Roland

JD-XA

Parameter Guide

Contents

Program Parameters

Program Edit

1. Press the [Menu] button.

2. Use the cursor [◄] [►] buttons to select "PROGRAM EDIT" and press the [Enter] button.

PROGRAM: Level parameter appears.

Menu [Shift] + Cursor [◄] [►]	Parameter Cursor [◄] [►]	Value Value [-] [+]	Explanation
PROGRAM (Program)	Level	0–127	Volume of the program
	Tempo	5.00–300.00	Tempo of the program The range adjustable by the Tempo knob is from 60.00 to 240.00.
	* This parameter is enabled if SYSTEM SYNC/TEMPO TempoSrc is set to PROGRAM.		
PROG ASGN (Program Assign)	Pedal1 Pedal2	OFF	No function is assigned.
		CC01–CC31 CC33–CC95 CC102–CC119	Controller number 1–31, 33–95, 102–119
		BEND-DOWN	The same effect as moving the pitch bend lever to the left.
		BEND-UP	The same effect as moving the pitch bend lever to the right.
		AFT	Aftertouch
	* This parameter is enabled if SYSTEM PEDAL1/PEDAL2 Asgn Src is set to PROGRAM. * If you press the [Enter] button while this parameter is displayed, the assignable knobs and sliders will blink. You can move a blinking knob or slider to directly specify the assignment.		
	Wheel1 Wheel2	OFF	No function is assigned.
		CC01–CC31 CC33–CC95 CC102–CC119	Controller number 1–31, 33–95, 102–119
		BEND	Move the wheel upward to raise the pitch, or downward to lower the pitch. There is no pitch change when the wheel is in the center position.
		BEND-DOWN	The same effect as moving the pitch bend lever to the left.
		BEND-UP	The same effect as moving the pitch bend lever to the right.
		AFT	Aftertouch
	* This parameter is enabled if SYSTEM WHEEL1/WHEEL2 Asgn Src is set to PROGRAM. * If you press the [Enter] button while this parameter is displayed, the assignable knobs and sliders will blink. You can move a blinking knob or slider to directly specify the assignment.		
PROGRAM CV/GATE (Program CV/Gate)	CV/Gate1 Ch (CV/Gate 1 Channel)	1–16 OFF	Specify the channel whose notes are sent to the CV/GATE OUT 1 and CV/GATE OUT 2 jacks. * This parameter is enabled if the SYSTEM CV/GATE1 OUT or CV/GATE2 OUT parameter Ch Src is set to PROGRAM.
	CV/Gate2 Ch (CV/Gate 2 Channel)		
PROGRAM CTRL (Program Control)	Ctrl Src1 (Control Source 1)	OFF CC01–CC31 CC33–CC95 BEND AFT	Specify the MIDI messages that will be used for Tone Control of the program. * This parameter is enabled if SYSTEM CONTROL Src Sel is set to PROGRAM.
	Ctrl Src2 (Control Source 2)		
	Ctrl Src3 (Control Source 3)		
	Ctrl Src4 (Control Source 4)		

Part Edit

These parameters are common to analog parts and digital parts.

1. Press the [Menu] button.

2. Use the cursor [◄] [►] buttons to select "PART EDIT" and press the [Enter] button.

PART: Kbd Sw parameter appears.

MEMO

Use the ANALOG PART Select **[01]**–**[04]** buttons and DIGITAL PART Select **[01]**–**[04]** buttons to select the part that you want to edit.

Menu [Shift] + Cursor [◄] [►]	Parameter Cursor [◄] [►]	Value Value [-] [+]	Explanation
PART (Part)	Kbd Sw (Keyboard Switch)	OFF, ON	Turns each part's keyboard switch on/off. * This parameter is switched when you press the Part On button.
	Range Lower (Keyboard Range Lower)	C -1–G 9	Specifies the lowest key of the keyboard range for each part.
	Range Upper (Keyboard Range Upper)	C -1–G 9	Specifies the highest key of the keyboard range for each part. * If you raise the lowest key above the highest key, or the highest key below the lowest key, the other setting will change to the same value.
	Arp Sw (Arpeggio Switch)	OFF, ON	Turns each part's arpeggio switch on/off.
	Mute Sw (Mute Switch)	OFF, ON	Specifies whether each part's performance is temporarily muted (ON) or not muted (OFF). * The Mute parameter does not turn the part off; it mutes the sound by minimizing the volume. Therefore, the part still receives MIDI messages.
	Level	0–127	Adjust the volume of each part. This setting's main purpose is to adjust the volume balance between parts.
	Pan	L64–0–63R	Adjust the pan of each part. **"L64"** is far left, **"0"** is center, and **"63R"** is far right.
	Rev Send (Reverb Send Level)	0–127	Adjusts the amount of reverb for each part. If you don't want to add the reverb effect, set it to **"0."**
	Voc Send Sw (Vocoder Send Switch)	OFF, ON	Specifies whether each part is sent through the vocoder.
PART MIDI (Part MIDI)	Ch (Channel)	1–16	Specifies the MIDI channel of each part.
	Rx Bender (Receive Bender)	OFF, ON	For each MIDI channel, specify whether MIDI Pitch Bend messages will be received **"ON,"** or not **"OFF."**
	Rx PolyPress (Receive Polyphonic Key Pressure)	OFF, ON	For each MIDI channel, specify whether MIDI polyphonic key pressure messages will be received **"ON,"** or not **"OFF."**
	Rx Ch Press (Receive Channel Pressure)	OFF, ON	For each MIDI channel, specify whether MIDI Channel Pressure messages will be received **"ON,"** or not **"OFF."**
	Rx Mod (Receive Modulation)	OFF, ON	For each MIDI channel, specify whether MIDI Modulation messages will be received **"ON,"** or not **"OFF."**
	Rx Volume (Receive Volume)	OFF, ON	For each MIDI channel, specify whether MIDI Volume messages will be received **"ON,"** or not **"OFF."**
	Rx Pan (Receive Pan)	OFF, ON	For each MIDI channel, specify whether MIDI Pan messages will be received **"ON,"** or not **"OFF."**
	Rx Express (Receive Expression)	OFF, ON	For each MIDI channel, specify whether MIDI Expression messages will be received **"ON,"** or not **"OFF."**
	Rx Hold-1 (Receive Hold-1)	OFF, ON	For each MIDI channel, specify whether MIDI Hold 1 messages will be received **"ON,"** or not **"OFF."**

Menu [Shift] + Cursor [◄] [►]	Parameter Cursor [◄] [►]	Value Value [-] [+]	Explanation
PART SCALE (Part Scale)	Type (Scale Tune Type)	These are templates that set all of the Scale Tune C–B settings.	
		CUSTOM	Specify the tuning individually for Scale Tune C–B.
		EQUAL	Equal temperament
		JUST-MAJ	Just intonation (major)
		JUST-MIN	Just intonation (minor)
		PYTHAGORE	Pythagorean tuning
		KIRNBERGE	Kirnberger (type 3)
		MEANTONE	Meantone temperament
		WERCKMEIS	Werckmeister (type 1, number 3)
		ARABIC	Arabic scale
	Key (Scale Tune Key)	C–B	Specifies the tonic note for the scale tune template.
	C–B (Scale Tune for C–B)	-64–0–+63	Specifies the scale tuning.
PART CTRL SW (Part Control Switch)	Bend (Control Bender)	OFF, ON	For each controller, these settings specify whether MIDI messages are (ON) or are not (OFF) be transmitted to the part.
	Mod (Control Modulation)	OFF, ON	
	Hold (Control Hold Pedal)	OFF, ON	
	Pedal1 (Control Pedal 1)	OFF, ON	
	Peadl2 (Control Pedal 2)	OFF, ON	
	Wheel1 (Control Wheel 1)	OFF, ON	
	Wheel2 (Control Wheel 2)	OFF, ON	

Tone Edit

1. Press a ANALOG PART Select [01]–[04] button to make it light.

You can select multiple parts by pressing multiple buttons simultaneously.
You can't select analog parts and digital parts simultaneously.
Each analog part consists of two oscillators.
While editing, you can switch parts or change to selecting multiple parts.

