount of high-frequency boost/cut
Chorus Switch	OFF, ON	Chorus on/off
Chorus Pre Delay	0.0–100 [msec]	Adjusts the delay time from the direct sound until the chorus sound is heard.
Chorus Rate (sync sw)	OFF, ON	If this is ON, the rate synchronizes with the tempo of the rhythm. ➡ "Tempo" (p. 5)
Chorus Rate (Hz)	0.05–10.00 [Hz]	Frequency of modulation
Chorus Rate (note)	Note ➡ "Note" (p. 76)	
Chorus Depth	0–127	Depth of modulation
Chorus Balance	D100:0W–D0:100W	Adjusts the volume balance between the sound that is sent through the chorus (W) and the sound that is not sent through the chorus (D).
Speaker Type	LINE, OLD, NEW, WURLY, TWIN	Type of speaker If LINE is selected, the sound will not be sent through the speaker simulation.
OD Switch	OFF, ON	Overdrive on/off
OD Gain	0–127	Overdrive input level
OD Drive	0–127	Degree of distortion Also changes the volume.
Level	0–127	Output Level

63 EPAmpSim → Flanger



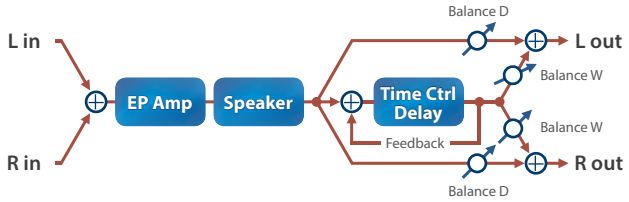
Parameter	Value	Explanation
Type		Type of amp
	OLDCASE	A standard electric piano sound of the early 70s
	NEWCASE	A standard electric piano sound of the late 70s and early 80s
Bass	-50–+50	Amount of low-frequency boost/cut
Treble	-50–+50	Amount of high-frequency boost/cut
Flanger Switch	OFF, ON	Flanger on/off
Flanger Pre Delay	0.0–100 [msec]	Adjusts the delay time from the direct sound until the flanger sound is heard.
Flanger Rate (sync sw)	OFF, ON	If this is ON, the rate synchronizes with the tempo of the rhythm. ➡ "Tempo" (p. 5)
Flanger Rate (Hz)	0.05–10.00 [Hz]	Frequency of modulation
Flanger Rate (note)	Note ➡ "Note" (p. 76)	
Flanger Depth	0–127	Depth of modulation
Flanger Feedback	-98–+98 [%]	Adjusts the proportion of the flanger sound that is fed back into the effect. Negative (-) settings will invert the phase.
Flanger Balance	D100:0W–D0:100W	Adjusts the volume balance between the sound that is sent through the flanger (W) and the sound that is not sent through the flanger (D).
Speaker Type	LINE, OLD, NEW, WURLY, TWIN	Type of speaker If LINE is selected, the sound will not be sent through the speaker simulation.
OD Switch	OFF, ON	Overdrive on/off
OD Gain	0–127	Overdrive input level
OD Drive	0–127	Degree of distortion Also changes the volume.
Level	0–127	Output Level

64 EPAmpSim → Phaser



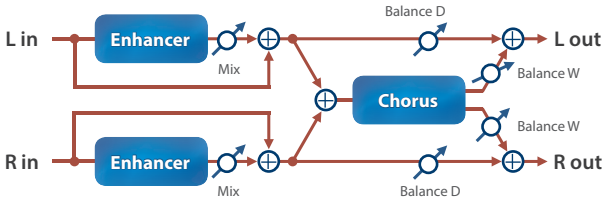
Parameter	Value	Explanation
Type		Type of amp
	OLDCASE	A standard electric piano sound of the early 70s
	NEWCASE	A standard electric piano sound of the late 70s and early 80s
Bass	-50–+50	Amount of low-frequency boost/cut
Treble	-50–+50	Amount of high-frequency boost/cut
Phaser Switch	OFF, ON	Phaser on/off
Phaser Rate (sync sw)	OFF, ON	If this is ON, the rate synchronizes with the tempo of the rhythm. ➡ **"Tempo"** (p. 5)
Phaser Rate (Hz)	0.05–10.00 [Hz]	Modulation rate
Phaser Rate (note)	Note ➡ **"Note"** (p. 76)	
Phaser Manual	0–127	Center frequency at which the sound is modulated
Phaser Depth	0–127	Depth of modulation
Phaser Resonance	0–127	Amount of feedback
Phaser Mix	0–127	Level of the phase-shifted sound
Speaker Type	LINE, OLD, NEW, WURLY, TWIN	Type of speaker If LINE is selected, the sound will not be sent through the speaker simulation.
OD Switch	OFF, ON	Overdrive on/off
OD Gain	0–127	Overdrive input level
OD Drive	0–127	Degree of distortion Also changes the volume.
Level	0–127	Output Level