➡ For details of the overall structure, refer to the **"JD-XA Structure Diagram"** inside the front cover of the Owner's Manual.

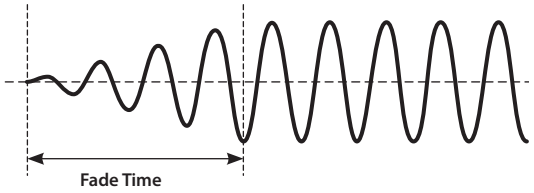
2. Press the [Menu] button.

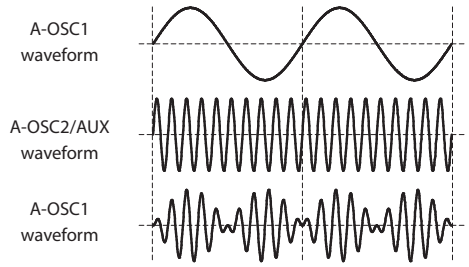
3. Use the cursor [◄] [►] buttons to select "TONE EDIT" and press the [Enter] button.

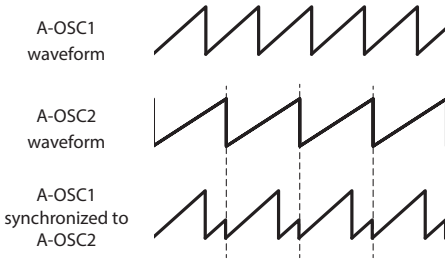
TONE COMMON: Porta Sw parameter appears.

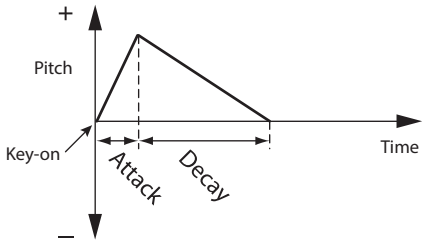
Menu [Shift] + Cursor [◄] [►]	Parameter Cursor [◄] [►]	Value Value [-] [+]	Explanation
TONE COMMON (Tone Common)	Porta Sw (Portamento Switch)	OFF, ON	Specifies whether the portamento effect will be applied (ON) or not (OFF).
	Porta Time (Portamento Time)	0–127	When portamento is used, this specifies the time over which the pitch will change. Higher settings will cause the pitch change to the next note to take more time.
	Legato Sw (Legato Switch)	OFF, ON	Applies legato. The term **"legato"** refers to a playing style in which notes are smoothly connected to create a flowing feel. This creates a smooth transition between notes, which is effective when you wish to simulate the hammering-on and pulling-off techniques used by a guitarist. * This is available only if poly stack is **"off."**
	Unison Sw (Unison Switch)	OFF, ON	This layers a single sound. If the Unison Switch is on, the number of notes layered on one key will change according to the number of keys you play. * This is available only if poly stack is **"on."**
	Oct Shift (Octave Shift)	-3–0–+3	Specifies the octave of the tone.
	Bend Range D (Pitch Bend Range Down)	0–-24	Specifies the amount of pitch change that occurs when the pitch bend/modulation lever is moved all the way to the left.
	Bend Range U (Pitch Bend Range Up)	0–+24	Specifies the amount of pitch change that occurs when the pitch bend/modulation lever is moved all the way to the right.
	Bend Mode (Pitch Bend Mode)	NORMAL	The pitch bend lever works in the conventional way.
		C+L (CATCH+LAST)	The pitch lever affects only the last-sounded note. If you play a note while the pitch bend lever is already moved, that note sounds at its normal pitch (as though the lever were in the center). The pitch starts changing only after the lever passes through the center position.
MATRIX CTRL1 (Matrix Control 1) MATRIX CTRL2 (Matrix Control 2) MATRIX CTRL3 (Matrix Control 3) MATRIX CTRL4 (Matrix Control 4)	Src (Source)	Sets the MIDI message used to change the parameter with the Matrix Control. Ordinarily, if you wanted to change analogue part parameters using an external MIDI device, you would need to send System Exclusive messages–MIDI messages designed exclusively for the JD-XA. However, System Exclusive messages tend to be complicated, and the amount of data that needs to be transmitted can get quite large. For that reason, a number of the more typical of the JD-XA's analog part parameters have been designed so they accept the use of Control Change (or other) MIDI messages for the purpose of making changes in their values. This provides you with a variety of means of changing the way tones are played. For example, you can use the Pitch Bend lever to change the LFO cycle rate, or use the keyboard's touch to open and close a filter. The function which allows you use MIDI messages to make these changes in realtime to the tone parameters is called the **"Matrix Control."** Up to four Matrix Controls can be used in a single part. To use the Matrix Control, specify which MIDI message (Source) will be used to control which parameter (Dest) and how greatly (Sens). * Velocity and Keyfollow correspond to Note messages. * If you want to use common controllers for the entire JD-XA, select **"SYS1"–"SYS4."** MIDI messages used as System Control 1–4 are set with the Tone Control 1–4 Src (Owner's Manual **"Overall Settings for the JD-XA"** (p. 12) → **"CONTROL"** → **"Sys Ctrl1–4"**).	
		OFF	Matrix Control will not be used.
		CC01–CC31 CC33–CC95	Controller number 1–31, 33–95
		BEND	Pitch Bend
		AFT	Aftertouch
		SYS1–SYS4	MIDI messages used as common matrix controls.
		VELOCITY	Velocity (pressure you press a key with)
		KEYFOLLOW	Keyfollow (keyboard position with C4 as 0)
		TEMPO	Tempo specified by the tempo assign source, or the tempo of an external MIDI sequencer

Menu [Shift] + Cursor [◄] [►]	Parameter Cursor [◄] [►]	Value Value [-] [+]	Explanation
MATRIX CTRL1 (Matrix Control 1) MATRIX CTRL2 (Matrix Control 2) MATRIX CTRL3 (Matrix Control 3) MATRIX CTRL4 (Matrix Control 4)	Dest1 (Destination 1) Dest2 (Destination 2) Dest3 (Destination 3) Dest4 (Destination 4)	Selects the parameter that is to be controlled when using the Matrix Control. The following parameters can be controlled. When not controlling parameters with the Matrix Control, set this to **"OFF."** Up to four parameters can be specified for each Matrix Control, and controlled simultaneously.	
		If you're not using Matrix Control	
		OFF	Matrix Control will not be used.
		Opening and Closing the Filter	
		CUTOFF	Changes the cutoff frequency.
		RESO	Emphasizes the portion of the sound in the region of the cutoff frequency, adding character to the sound.
		Changing the Volume	
		AMP-LEV	Changes the volume level.
		Applying Cross Modulation	
		X-MOD	Adjusts the amount of cross modulation that is applied.
		Changing the Pitch	
		PIT-OSC1 PIT-OSC2	Changes the oscillator pitch.
		Changing the pulse width	
		PW-OSC1 PW-OSC2	Changing the pulse width. The effect is applied if ⊓⊔ (asymmetrical pulse wave) is selected as the oscillator waveform.
		Applying LFO to Modulate Sounds	
		PIT-LFO1 PIT-LFO2	Changes the depth (DEPTH) at which the oscillator pitch is modulated by the LFO.
		FLT-LFO1 FLT-LFO2	Changes the depth (DEPTH) at which the filter cutoff frequency is modulated by the LFO.
		AMP-LFO1 AMP-LFO2	Changes the depth (DEPTH) at which the AMP volume is modulated by the LFO.
		LFO1-RATE LFO2-RATE	Changes the speed of the LFO. The speed does not change if Tempo Sync is ON.
	Sens1, Sens2, Sens3, Sens4	-63–0–+63	Sets the amount of the Matrix Control's effect that is applied. If you wish to modify the selected parameter in a positive (+) direction – i.e., a higher value or faster etc. – from its current setting, select a positive (+) value. If you wish to modify the selected parameter in a negative (-) direction – i.e., a lower value or slower etc. – from its current setting, select a negative (-) value. For either positive or negative settings, greater absolute values will allow greater amounts of change. Set this to **"0"** if you don't want to apply the effect.
LFO1 (Low Frequency Oscillator 1) LFO2 (Low Frequency Oscillator 2)	Shape (LFO Shape)	Selects the LFO waveform.	
		TRI	**:** Triangle wave
		SIN	**:** Sine wave
		SAW	**:** Sawtooth wave
		SQR	**:** Square wave
		S&H	**:** Sample and Hold (The LFO value will change once each cycle.)
		RND	**RND:** Random wave
	Tempo Sync (LFO Tempo Sync Switch)	OFF, ON	If this is ON, the LFO rate can be specified as a note value relative to the tempo.
	Rate (LFO Rate)	0–127	Specifies the LFO rate when Modulation LFO Tempo Sync is OFF.
	Sync Note (LFO Tempo Sync Note)	16, 12, 8, 4, 2, 1, 3/4, 2/3, 1/2, 3/8, 1/3, 1/4, 3/16, 1/6, 1/8, 3/32, 1/12, 1/16, 1/24, 1/32	Specifies the LFO rate when Modulation LFO Tempo Sync is ON.
	Key Trigger (LFO Key Trigger)	OFF, ON	If this is ON, the LFO cycle will be restarted when you press a key.

Menu [Shift] + Cursor [◄] [►]	Parameter Cursor [◄] [►]	Value Value [-] [+]	Explanation
LFO1 (Low Frequency Oscillator 1) LFO2 (Low Frequency Oscillator 2)	Fade Time (LFO Fade Time)	0–127	This specifies the time from when the tone sounds until the LFO reaches its maximum amplitude. 
	Pitch Dst (LFO Pitch Destination)	OSC1+2 OSC1 OSC2	Selects the oscillator(s) whose pitch is modulated by the LFO.
	Pitch Depth (LFO Pitch Depth)	-63–0–+63	Varies the oscillator pitch (vibrato).
	Filter Depth (LFO FILTER Depth)	-63–0–+63	This allows the LFO to modulate the FILTER CUTOFF (cutoff frequency), producing a wah effect.
	Amp Depth (LFO AMP Depth)	-63–0–+63	This allows the LFO to modulate the AMP LEVEL (volume), producing a tremolo effect.
	PW Dst (LFO Pulse width Destination)	OSC1+2 OSC1 OSC2 OFF	Selects the oscillator(s) whose PW (pulse width) is modulated by the LFO.
LFO (Low Frequency Oscillator)	LFO Select	LFO1, LFO2	Selects the LFO that is operated by the controller.
MOD LFO (Modulation LFO)	Shape (Modulation LFO Shape)	In addition to the LFO that is always applied to the analog part, there is a MODULATION LFO (MOD LFO) that is controlled by the modulation lever (CC01).	
		Selects the MODULATION LFO waveform.	
		TRI	**:** Triangle wave
		SIN	**:** Sine wave
		SAW	**:** Sawtooth wave
		SQR	**:** Square wave
		S&H	**:** Sample and Hold (The LFO value will change once each cycle.)
		RND	**RND:** Random wave
	Tempo Sync (Modulation LFO Tempo Sync Switch)	OFF, ON	If this is ON, the LFO rate can be specified as a note value relative to the tempo.
	Rate (Modulation LFO Rate)	0–127	Specifies the LFO rate when MOD LFO Tempo Sync is OFF.
	Sync Note (Modulation LFO Tempo Sync Note)	16, 12, 8, 4, 2, 1, 3/4, 2/3, 1/2, 3/8, 1/3, 1/4, 3/16, 1/6, 1/8, 3/32, 1/12, 1/16, 1/24, 1/32	Specifies the LFO rate when MOD LFO Tempo Sync is ON.
	Pitch Dst (Modulation LFO Pitch Destination)	OSC1+2 OSC1 OSC2	Selects the oscillator(s) whose pitch is modulated by the LFO via the modulation controller (CC01).
	Pitch Depth (Modulation LFO Pitch Depth)	-63–0–+63	Specifies the depth at which pitch is modulated via the modulation controller (CC01).
	Filter Depth (Modulation LFO Filter Depth)	-63–0–+63	Specifies the depth at which the FILTER CUTOFF (cutoff frequency) is modulated via the modulation controller (CC01).
	Amp Depth (Modulation LFO Amp Depth)	-63–0–+63	Specifies the depth at which the AMP LEVEL (volume) is modulated via the modulation controller (CC01).