65 EPAmpSim → Delay



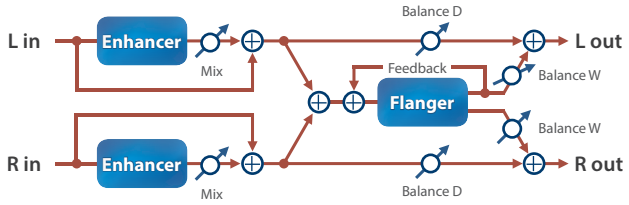
Parameter	Value	Explanation
Type		Type of amp
	OLDCASE	A standard electric piano sound of the early 70s
	NEWCASE	A standard electric piano sound of the late 70s and early 80s
Bass	-50–+50	Amount of low-frequency boost/cut
Treble	-50–+50	Amount of high-frequency boost/cut
Delay Switch	OFF, ON	Delay on/off
Delay Time (sync sw)	OFF, ON	If this is ON, the rate synchronizes with the tempo of the rhythm. ➡ **"Tempo"** (p. 5)
Delay Time (msec)	1–1300 [msec]	Delay time from when the original sound is heard to when the delay sound is heard
Delay Time (note)	Note ➡ **"Note"** (p. 76)	
Delay Accel	0–15	Speed at which the current delay time changes to the specified delay time when you change the delay time. This affects the speed of pitch change as well as the delay time.
Delay Feedback	-98–+98 [%]	Adjusts the proportion of the delay sound that is fed back into the effect. Negative (-) settings will invert the phase.
Delay HF Damp	200, 250, 315, 400, 500, 630, 800, 1000, 1250, 1600, 2000, 2500, 3150, 4000, 5000, 6300, 8000, BYPASS [Hz]	Frequency at which the high-frequency portion of the delay sound will be cut (**BYPASS:** no cut)
Delay Balance	D100:0W–D0:100W	Adjusts the volume balance between the sound that is sent through the delay (W) and the sound that is not sent through the delay (D).
Speaker Type	LINE, OLD, NEW, WURLY, TWIN	Type of speaker If LINE is selected, the sound will not be sent through the speaker simulation.
OD Switch	OFF, ON	Overdrive on/off
OD Gain	0–127	Overdrive input level
OD Drive	0–127	Degree of distortion Also changes the volume.
Level	0–127	Output Level

66 Enhancer → Chorus



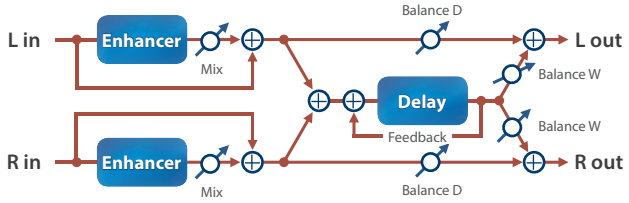
Parameter	Value	Explanation
Enhancer Sens	0–127	Sensitivity of the enhancer
Enhancer Mix	0–127	Level of the overtones generated by the enhancer
Chorus Pre Delay	0.0–100 [msec]	Adjusts the delay time from the direct sound until the chorus sound is heard.
Chorus Rate (sync sw)	OFF, ON	If this is ON, the rate synchronizes with the tempo of the rhythm. ➡ **"Tempo"** (p. 5)
Chorus Rate (Hz)	0.05–10.00 [Hz]	Frequency of modulation
Chorus Rate (note)	Note ➡ **"Note"** (p. 76)	
Chorus Depth	0–127	Depth of modulation
Chorus Balance	D100:0W–D0:100W	Adjusts the volume balance between the sound that is sent through the chorus (W) and the sound that is not sent through the chorus (D).
Level	0–127	Output Level

67 Enhancer → Flanger



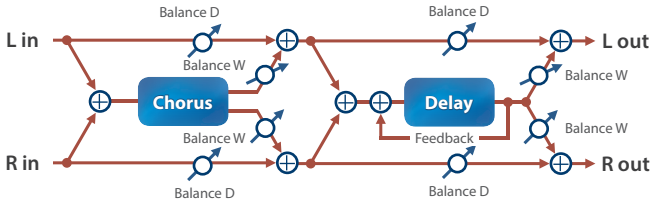
Parameter	Value	Explanation
Enhancer Sens	0–127	Sensitivity of the enhancer
Enhancer Mix	0–127	Level of the overtones generated by the enhancer
Flanger Pre Delay	0.0–100 [msec]	Adjusts the delay time from the direct sound until the flanger sound is heard.
Flanger Rate (sync sw)	OFF, ON	If this is ON, the rate synchronizes with the tempo of the rhythm. ➡ **"Tempo"** (p. 5)
Flanger Rate (Hz)	0.05–10.00 [Hz]	Frequency of modulation
Flanger Rate (note)	Note ➡ **"Note"** (p. 76)	
Flanger Depth	0–127	Depth of modulation
Flanger Feedback	-98–+98 [%]	Adjusts the proportion of the flanger sound that is fed back into the effect. Negative (-) settings will invert the phase.
Flanger Balance	D100:0W–D0:100W	Adjusts the volume balance between the sound that is sent through the flanger (W) and the sound that is not sent through the flanger (D).
Level	0–127	Output Level

68 Enhancer → Delay



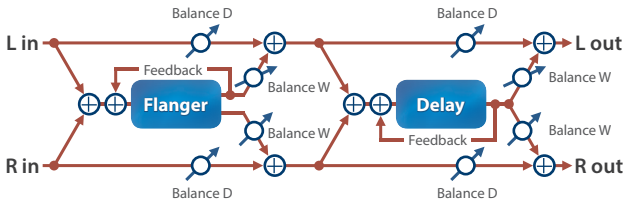
Parameter	Value	Explanation
Enhancer Sens	0–127	Sensitivity of the enhancer
Enhancer Mix	0–127	Level of the overtones generated by the enhancer
Delay Time (sync sw)	OFF, ON	If this is ON, the rate synchronizes with the tempo of the rhythm. ➡ **"Tempo"** (p. 5)
Delay Time (msec)	1–2600 [msec]	Delay time from when the original sound is heard to when the delay sound is heard
Delay Time (note)	Note ➡ **"Note"** (p. 76)	
Delay Feedback	-98–+98 [%]	Adjusts the proportion of the delay sound that is fed back into the effect. Negative (-) settings will invert the phase.
Delay HF Damp	200, 250, 315, 400, 500, 630, 800, 1000, 1250, 1600, 2000, 2500, 3150, 4000, 5000, 6300, 8000, BYPASS [Hz]	Adjusts the frequency above which the delay sound fed back to the effect is filtered out (**BYPASS:** no cut).
Delay Balance	D100:0W–D0:100W	Adjusts the volume balance between the sound that is sent through the delay (W) and the sound that is not sent through the delay (D).
Level	0–127	Output Level