Menu [Shift] + Cursor [◄] [►]	Parameter Cursor [◄] [►]	Value Value [-] [+]	Explanation
OSC1 (Oscillator 1)	Waveform	SAW	: Sawtooth wave This waveform contains a sine wave fundamental plus a fixed proportion of sine wave harmonics at all integer multiples of that fundamental.
		SQR	: Square wave This waveform contains a sine wave fundamental plus a fixed proportion of sine wave harmonics at odd-numbered multiples of that fundamental.
		PW-SQR	: Asymmetrical square wave The overtone structure of this waveform will vary significantly depending on the width of the upper portion of the waveform (Pulse Width).
		TRI	: Triangle wave This waveform contains a sine wave fundamental plus a fixed proportion of sine wave harmonics at odd-numbered multiples of that fundamental. It produces an uncolored sound with fewer overtones than a square wave.
		SIN	: Sine wave This is a sine wave. This is a waveform that produces just a single frequency; it is the basis of all sound.
	Pitch Range (OSC Pitch Range)	0oct, 1oct, 2oct, 3oct, 4oct	Specifies the range of the Pitch parameter in units of an octave.
	Pitch (OSC Pitch)	-48–0–+48	Adjusts the pitch in semitone steps. The range of this setting depends on the Pitch Range setting.
	Fine (OSC Fine Tune)	-50–0–+50	Adjusts the pitch in steps of one cent.
	PWM-Depth (Pulse Width Modulation Depth)	0–127	Specifies the amount (depth) of LFO applied to PW (Pulse Width). If the Waveform has selected (PW-SQR), you can use this slider to specify the amount of LFO modulation applied to PW (pulse width). * This is valid if LFO PW Dst (LFO Pulse width Destination) is set to OSC1+2 or OSC1.
	PW (Pulse width)	0–127	Specifies the pulse width. If the Waveform has selected (PW-SQR), you can use this slider to specify the width of the upper portion of the square wave (the pulse width). Decreasing the value will decrease the width, approaching a square wave (pulse width = 50%). Increasing the value will increase the width, producing a distinctive sound.
	Cross Mod (Cross Modulation)	0–127	Specifies the amount by which the A-OSC2/AUX waveform modulates the A-OSC1 frequency.
	Ring Sw (Ring Switch)	OFF, ON	Produces a metallic tonal character by multiplying A-OSC1 and A-OSC2/AUX. 
	Mod Src (Modulation Source)	OSC2 AUX	Selects the waveform (A-OSC2/AUX) that will be the source of Cross Mod/Ring Sw modulation. * If Mod Src is set to AUX, the sound of AUX (White Noise, Pink Noise, Digital Part, MIC) will not be heard even if you raise AUX Level. AUX will be used only as a modulation source signal.
OSC2 (Oscillator 2)	Waveform	SAW	: Sawtooth wave This waveform contains a sine wave fundamental plus a fixed proportion of sine wave harmonics at all integer multiples of that fundamental.
		SQR	: Square wave This waveform contains a sine wave fundamental plus a fixed proportion of sine wave harmonics at odd-numbered multiples of that fundamental.
		PW-SQR	: Asymmetrical square wave The overtone structure of this waveform will vary significantly depending on the width of the upper portion of the waveform (Pulse Width).
		TRI	: Triangle wave This waveform contains a sine wave fundamental plus a fixed proportion of sine wave harmonics at odd-numbered multiples of that fundamental. It produces an uncolored sound with fewer overtones than a square wave.
		SIN	: Sine wave This is a sine wave. This is a waveform that produces just a single frequency; it is the basis of all sound.
	Phase Sync (OSC Phase Sync Switch)	OFF, ON	If this is ON, the phase of OSC1 and OSC2 is synchronized when you play the keyboard.
	Pitch Range (OSC Pitch Range)	0oct, 1oct, 2oct, 3oct, 4oct	Specifies the range of the Pitch parameter in units of an octave.
	Pitch (OSC Pitch)	-48–0–+48	Adjusts the pitch in semitone steps. The range of this setting depends on the Pitch Range setting.

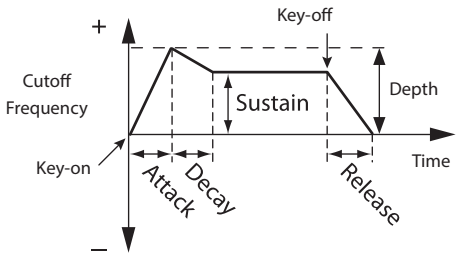
Menu [Shift] + Cursor [◄] [►]	Parameter Cursor [◄] [►]	Value Value [-] [+]	Explanation
OSC2 (Oscillator 2)	Fine (OSC Fine Tune)	-50–0–+50	Adjusts the pitch in steps of one cent.
	PWM-Depth (Pulse Width Modulation Depth)	0–127	Specifies the amount (depth) of LFO applied to PW (Pulse Width). If the Waveform has selected ⊓⊔ (PW-SQR), you can use this slider to specify the amount of LFO modulation applied to PW (pulse width). * This is valid if LFO PW Dst (LFO Pulse width Destination) is set to OSC1+2 or OSC2.
	PW (Pulse width)	0–127	Specifies the pulse width. If the Waveform has selected ⊓⊔ (PW-SQR), you can use this slider to specify the width of the upper portion of the square wave (the pulse width). Decreasing the value will decrease the width, approaching a square wave (pulse width = 50%). Increasing the value will increase the width, producing a distinctive sound.
	Sync Sw (Sync Switch)	OFF, ON	Creates a complex waveform by forcing A-OSC1 to return to the beginning of its cycle in synchronization with the A-OSC2 cycle. 
O12 PITCH ENV (Oscillator 1&2 Pitch Envelope) O1 PITCH ENV (Oscillator 1 Pitch Envelope) O2 PITCH ENV (Oscillator 2 Pitch Envelope)	You can specify independent envelopes for OSC1 and OSC2. **MEMO** If PITCH ENV Select is set to **"OSC1+2,"** O1 PITCH Env is displayed as **"O12 PITCH ENV."** In this case, the OSC1 and OSC2 parameters can be edited simultaneously.		
	Depth (Pitch Envelope Depth)	-63–0–+63	Specifies the depth and direction of the pitch change.
	Attack (Pitch Envelope Attack Time)	0–127	Specifies the attack time of the pitch envelope. This specifies the time from the moment you press the key until the pitch reaches its highest (or lowest) point.
	Decay (Pitch Envelope Decay Time)	0–127	Specifies the decay time of the pitch envelope. This specifies the time from the moment the pitch reaches its highest (or lowest) point until it returns to the pitch of the key you pressed.
	Velo Sens (Velocity Sensitivity)	-63–0–+63	Keyboard playing dynamics can be used to control the depth of the pitch envelope. If you want the pitch envelope to have more effect for strongly played notes, set this parameter to a positive (+) value. If you want the pitch envelope to have less effect for strongly played notes, set this to a negative (-) value.
PITCH ENV (Pitch Envelope)	Select (Pitch Envelope Select)	OSC1+2 OSC1 OSC2	Selects the pitch envelope(s) that you want to edit. **OSC1+2:** Edit the pitch envelopes of A-OSC1 and A-OSC2 simultaneously. **OSC1:** Edit the pitch envelope of OSC1 individually. **OSC2:** Edit the pitch envelope of OSC2 individually.
MIXER (Mixer)	OSC1 Level (Mixer OSC 1 Level)	0–127	Adjusts the level of the A-OSC1.
	OSC2 Level (Mixer OSC 2 Level)	0–127	Adjusts the level of the A-OSC2.
	AUX Level (Mixer AUX Level)	0–127	Specifies the AUX volume. **MEMO** If D-PART is selected as AUX Src, some sounds may be prone to clipping. If clipping occurs, adjust the AUX Level.



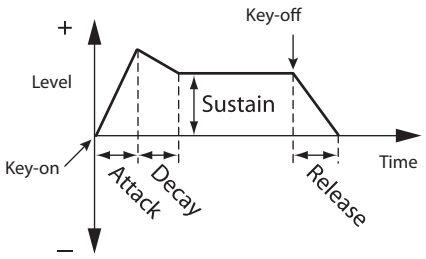
<table>
<tr><th>Menu
[Shift] + Cursor [◄] [►]</th><th>Parameter
Cursor [◄] [►]</th><th>Value
Value [-] [+]</th><th>Explanation</th></tr>
<tr><td>MIXER
(Mixer)</td><td>AUX Src
(AUX Source)</td><td>WHITE (White Noise)
PINK (Pink Noise)
D-PART (Digital Part)
MIC</td><td>When you specify the AUX source and play the keyboard, the sound of the selected source is heard.

About D-PART (Digital Part)
By selecting D-PART as the AUX Src, you can create sounds in which the sound of the digital part is processed by the filter of the analog part. Here's how the sound of digital part 01 can be input to analog part 01.
1. Press the ANALOG PART ON [01] button so it's lit.
2. Press the DIGITAL PART ON [01] button so it's lit.
3. Press the ANALOG PART Select [01] button so it's lit.
4. Set AUX Src to D-PART.
Now the sound of digital part 01 is input to analog part 01. Adjust AUX Level as necessary.
* The digital part (D-PART) that can be selected as the AUX source will be the same part number as the analog part. It is not possible to select a different part.

<table><tr><th>Analog part</th><th>Digital part selected</th></tr><tr><td>Analog part 01</td><td>Digital part 01</td></tr><tr><td>Analog part 02</td><td>Digital part 02</td></tr><tr><td>Analog part 03</td><td>Digital part 03</td></tr><tr><td>Analog part 04</td><td>Digital part 04</td></tr></table></td></tr>
<tr><td rowspan="12">FILTER
(Filter)</td><td>HPF Cutoff
(High Pass Filter Cutoff)</td><td>0–127</td><td>Specifies the cutoff frequency of an high-pass filter.</td></tr>
<tr><td>Drive
(Filter Drive)</td><td>0–127</td><td>Specifies the drive.
Increasing this value produces a natural distortion.</td></tr>
<tr><td rowspan="7">Type
(Filter Type)</td><td>Specifies the filter type.</td><td></td></tr>
<tr><td>BYPASS</td><td>The filter is bypassed.</td></tr>
<tr><td>LPF1 (Low Pass Filter 1)</td><td>A 4-pole filter of a circuit design often used by Roland, providing relatively standard operation.</td></tr>
<tr><td>LPF2 (Low Pass Filter 2)</td><td>A ladder filter using transistors, providing a strong character.</td></tr>
<tr><td>LPF3 (Low Pass Filter 3)</td><td rowspan="3">This is a multi-mode filter consisting of a simultaneous LPF, HPF, and BPF. Although it is a relatively standard circuit, it is designed so that the resonance changes dramatically.</td></tr>
<tr><td>HPF (High Pass Filter)</td></tr>
<tr><td>BPF (Band Pass Filter)</td></tr>
<tr><td>Cutoff
(Filter Cutoff)</td><td>0–127</td><td>Resonance emphasizes the sound in the region of the filter cutoff frequency.</td></tr>
<tr><td>Cutoff Fine
(Filter Cutoff Fine)</td><td>-50–0–+50</td><td>Resonance emphasizes the sound in the region of the filter cutoff frequency.</td></tr>
<tr><td>Resonance
(Filter Resonance)</td><td>0–127</td><td>Resonance emphasizes the sound in the region of the filter cutoff frequency.</td></tr>
<tr><td>Key Follow
(Filter Key Follow)</td><td>-10–0–+10</td><td>Here's how you can make the filter cutoff frequency to vary according to the key you play.
If the knob is turned toward the right, the cutoff rises as you play higher notes.
If the knob is turned toward the left, the cutoff falls as you play higher notes.</td></tr>
<tr><td>KF Fine
(Filter Key Follow Fine)</td><td>-50–0–+50</td><td>Applies a fine adjustment to Key Follow.</td></tr>
<tr><td rowspan="7">FILTER ENV
(Filter Envelope)</td><td>Depth
(Filter Envelope Depth)</td><td>-63–0–+63</td><td>Specifies the direction and depth to which the cutoff frequency will change.</td></tr>
<tr><td>Attack
(Filter Envelope Attack Time)</td><td>0–127</td><td>Specifies the time from when the key is pressed until the filter reaches its maximum depth.</td></tr>
<tr><td>Decay
(Filter Envelope Decay Time)</td><td>0–127</td><td>Specifies the time from when the filter reaches its maximum depth until it decreases to the sustain level.</td></tr>
<tr><td>Sustain
(Filter Envelope Sustain Time)</td><td>0–127</td><td>Specifies the filter depth that is maintained after the attack and decay times have elapsed until the key is released.</td></tr>
<tr><td>Release
(Filter Envelope Release Time)</td><td>0–127</td><td>Specifies the time from when the key is released until the filter reaches its minimum depth.</td></tr>
<tr><td>Velo Sens
(Filter Envelope Velocity Sensitivity)</td><td>-63–0–+63</td><td>Specifies how keyboard playing dynamics will affect the depth of the filter envelope. If you want the filter envelope to have more effect for strongly played notes, set this parameter to a positive (+) value. If you want the filter envelope to have less effect for strongly played notes, set this to a negative (-) value.</td></tr>
</table>



Menu [Shift] + Cursor [◄] [►]	Parameter Cursor [◄] [►]	Value Value [-] [+]	Explanation
AMP (Amp)	Level (Amp Level)	0–127	This specifies the AMP Level.
	Level V-Sens (Amp Level Velocity Sensitivity)	-63–0–+63	Set this when you want the volume of the AMP to change depending on the force with which you press the keys. Set this to a positive (+) value to have the changes in AMP volume increase the more forcefully the keys are played; to make the AMP play more softly as you play harder, set this to a negative (-) value.
AMP ENV (Amp Envelope)	Attack (Amp Envelope Attack Time)	0–127	This specifies the time from the moment you press the key until the maximum volume is reached.
	Decay (Amp Envelope Decay Time)	0–127	This specifies the time from when the maximum volume is reached, until it decays to the sustain level.
	Sustain (Amp Envelope Sustain Time)	0–127	This specifies the volume level that will be maintained from when the attack and decay times have elapsed until you release the key.
	Release (Amp Envelope Release Time)	0–127	This specifies the time from when you release the key until the volume reaches its minimum value.



Tone Edit

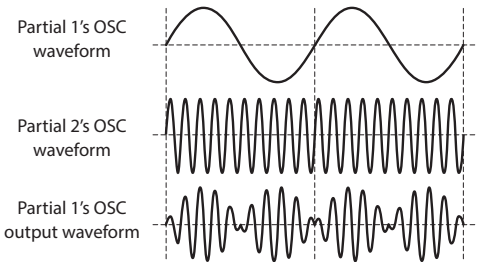
1. Press a DIGITAL PART Select [01]–[04] button to make it light.

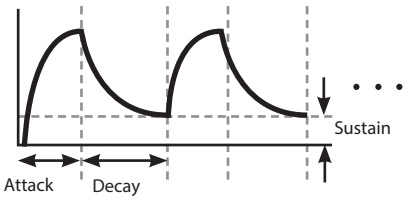
You can select multiple parts by pressing multiple buttons simultaneously.
You can't select analog parts and digital parts simultaneously.
Each digital part consists of three partials.
While editing, you can switch parts or change the selection to multiple parts.
➡ For details of the overall structure, refer to the **"JD-XA Structure Diagram"** inside the front cover of the Owner's Manual.

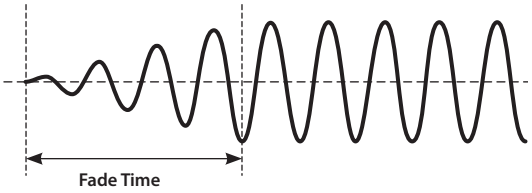
2. Press the [Menu] button.