69 Chorus → Delay



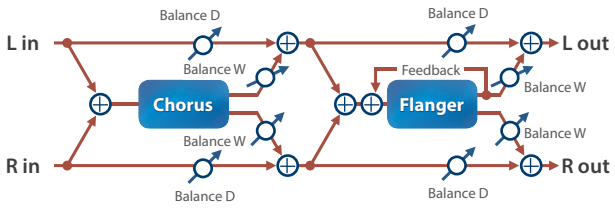
Parameter	Value	Explanation
Chorus Pre Delay	0.0–100 [msec]	Adjusts the delay time from the direct sound until the chorus sound is heard.
Chorus Rate (sync sw)	OFF, ON	If this is ON, the rate synchronizes with the tempo of the rhythm. ➡ **"Tempo"** (p. 5)
Chorus Rate (Hz)	0.05–10.00 [Hz]	Frequency of modulation
Chorus Rate (note)	Note ➡ **"Note"** (p. 76)	
Chorus Depth	0–127	Depth of modulation
Chorus Balance	D100:0W–D0:100W	Volume balance between the direct sound (D) and the chorus sound (W)
Delay Time (sync sw)	OFF, ON	If this is ON, the rate synchronizes with the tempo of the rhythm. ➡ **"Tempo"** (p. 5)
Delay Time (msec)	1–2600 [msec]	Delay time from when the original sound is heard to when the delay sound is heard
Delay Time (note)	Note ➡ **"Note"** (p. 76)	
Delay Feedback	-98–+98 [%]	Adjusts the proportion of the delay sound that is fed back into the effect. Negative (-) settings will invert the phase.
Delay HF Damp	200, 250, 315, 400, 500, 630, 800, 1000, 1250, 1600, 2000, 2500, 3150, 4000, 5000, 6300, 8000, BYPASS [Hz]	Adjusts the frequency above which the delay sound fed back to the effect is filtered out (**BYPASS:** no cut).
Delay Balance	D100:0W–D0:100W	Adjusts the volume balance between the sound that is sent through the delay (W) and the sound that is not sent through the delay (D).
Level	0–127	Output Level

70 Flanger → Delay



Parameter	Value	Explanation
Flanger Pre Delay	0.0–100 [msec]	Adjusts the delay time from the direct sound until the flanger sound is heard.
Flanger Rate (sync sw)	OFF, ON	If this is ON, the rate synchronizes with the tempo of the rhythm. ➡ "Tempo" (p. 5)
Flanger Rate (Hz)	0.05–10.00 [Hz]	Frequency of modulation
Flanger Rate (note)	Note ➡ "Note" (p. 76)	
Flanger Depth	0–127	Depth of modulation
Flanger Feedback	-98–+98 [%]	Adjusts the proportion of the flanger sound that is fed back into the effect. Negative (-) settings will invert the phase.
Flanger Balance	D100:0W–D0:100W	Volume balance between the direct sound (D) and the flanger sound (W)
Delay Time (sync sw)	OFF, ON	If this is ON, the rate synchronizes with the tempo of the rhythm. ➡ "Tempo" (p. 5)
Delay Time (msec)	1–2600 [msec]	Delay time from when the original sound is heard to when the delay sound is heard
Delay Time (note)	Note ➡ "Note" (p. 76)	
Delay Feedback	-98–+98 [%]	Adjusts the proportion of the delay sound that is fed back into the effect. Negative (-) settings will invert the phase.
Delay HF Damp	200, 250, 315, 400, 500, 630, 800, 1000, 1250, 1600, 2000, 2500, 3150, 4000, 5000, 6300, 8000, BYPASS [Hz]	Adjusts the frequency above which the delay sound fed back to the effect is filtered out (**BYPASS:** no cut).
Delay Balance	D100:0W–D0:100W	Adjusts the volume balance between the sound that is sent through the delay (W) and the sound that is not sent through the delay (D).
Level	0–127	Output Level

71 Chorus → Flanger

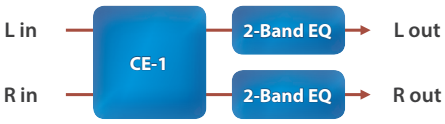


Parameter	Value	Explanation
Chorus Pre Delay	0.0–100 [msec]	Adjusts the delay time from the direct sound until the chorus sound is heard.
Chorus Rate (sync sw)	OFF, ON	If this is ON, the rate synchronizes with the tempo of the rhythm. ➡ "Tempo" (p. 5)
Chorus Rate (Hz)	0.05–10.00 [Hz]	Modulation frequency of the chorus effect
Chorus Rate (note)	Note ➡ "Note" (p. 76)	
Chorus Depth	0–127	Modulation depth of the chorus effect
Chorus Balance	D100:0W–D0:100W	Volume balance between the direct sound (D) and the chorus sound (W)
Flanger Pre Delay	0.0–100 [msec]	Adjusts the delay time from the direct sound until the flanger sound is heard.
Flanger Rate (sync sw)	OFF, ON	If this is ON, the rate synchronizes with the tempo of the rhythm. ➡ "Tempo" (p. 5)
Flanger Rate (Hz)	0.05–10.00 [Hz]	Modulation frequency of the flanger effect
Flanger Rate (note)	Note ➡ "Note" (p. 76)	
Flanger Depth	0–127	Modulation depth of the flanger effect
Flanger Feedback	-98–+98 [%]	Adjusts the proportion of the flanger sound that is fed back into the effect. Negative (-) settings will invert the phase.
Flanger Balance	D100:0W–D0:100W	Adjusts the volume balance between the sound that is sent through the flanger (W) and the sound that is not sent through the flanger (D).
Level	0–127	Output Level