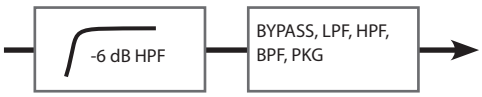
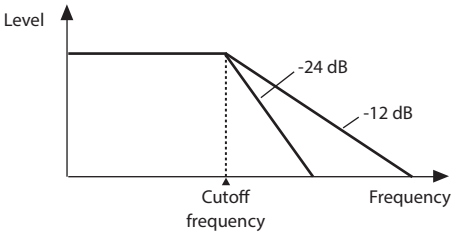
3. Use the cursor [◄] [►] buttons to select "TONE EDIT" and press the [Enter] button.

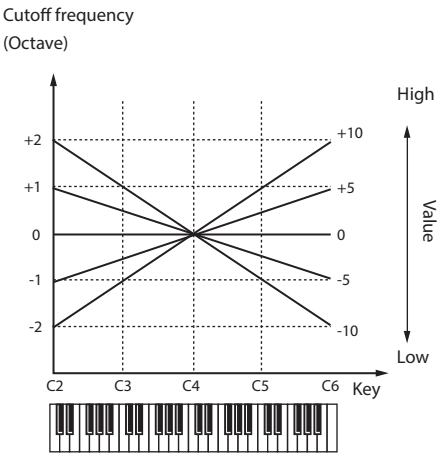
TONE COMMON: Porta Sw parameter appears.

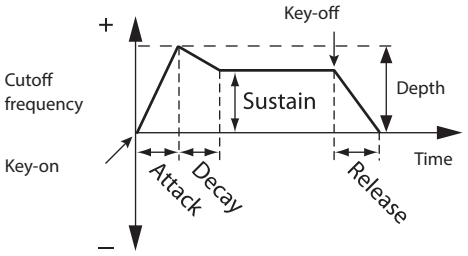
Menu [Shift] + Cursor [◄] [►]	Parameter Cursor [◄] [►]	Value Value [-] [+]	Explanation
TONE COMMON (Tone Common)	Porta Sw (Portamento Switch)	OFF, ON	Specifies whether the portamento effect will be applied (ON) or not (OFF).
	Porta Time (Portamento Time)	0–127	When portamento is used, this specifies the time over which the pitch will change. Higher values lengthen the time over which the pitch will change to the next note.
	PortaMode (Portamento Mode)	NORMAL	Portamento will always be applied.
		LEGATO	Portamento will be applied only when you play legato (i.e., when you press the next key before releasing the previous key).
	Chroma Porta (Chromatic Portamento)	OFF, ON	If this is turned on, portamento will operate in semitone steps.
	Ring Switch	OFF, ON	Turns ring modulator on/off. By multiplying partial 1's OSC and partial 2's OSC, this creates a complex, metallic-sounding waveform like that of a bell. The partial 1's OSC waveform will change as shown in the illustration, and partial 2's OSC will be output with its original waveform. Setting the partial 1 OSC and the partial 2 OSC to different pitches will make the ring modulator effect more apparent.  Partial 1's OSC waveform Partial 2's OSC waveform Partial 1's OSC output waveform If Ring Switch is turned **"ON,"** the PWM Depth, PW, and S-Saw Detune of partial 1 and partial 2 cannot be used. In addition, if an asymmetrical square wave is selected as the OSC waveform, the OSC variation will be ignored, and there will be a slight difference in sound compared to the originally selected waveform.
	Mono/Poly	POLY MONO	Specifies whether notes will sound polyphonically (POLY) or monophonically (MONO).
	Legato Sw (Legato Switch)	OFF, ON	This is valid only if the Mono/Poly parameter is set to **"MONO."** If this is **"ON,"** pressing a key while the previous key remains held down will cause the pitch to change to that of the newly pressed key while maintaining the state in which the previous note was being sounded. This creates a smooth transition between notes, which is effective when you wish to simulate the hammering-on and pulling-off techniques used by a guitarist.
	Unison Sw (Unison Switch)	OFF, ON	This layers a single sound. If the Unison Switch is **"ON,"** the number of notes layered on one key will change according to the number of keys you play.
	Unison Size	2, 4, 6, 8	Number of notes assigned to each key when the Unison Switch is **"ON"** **Example:** If Unison Size is 8 Number of keys pressed: 1 → Number of notes sounded: 8 Number of keys pressed: 2 → Number of notes sounded: 4 each Number of keys pressed: 3–4 → Number of notes sounded: 2 each Number of keys pressed: 5–8 → Number of notes sounded: 1 each
	Wave Shape	0–127	Partial 1 will be modulated by the pitch of partial 2. Higher values produce a greater effect. This has no effect if the partial 1 waveform is PW-SQR or SP-SAW.

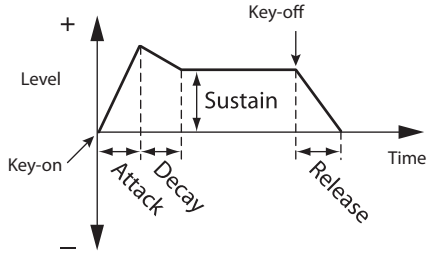
Menu [Shift] + Cursor [◄] [►]	Parameter Cursor [◄] [►]	Value Value [-] [+]	Explanation
TONE COMMON (Tone Common)	Analog Feel	0–127	Specifies the depth of 1/f modulation that is to be applied to the tone (1/f modulation is a pleasant and naturally-occurring ratio of modulation that occurs in a babbling brook or rustling wind.). By adding this **"1/f modulation,"** you can simulate the natural instability characteristic of an analog synthesizer.
	Oct Shift (Octave Shift)	-3–0–+3	Specifies the octave of the tone.
	Bend Range D (Pitch Bend Range Down)	0–-24	Specifies the amount of pitch change that occurs when the pitch bend/modulation lever is moved all the way to the left.
	Bend Range U (Pitch Bend Range Up)	0–+24	Specifies the amount of pitch change that occurs when the pitch bend/modulation lever is moved all the way to the right.
	Bend Mode (Pitch Bend Mode)	NORMAL	The pitch bend lever works in the conventional way.
		C+L (CATCH+LAST)	The pitch lever affects only the last-sounded note. If you play a note while the pitch bend lever is already moved, that note sounds at its normal pitch (as though the lever were in the center). The pitch starts changing only after the lever passes through the center position.
INTERVAL SENS (Interval Sens)	Attack Time (Attack Time Interval Sens)	0–127	Shortens the FILTER and AMP Attack Time according to the spacing between note-on events. Higher values produce a greater effect. With a setting of 0, there will be no effect. This is effective when you want to play rapid notes using a sound that has a slow attack (Attack Time).
	Release Time (Release Time Interval Sens)	0–127	Shortens the FILTER and AMP Release Time if the interval between one note-on and the next note-off is brief. Higher values produce a greater effect. With a setting of 0, there will be no effect. This is effective when you want to play staccato notes using a sound that has a slow release.
	Porta Time (Portamento Time Interval Sens)	0–127	Shortens the Portamento Time according to the spacing between note-on events. Higher values produce a greater effect. With a setting of 0, there will be no effect.
ENVELOPE LOOP (Envelope Loop)	Mode (Envelope Loop Mode)		Use this to loop the envelope between certain regions during a note-on. 
		OFF	The envelope will operate normally.
		FREE-RUN	When the Decay segment has ended, the envelope will return to the Attack. The Attack through Decay segments will repeat until note-off occurs.
		TEMPO-SYNC	Specifies the loop rate as a note value (Sync Note parameter).
	SyncNote (Envelope Loop Sync Note)	16, 12, 8, 4, 2, 1, 3/4, 2/3, 1/2, 3/8, 1/3, 1/4, 3/16, 1/6, 1/8, 3/32, 1/12, 1/16, 1/24, 1/32	Returns to the Attack at the specified rate. If the Attack+Decay time is shorter than the specified rate, the Sustain Level will be maintained. If the Attack+Decay time is longer than the specified rate, the envelope will return to the Attack even though the Decay has not been completed. This will continue repeating until note-off occurs.
AFTERTOUCH (Aftertouch)	Cutoff Sens (Cutoff Aftertouch Sens)	-63–0–+63	Specifies how aftertouch pressure will affect the cutoff frequency. Specify a positive (+) value if you want aftertouch to raise the cutoff frequency; specify a negative (-) value if you want aftertouch to lower the cutoff frequency.
	Level Sens (Level Aftertouch Sens)	-63–0–+63	Specifies how aftertouch pressure will affect the volume. Specify a positive (+) value if you want aftertouch to increase the volume; specify a negative (-) value if you want aftertouch to decrease the volume.
LFO (Low Frequency Oscillator)	Shape (LFO Shape)	Selects the LFO waveform.	
		TRI	**:** Triangle wave
		SIN	**:** Sine wave
		SAW	**:** Sawtooth wave
		SQR	**:** Square wave
		S&H	**:** Sample and Hold (The LFO value will change once each cycle.)
		RND	**RND:** Random wave
	Tempo Sync (LFO Tempo Sync Switch)	OFF, ON	If this is ON, the LFO rate can be specified as a note value relative to the tempo.
	Rate (LFO Rate)	0–127	Specifies the LFO rate when Modulation LFO Tempo Sync Switch is OFF.
	Sync Note (LFO Tempo Sync Note)	16, 12, 8, 4, 2, 1, 3/4, 2/3, 1/2, 3/8, 1/3, 1/4, 3/16, 1/6, 1/8, 3/32, 1/12, 1/16, 1/24, 1/32	Specifies the LFO rate when Modulation LFO Tempo Sync Switch is ON.