72 CE-1

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]	Gain of the low range
High Gain	-15–+15 [dB]	Gain of the high range
Level	0–127	Output Level

73 SBF-325

This effect reproduces Roland's SBF-325 analog flanger.

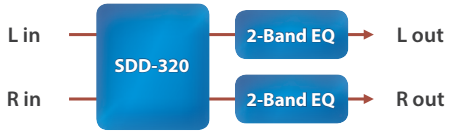
It provides three types of flanging effect (which adds a metallic resonance to the original sound) and a chorus-type effect.

Parameter	Value	Explanation
Mode		Types of flanging effect
	FL1	A typical mono flanger
	FL2	A stereo flanger that preserves the stereo positioning of the original sound
	FL3	A cross-mix flanger that produces a more intense effect
	CHO	A chorus effect
Rate (sync sw)	OFF, ON	If this is ON, the rate synchronizes with the tempo of the rhythm. ➡ **"Tempo"** (p. 5)
Rate (Hz)	0.02–5.00 [Hz]	Modulation frequency of the flanger effect
Rate (note)	Note ➡ **"Note"** (p. 76)	
Depth	0–127	Modulation depth of the flanger effect
Manual	0–127	Center frequency at which the flanger effect is applied
Feedback	0–127	Amount by which the flanging effect is boosted If Mode is CHO, this setting is ignored.
CH-R Mode Phase	NORM, INV	Phase of the right channel modulation: Normally, you will leave this at Normal (NORM). If you specify Inverted (INV), the modulation (upward/downward movement) of the right channel is inverted.
CH-L Phase		Phase when mixing the flanging sound with the original sound **NORM:** normal phase **INV:** inverse phase
CH-R Phase		
Level	0–127	Output Level

74 SDD-320

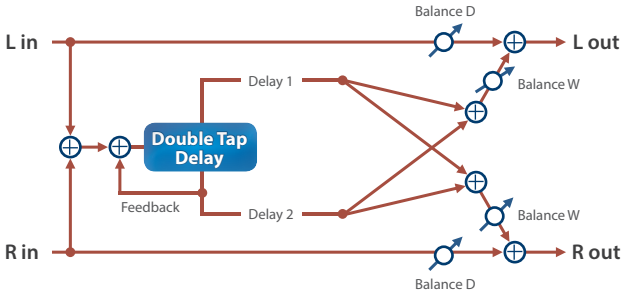
This models Roland's DIMENSION D (SDD-320).

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]	Gain of the low range
High Gain	-15–+15 [dB]	Gain of the high range
Level	0–127	Output Level

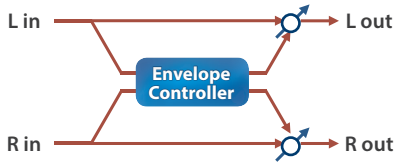
75 2Tap Pan Delay



Parameter	Value	Explanation
Delay Time (sync sw)	OFF, ON	If this is ON, the delay synchronizes with the tempo.
Delay Time (msec)	1–2600 [msec]	Adjusts the delay time from the direct sound until the second delay sound is heard.
Delay Time (note)	Note ➡ **"Note"** (p. 76)	
Delay Feedback	-98–+98 [%]	Adjusts the proportion of the delay sound that is fed back into the effect. Negative (-) settings will invert the phase.
Delay HF Damp	200, 250, 315, 400, 500, 630, 800, 1000, 1250, 1600, 2000, 2500, 3150, 4000, 5000, 6300, 8000, BYPASS [Hz]	Adjusts the frequency above which the delay sound fed back to the effect is filtered out (**BYPASS:** no cut).
Delay 1 Pan	L64–63R	Stereo location of Delay 1
Delay 2 Pan	L64–63R	Stereo location of Delay 2
Delay 1 Level	0–127	Volume of delay 1
Delay 2 Level	0–127	Volume of delay 2
Low Gain	-15–+15 [dB]	Gain of the low range
High Gain	-15–+15 [dB]	Gain of the high 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

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.
Output Gain	-24–+12 [dB]	Output gain
Sense	LOW, MID, HIGH	Quickness with which the attack is detected
Level	0–127	Output Level

77 Mid-Side EQ

This effect allows the left/right signals that have similar phase to be tonally adjusted in a different way than the left/right signals that have different phase.

Parameter	Value	Explanation
M EQ Switch	OFF, ON	Switches whether to apply tonal adjustment to left/right input signals whose phase is similar (in phase).
M Input Gain	-12.00–+12.00 [dB]	Volume of left/right input signals whose phase is similar (in phase)
M Low Frequency	20, 25, 31, 40, 50, 63, 80, 100, 125, 160, 200, 250, 315, 400 [Hz]	Frequency of the low range
M Low Gain	-12.00–+12.00 [dB]	Gain of the low range
M Mid1 Frequency	200, 250, 315, 400, 500, 630, 800, 1000, 1250, 1600, 2000, 2500, 3150, 4000, 5000, 6300, 8000 [Hz]	Frequency of the middle range 1
M Mid1 Gain	-12.00–+12.00 [dB]	Gain of the middle range 1
M Mid1 Q	0.5, 1.0, 2.0, 4.0, 8.0	Width of the middle range 1 Set a higher value to narrow the range to be affected.
M Mid2 Frequency	200, 250, 315, 400, 500, 630, 800, 1000, 1250, 1600, 2000, 2500, 3150, 4000, 5000, 6300, 8000 [Hz]	Frequency of the middle range 2
M Mid2 Gain	-12.00–+12.00 [dB]	Gain of the middle range 2
M Mid2 Q	0.5, 1.0, 2.0, 4.0, 8.0	Width of the middle range 2 Set a higher value to narrow the range to be affected.
M Mid3 Frequency	200, 250, 315, 400, 500, 630, 800, 1000, 1250, 1600, 2000, 2500, 3150, 4000, 5000, 6300, 8000 [Hz]	Frequency of the middle range 3
M Mid3 Gain	-12.00–+12.00 [dB]	Gain of the middle range 3
M Mid3 Q	0.5, 1.0, 2.0, 4.0, 8.0	Width of the middle range 3 Set a higher value to narrow the range to be affected.
M High Frequency	2000, 2500, 3150, 4000, 5000, 6300, 8000, 10000, 12500, 16000 [Hz]	Frequency of the high range
M High Gain	-12.00–+12.00 [dB]	Gain of the high range
S EQ Switch	OFF, ON	Switches whether to apply tonal adjustment to left/right input signals whose phase is distant (opposite phase).
S Input Gain	-12.00–+12.00 [dB]	Volume of left/right signals whose phase is distant (opposite phase)
S Low Frequency	20, 25, 31, 40, 50, 63, 80, 100, 125, 160, 200, 250, 315, 400 [Hz]	Frequency of the low range
S Low Gain	-12.00–+12.00 [dB]	Gain of the low range
S Mid1 Frequency	200, 250, 315, 400, 500, 630, 800, 1000, 1250, 1600, 2000, 2500, 3150, 4000, 5000, 6300, 8000 [Hz]	Frequency of the middle range 1
S Mid1 Gain	-12.00–+12.00 [dB]	Gain of the middle range 1
S Mid1 Q	0.5, 1.0, 2.0, 4.0, 8.0	Width of the middle range 1 Set a higher value to narrow the range to be affected.
S Mid2 Frequency	200, 250, 315, 400, 500, 630, 800, 1000, 1250, 1600, 2000, 2500, 3150, 4000, 5000, 6300, 8000 [Hz]	Frequency of the middle range 2
S Mid2 Gain	-12.00–+12.00 [dB]	Gain of the middle range 2
S Mid2 Q	0.5, 1.0, 2.0, 4.0, 8.0	Width of the middle range 2 Set a higher value to narrow the range to be affected.
S Mid3 Frequency	200, 250, 315, 400, 500, 630, 800, 1000, 1250, 1600, 2000, 2500, 3150, 4000, 5000, 6300, 8000 [Hz]	Frequency of the middle range 3
S Mid3 Gain	-12.00–+12.00 [dB]	Gain of the middle range 3
S Mid3 Q	0.5, 1.0, 2.0, 4.0, 8.0	Width of the middle range 3 Set a higher value to narrow the range to be affected.
S High Frequency	2000, 2500, 3150, 4000, 5000, 6300, 8000, 10000, 12500, 16000 [Hz]	Frequency of the high range
S High Gain	-12.00–+12.00 [dB]	Gain of the high range
Level	0–127	Output Level

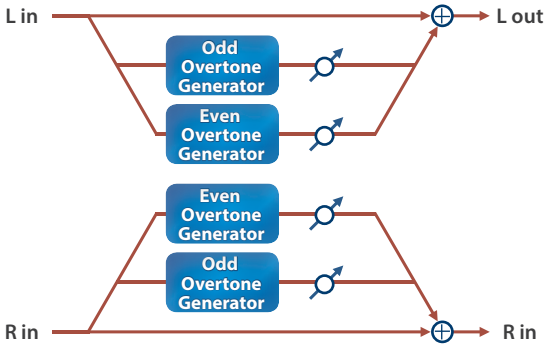
78 Mid-Side Compressor

This effect allows the left/right signals that have similar phase to be adjusted to a different sense of volume than the left/right signals that have different phase.

Parameter	Value	Explanation
M Comp Switch	OFF, ON	Switches whether to adjust the sense of volume for left/right input signals whose phase is similar (in phase).
M Attack	0–124	Sets the time from when the input exceeds the Threshold until the volume starts being compressed
M Release	0–124	Adjusts the time after the signal volume falls below the Threshold Level until compression is no longer applied.
M Threshold	-60–0 [dB]	Adjusts the volume at which compression begins
M Knee	0–30 [dB]	This is a function that smooths the onset of compression from the uncompressed state; it gradually applies compression starting earlier than THRESHOLD. Higher values produce a smoother transition.
M Ratio	1:1, 1.5:1, 2:1, 4:1, 16:1, INF:1	Compression ratio
M Post Gain	0–+18 [dB] -	Adjusts the output gain.
S Comp Switch	OFF, ON	Switches whether to adjust the sense of volume for left/right input signals whose phase is distant (opposite phase).
S Attack	0–124	Sets the time from when the input exceeds the Threshold until the volume starts being compressed
S Release	0–124	Adjusts the time after the signal volume falls below the Threshold Level until compression is no longer applied.
S Threshold	-60–0 [dB]	Adjusts the volume at which compression begins
S Knee	0–30 [dB]	This is a function that smooths the onset of compression from the uncompressed state; it gradually applies compression starting earlier than THRESHOLD. Higher values produce a smoother transition.
S Ratio	1:1, 1.5:1, 2:1, 4:1, 16:1, INF:1	Compression ratio
S Post Gain	0–+18 [dB]	Adjusts the output gain.
Level	0–127	Output Level