Menu [Shift] + Cursor [◄] [►]	Parameter Cursor [◄] [►]	Value Value [-] [+]	Explanation
LFO (Low Frequency Oscillator)	Key Trigger (LFO Key Trigger)	OFF, ON	If this is ON, the LFO cycle will be restarted when you press a key.
	Fade Time (LFO Fade Time)	0–127	Specifies the time from when the partial sounds until the LFO reaches its maximum amplitude. 
	Pitch Depth (LFO Pitch Depth)	-63–0–+63	This allows the LFO to modulate the pitch of the partial, producing a vibrato effect.
	Filter Depth (LFO FILTER Depth)	-63–0–+63	This allows the LFO to modulate the FILTER CUTOFF (cutoff frequency), producing a wah effect.
	Amp Depth (LFO AMP Depth)	-63–0–+63	This allows the LFO to modulate the AMP LEVEL (volume), producing a tremolo effect.
	Pan Depth (LFO Pan Depth)	-63–0–+63	This allows the LFO to make the PAN (stereo position) vary (auto panning).
MOD LFO (Modulation LFO)	Shape (Modulation LFO Shape)	In addition to the LFO that is always applied to the partial, there is a Modulation LFO (MOD LFO) that is controlled by the modulation controller (CC01).	
		Selects the Modulation LFO waveform.	
		TRI	**:** Triangle wave
		SIN	**:** Sine wave
		SAW	**:** Sawtooth wave
		SQR	**:** Square wave
		S&H	**:** Sample and Hold (The LFO value will change once each cycle.)
		RND	**RND:** Random wave
	Tempo Sync (Modulation LFO Tempo Sync Switch)	OFF, ON	If this is ON, the LFO rate can be specified as a note value relative to the tempo.
	Rate (Modulation LFO Rate)	0–127	Specifies the LFO rate when MOD LFO Tempo Sync Switch is OFF.
	Sync Note (Modulation LFO Tempo Sync Note)	16, 12, 8, 4, 2, 1, 3/4, 2/3, 1/2, 3/8, 1/3, 1/4, 3/16, 1/6, 1/8, 3/32, 1/12, 1/16, 1/24, 1/32	Specifies the LFO rate when MOD LFO Tempo Sync Switch is ON.
	Pitch Depth (Modulation LFO Pitch Depth)	-63–0–+63	Specifies how the modulation controller (CC01) will vary the pitch of the tone (vibrato).
	Filter Depth (Modulation LFO FILTER Depth)	-63–0–+63	Specifies how the modulation controller (CC01) will vary the depth of LFO filter cutoff modulation (wah).
	Amp Depth (Modulation LFO AMP Depth)	-63–0–+63	Specifies how the modulation controller (CC01) will vary the depth of LFO amp level (volume) modulation (tremolo).
	Pan Depth (Modulation LFO Pan Depth)	-63–0–+63	Specifies how the modulation controller (CC01) will vary the depth of LFO pan (stereo position) modulation (auto panning).
	Rate Control (Modulation LFO Rate Control)	-63–0–+63	Specifies how the modulation controller (CC01) will vary the MOD LFO Rate. Specify a positive (+) value if you want the Modulation LFO rate to become faster when you raise the modulation controller (CC01) value; specify a negative (-) value if you want the rate to become slower. * This is valid if Tempo Sync is OFF.

Menu [Shift] + Cursor [◄] [►]	Parameter Cursor [◄] [►]	Value Value [-] [+]	Explanation
OSC (Oscillator)	(Waveform)	Refer to **"Digital OSC Waveform List"** (p. 74).	
	Pitch (OSC Pitch)	-24–0–+24	Adjusts the pitch in semitone steps.
	Detune (OSC Detune)	-50–0–+50	Adjusts the pitch in steps of one cent.
	PWM Depth (Pulse Width Modulation Depth)	0–127	Specifies the amount (depth) of LFO applied to PW (Pulse Width). If the Waveform has selected (PW-SQR), you can use this slider to specify the amount of LFO modulation applied to PW (pulse width). * If the Ring Switch is on, this has no effect on partials 1 and 2.
	PW (Pulse Width)	0–127	Specifies the pulse width. If the OSC Wave has selected (PW-SQR), you can use this slider to specify the width of the upper portion of the square wave (the pulse width). Decreasing the value will decrease the width, approaching a square wave (pulse width = 50%). Increasing the value will increase the width, producing a distinctive sound. * If the Ring Switch is ON, this has no effect on partials 1 and 2.
	PCM Gain	-6, 0, +6, +12	Sets the gain (amplification) of the waveform. The value changes in 6 dB (decibel) steps—an increase of 6 dB doubles the waveform's gain. * This is effective if Waveform is set to 001:JP-8 Saw or a subsequent waveform.
	S-Saw Detune (Super Saw Detune)	0–127	Specifies the amount of pitch difference between the seven sawtooth waves layered within a single oscillator. Higher values will increase the pitch difference. (OSC Detune applies an equal amount of pitch difference between each of the seven sawtooth waves.) * If the Ring Switch is ON, this has no effect on partials 1 and 2. * This is valid only if SUPER-SAW is selected for the Waveform.
	PW Shift	0–127	Shifts the range of PW (pulse width) change. Normally, you can leave this at 127. * If the Ring Switch is ON, this has no effect on partials 1 and 2.
PITCH ENV (Pitch Envelope)	Depth (Pitch Envelope Depth)	-63–0–+63	Specifies the direction and depth to which the pitch will change.
	Attack (Pitch Envelope Attack Time)	0–127	Specifies the attack time of the pitch envelope. This specifies the time from the moment you press the key until the pitch reaches its highest (or lowest) point.
	Decay (Pitch Envelope Decay Time)	0–127	Specifies the decay time of the pitch envelope. This specifies the time from the moment the pitch reaches its highest (or lowest) point until it returns to the pitch of the key you pressed.
FILTER (Filter)	HPF Cutoff	0–127	Specifies the cutoff frequency of an independent -6 dB high-pass filter. 
	Type (Filter Type)	BYPASS LPF1 (-24 dB) LPF2 (-24 dB) LPF3 (-24 dB) HPF (-24 dB) BPF (-24 dB) LPF4 (-24 dB) PKG (-24 dB) LPF1 (-12 dB) LPF2 (-12 dB) LPF3 (-12 dB) LPF4 (-12 dB) HPF (-12 dB) BPF (-12 dB) PKG (12 dB)	Selects the type and slope of the filter. **For the LPF** 
	Cutoff (Filter Cutoff)	0–127	Specifies the cutoff frequency.
	Resonance (Filter Resonance)	0–127	Resonance emphasizes the sound in the region of the filter cutoff frequency.