79 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

80 Mid-Side Delay

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

Parameter	Value	Explanation
M Delay Level	0–127	Delay volume of left/right input signals whose phase is similar (in phase)
M Delay Mode	2Tap, 3Tap, 4Tap	Delay divisions for the input signals whose left/right phase is similar (identical phase)
M Delay Time (sync sw)	OFF, ON	If this is ON, the delay synchronizes with the tempo.
M Delay Time (msec)	1–1300 [msec]	Adjusts the time from the original sound until the delay sound is heard.
M Delay Time (note)	Note ➡ "Note" (p. 76)	
M Delay 1 Feedback	-98–+98 [%]	Adjusts the proportion of the delay sound that is fed back into the effect. Negative (-) settings will invert the phase.
M HF Damp	200, 250, 315, 400, 500, 630, 800, 1000, 1250, 1600, 2000, 2500, 3150, 4000, 5000, 6300, 8000, BYPASS [Hz]	Adjusts the frequency above which the delay sound fed back to the effect is filtered out (BYPASS: no cut).
M Delay 1 Pan	L64–63R	Panning of the first delay sound
M Delay 2 Pan		Panning of the second delay sound
M Delay 3 Pan		Panning of the third delay sound
M Delay 4 Pan		Panning of the fourth delay sound
S Delay Level	0–127	Delay volume of left/right input signals whose phase is distant (opposite phase)
S Delay Mode	2Tap, 3Tap, 4Tap	Delay divisions for the input signals whose left/right phase is distant (reverse phase)
S Delay Time (sync sw)	OFF, ON	If this is ON, the delay synchronizes with the tempo.
S Delay Time (msec)	1–1300 [msec]	Adjusts the time from the original sound until the delay sound is heard.
S Delay Time (note)	Note ➡ "Note" (p. 76)	

Parameter	Value	Explanation
S Delay 1 Feedback	-98–+98 [%]	Adjusts the proportion of the delay sound that is fed back into the effect. Negative (-) settings will invert the phase.
S HF Damp	200, 250, 315, 400, 500, 630, 800, 1000, 1250, 1600, 2000, 2500, 3150, 4000, 5000, 6300, 8000, BYPASS [Hz]	Adjusts the frequency above which the delay sound fed back to the effect is filtered out (**BYPASS:** no cut).
S Delay 1 Pan	L64–63R	Panning of the first delay sound
S Delay 2 Pan		Panning of the second delay sound
S Delay 3 Pan		Panning of the third delay sound
S Delay 4 Pan		Panning of the fourth delay sound
Level	0–127	Output Level

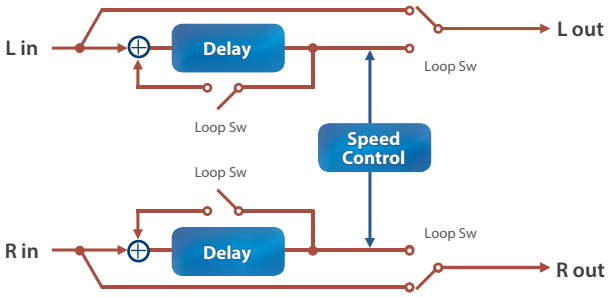
81 RD EPAmpSim

This is an effect that was developed for the RD series SuperNatural E.Piano.

Parameter	Value	Explanation
Bass	-50–+50	Amount of low-frequency boost/cut
Treble	-50–+50	Amount of high-frequency boost/cut
Tremolo Switch	OFF, ON	Tremolo on/off
Tremolo Type		Type of tremolo effect
	OLDCASE MONO	A standard electric piano sound of the early 70s (mono)
	OLDCASE STEREO	A standard electric piano sound of the early 70s (stereo)
	NEWCASE	A standard electric piano sound of the late 70s and early 80s
	DYNO	A classic modified electric piano
	WURLY	A classic electric piano of the '60s
Tremolo Speed (sync sw)	OFF, ON	If this is ON, the rate synchronizes with the tempo of the rhythm. ➡ **"Tempo"** (p. 5)
Tremolo Speed (Hz)	0.05–10.00 [Hz]	Rate of the tremolo effect
Tremolo Speed (note)	Note ➡ **"Note"** (p. 76)	
Tremolo Depth	0–127	Depth of the tremolo effect
Tremolo Shape	0–20	Adjusts the waveform of the tremolo.
AMP Switch	OFF, ON	Turns the speaker and distortion on/off
Speaker Type	LINE, OLD, NEW, WURLY, TWIN	Type of speaker If LINE is selected, the sound will not be sent through the speaker simulation.
OD Drive	0–127	Degree of distortion Also changes the volume.
Level	0–127	Output Level

82 DJFX Looper

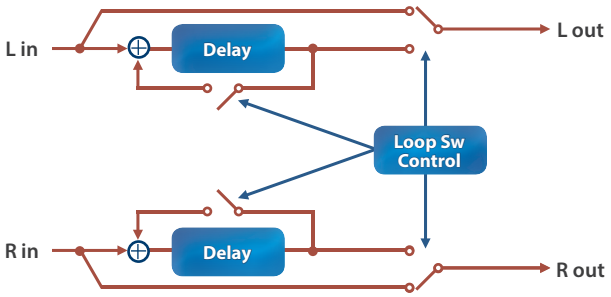
Loops a short portion of the input sound. You can vary the playback direction and playback speed of the input sound to add turntable-type effects.



Parameter	Value	Explanation
Length	0–127	Specifies the length of the loop.
Speed	-1.00–+1.00	Specifies the playback direction and playback speed. - direction: Reverse playback + direction: Normal playback 0: Stop playback As the value moves away from 0, the playback speed becomes faster.
Loop Sw	OFF, ON	If you turn this on while the sound is heard, the sound at that point will be looped. Turn this off to cancel the loop. * **If the effect is recalled with this ON, this parameter must be turned OFF and then turned ON again in order to make the loop operate.**
Level	0–127	Output Level

83 BPM Looper

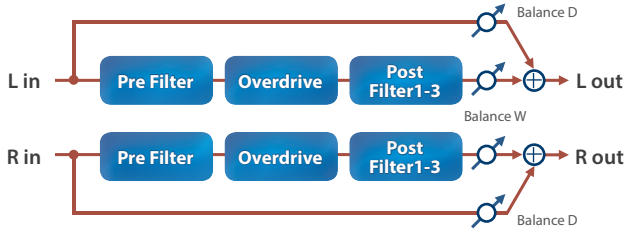
Loops a short portion of the input sound. This can automatically turn the loop on/off in synchronization with the rhythm.



Parameter	Value	Explanation
Length	0–127	Specifies the length of the loop.
Rate (sync sw)	OFF, ON	If this is ON, the rate synchronizes with the tempo of the rhythm. ➡ **"Tempo"** (p. 5)
Rate Hz	0.05–10.00 [Hz]	Cycle at which the loop automatically turns on/off
Rate Note	Note ➡ **"Note"** (p. 76)	
On Timing	1–8	Specifies the timing within the cycle at which the loop automatically starts (which step of the eight timing divisions at which the sound is heard)
On Length	1–8	Specifies the length at which the loop automatically ends within the cycle (the number of times that the 1/8-length of sound is heard)
Loop Mode	OFF, AUTO, ON	If this is AUTO, the loop automatically turns on/off in synchronization with the rhythm. * **If the effect is recalled with this ON, this parameter must first be set to something other than ON in order to make the loop operate.**
Level	0–127	Output Level

84 Saturator

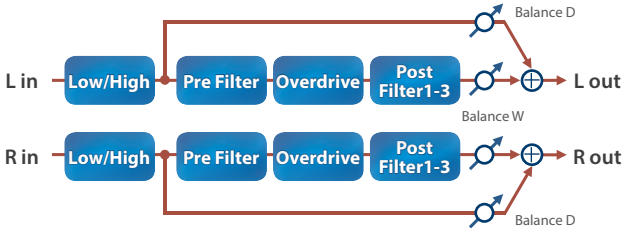
This effect combines overdrive and filter.



Parameter	Value	Explanation
DrvPre1 Type	THRU, LPF, HPF, LSV, HSV	Type of filter that precedes the distortion processing THRU: No filter is applied LPF: A filter that passes the sound below the specified frequency HPF: A filter that passes the sound above the specified frequency LSV: A filter that boosts/cuts the sound below the specified frequency HSV: A filter that boosts/cuts the sound above the specified frequency
DrvPre1 Frequency	20–16000 [Hz]	Frequency at which the pre-distortion filter operates
DrvPre1 Gain	-24.0–+24.0 [dB]	For the LSV/HSV types, the amount of boost/cut
Drive	0.0–+48.0 [dB]	Strength of distortion
DrvPost1 Type	THRU, LPF, HPF, LSV, HSV	Type of filter 1 which follows the distortion processing
DrvPost1 Frequency	20–16000 [Hz]	Frequency at which post-distortion filter 1 operates
DrvPost1 Gain	-24.0–+24.0 [dB]	For the LSV/HSV types, the amount of boost/cut
DrvPost2 Type	THRU, LPF, HPF, LSV, HSV	Type of filter 2 which follows the distortion processing
DrvPost2 Frequency	20–16000 [Hz]	Frequency at which post-distortion filter 2 operates
DrvPost2 Gain	-24.0–+24.0 [dB]	For the LSV/HSV types, the amount of boost/cut
DrvPost3 Type	THRU, LPF, HPF, BPF, PKG	Type of filter 3 which follows the distortion processing THRU: No filter is applied LPF: A filter that passes the sound below the specified frequency HPF: A filter that passes the sound above the specified frequency BPF: A filter that passes only the specified frequency PKG: A filter that boosts/cuts the specified frequency
DrvPost3 Frequency	20–16000 [Hz]	Frequency at which post-distortion filter 3 operates
DrvPost3 Gain	-24.0–+24.0 [dB]	For the PKG type, the amount of boost/cut
DrvPost3 Q	0.5–16.0	Width of the frequency range affected by the filter
Makeup Sense	-60.0–0.0 [dB]	Adjust this value so that the sound is not made louder when distortion is applied.
DrvPost Gain	-48.0–+12.0 [dB]	Gain following distortion processing
Drive Balance	D100:0W–D0:100W	Volume balance between the dry sound (D) and effect sound (W)
Level	0–127	Output Level

85 Warm Saturator

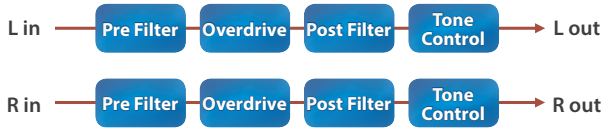
This is a variety of saturator, and is distinctive for its warmer sound.



Parameter	Value	Explanation
EQ Low Frequency	20–16000 [Hz]	Input filter (low range) Boosts/cuts the sound below the specified frequency.
EQ Low Gain	-24–+24 [dB]	Amount of boost/cut
EQ High Slope	THRU, -12dB, -24dB	Input filter (high range) Boosts/cuts the sound above the specified frequency.
EQ High Frequency	20–16000 [Hz]	Amount of boost/cut
DrvPre1 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
DrvPre1 Frequency	20–16000 [Hz]	Frequency at which the pre-distortion filter operates
DrvPre1 Gain	-24.0–+24.0 [dB]	For the LSV/HSV types, the amount of boost/cut
Drive	0.0–+48.0 [dB]	Strength of distortion
DrvPost1 Type	THRU, LPF, HPF, LSV, HSV	Type of filter 1 which follows the distortion processing
DrvPost1 Frequency	20–16000 [Hz]	Frequency at which post-distortion filter 1 operates
DrvPost1 Gain	-24.0–+24.0 [dB]	For the LSV/HSV types, the amount of boost/cut
DrvPost2 Type	THRU, LPF, HPF, LSV, HSV	Type of filter 2 which follows the distortion processing
DrvPost2 Frequency	20–16000 [Hz]	Frequency at which post-distortion filter 2 operates
DrvPost2 Gain	-24.0–+24.0 [dB]	For the LSV/HSV types, the amount of boost/cut
DrvPost3 Type	THRU, LPF, HPF, LSV, HSV	Type of filter 3 which follows the distortion processing THRU: No filter is applied LPF: A filter that passes the sound below the specified frequency HPF: A filter that passes the sound above the specified frequency BPF: A filter that passes only the specified frequency PKG: A filter that boosts/cuts the specified frequency
DrvPost3 Frequency	20–16000 [Hz]	Frequency at which post-distortion filter 3 operates
DrvPost3 Gain	-24.0–+24.0 [dB]	For the PKG type, the amount of boost/cut
DrvPost3 Q	0.5–16.0	Width of the frequency range affected by the filter
Makeup Sense	-60.0–0.0 [dB]	Adjust this value so that the sound is not made louder when distortion is applied.
DrvPost Gain	-48.0–+12.0 [dB]	Gain following distortion processing
Drive Balance	D100:0W–D0:100W	Volume balance between the dry sound (D) and effect sound (W)
Level	0–127	Output Level

86 Fuzz

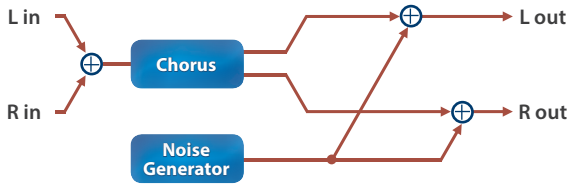
Adds overtones and intensely distorts the sound.



Parameter	Value	Explanation
Drive	0–127	Adjusts the amount of distortion. This also changes the volume.
Tone	0–100	Sound quality of the Overdrive effect
Level	0–127	Output Level

87 JUNO-106 Chorus

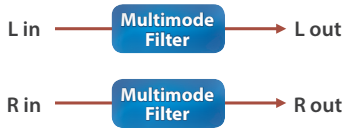
This models the chorus effects of the Roland JUNO-106.



Parameter	Value	Explanation
Mode	I, II, I+II, JX I, JX II	Type of Chorus I+II: The state in which two buttons are pressed simultaneously.
Noise Level	0–127	Volume of the noise produced by chorus
Balance	D100:0W–D0:100W	Volume balance between the dry sound (D) and effect sound (W)
Level	0–127	Output Level

88 Multi Mode Filter

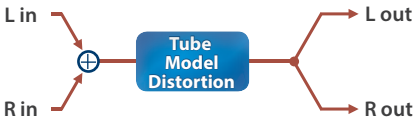
This is a filter that is adjusted for effective use in a DJ performance.



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

89 HMS Distortion

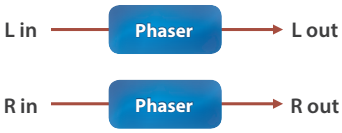
This is a distortion-type effect that models the vacuum tube amp section of a rotary speaker of the past.



Parameter	Value	Explanation
Distortion	0–127	Strength of distortion
Level	0–127	Output Level

90 Phaser 100

This simulates an analog phaser of the past.



Parameter	Value	Explanation
Rate (sync sw)	OFF, ON	If this is ON, the rate synchronizes with the tempo of the rhythm. ➡ **"Tempo"** (p. 5)
Rate (Hz)	0.05–10.00 [Hz]	Modulation rate
Rate (note)	Note ➡ **"Note"** (p. 76)	
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	Center frequency at which the sound is modulated
Resonance	0–66	Amount of feedback
Mix	0–127	Level of the phase-shifted sound
Level	0–127	Output Level

Note

	Sixty-fourth-note triplet		Sixty-fourth note		Thirty-second-note triplet		Thirty-second note
	Sixteenth-note triplet		Dotted thirty-second note		Sixteenth note		Eighth-note triplet
	Dotted sixteenth note		Eighth note		Quarter-note triplet		Dotted eighth note
	Quarter note		Half-note triplet		Dotted quarter note		Half note
	Whole-note triplet		Dotted half note		Whole note		Double-note triplet
	Dotted whole note		Double note				