Menu [Shift] + Cursor [◄] [►]	Parameter Cursor [◄] [►]	Value Value [-] [+]	Explanation
FILTER (Filter)	Key Follow (Filter Cutoff Key Follow)	-10–0–+10	Here's how you can make the filter cutoff frequency to vary according to the key you play. 
FILTER ENV (Filter Envelope)	Depth (Filter Envelope Depth)	-63–0–+63	Specifies the direction and depth to which the cutoff frequency will change.
	Attack (Filter Envelope Attack)	0–127	Specifies the time from when the key is pressed until the filter reaches its maximum depth.
	Decay (Filter Envelope Decay)	0–127	Specifies the time from when the filter reaches its maximum depth until it decreases to the sustain level.
	Sustain (Filter Envelope Sustain)	0–127	Specifies the filter depth that is maintained after the attack and decay times have elapsed until the key is released.
	Release (Filter Envelope Release)	0–127	Specifies the time from when the key is released until the filter reaches its minimum depth.
	Velo Sens (Filter Envelope Velocity Sensitivity)	-63–0–+63	Here's how you can make the filter envelope depth vary according to the strength with which you play the key.
AMP (AMP)	Level (AMP Level)	0–127	Partial volume.
	Pan (AMP Pan)	L64–0–63R	The stereo position of the partial.
	Level V-Sens (AMP Level Velocity Sensitivity)	-63–0–+63	Here's how you can make the volume vary according to the strength with which you play the keyboard.
	Key Follow (AMP Level Keyfollow)	-10–0–+10	Specify this if you want to vary the volume according to the position of the key that you play. With the C4 key (middle C) as the base volume, **"+"** values will make the volume increase as you play above C4; **"-"** values will make the volume decrease. Higher values will produce greater change.
AMP ENV (AMP Envelope)	Attack (AMP Envelope Attack)	0–127	Specifies the attack time of the amp envelope. This specifies the time from the moment you press the key until the maximum volume is reached.
	Decay (AMP Envelope Decay)	0–127	Specifies the decay time of the amp envelope. This specifies the time from when the maximum volume is reached, until it decays to the sustain level.
	Sustain (AMP Envelope Sustain)	0–127	Specifies the sustain level of the amp envelope. This specifies the volume level that will be maintained from when the attack and decay times have elapsed until you release the key.
	Release (AMP Envelope Release)	0–127	Specifies the release time of the amp envelope. This specifies the time from when you release the key until the volume reaches its minimum value.





Effects

To move MFX, PART EQ, TFX1, TFX2, REVERB, or DELAY, hold down the **[Shift]** button and use the cursor **[◄][►]** buttons.

Effects Edit

1. Press the [Menu] button.

2. Use the cursor [◄] [►] buttons to select "EFFECTS EDIT" and press the [Enter] button.

MFX: Switch parameter appears.

Effect type [Shift] + Cursor [◄] [►]	Parameter storage location
MFX	PART (TONE)
PART EQ	PART
TFX1/TFX2	PROGRAM
REVERB	PROGRAM
DELAY	PROGRAM

MFX Edit

Menu [Shift] + Cursor [◄] [►]	Parameter Cursor [◄] [►]	Value Value [-] [+]	Explanation
MFX (MFX)	Switch (MFX Switch)	OFF, ON	Specifies whether multi-effect will be used (ON) or not used (OFF).
	Use this parameter to select from among the 67 available MFXs. For details on multi-effects parameters, refer to **"MFX Parameters"** (p. 25).		
MFX CTRL (MFX Control)	Src1 (Source 1) Src2 (Source 2) Src3 (Source 3) Src4 (Source 4)	Sets the MIDI message used to change the multi-effects parameter with the MFX Control.	
		OFF	Multi-effects control will not be used.
		CC01–CC31 CC33–CC95	Controller number 1–31, 33–95
		BEND	Pitch bend
		AFT	Aftertouch
		SYS1, SYS2, SYS3, SYS4	MIDI messages used as common multi-effects controls.
	Dest1 (Destination 1) Dest2 (Destination 2) Dest3 (Destination 3) Dest4 (Destination 4)	Refer to the parameters marked **"#"** on **"MFX Parameters"** (p. 25) and following.	
	Sens1, Sens2, Sens3, Sens4	-63–0–+63	Specifies the depth of MFX Control. To make an increase in the currently selected value (to get higher values, move to the right, increase rates, and so on), select a positive value; to make a decrease in the currently selected value (to get lower values, move to the left, decrease rates, and so on), select a negative value. For either positive or negative settings, greater absolute values will allow greater amounts of change. Set this to **"0"** if you don't want to apply the effect.

Part EQ Edit

Menu [Shift] +Cursor [◄] [►]	Parameter Cursor [◄] [►]	Value Value [-] [+]	Explanation
PART EQ (Part Equalizer)	Switch (Part Equalizer Switch)	OFF, ON	EQ for each part on/off setting
	Low Freq (Part Equalizer Low Frequency)	16 Hz, 20 Hz, 25 Hz, 31 Hz, 40 Hz, 50 Hz, 63 Hz, 80 Hz, 100 Hz, 125 Hz, 160 Hz, 200 Hz, 250 Hz, 315 Hz, 400 Hz, 500 Hz, 630 Hz, 800 Hz	Frequency of the low range.
	Low Gain (Part Equalizer Low Gain)	-15 dB–0–+15 dB	Gain of the low frequency range
	Mid Freq (Part Equalizer Mid Frequency)	16 Hz, 20 Hz, 25 Hz, 31 Hz, 40 Hz, 50 Hz, 63 Hz, 80 Hz, 100 Hz, 125 Hz, 160 Hz, 200 Hz, 250 Hz, 315 Hz, 400 Hz, 500 Hz, 630 Hz, 800 Hz, 1000 Hz, 1250 Hz, 1600 Hz, 2000 Hz, 2500 Hz, 3150 Hz, 4000 Hz, 5000 Hz, 6300 Hz, 8000 Hz, 10000 Hz, 12500 Hz, 16000 Hz	Frequency of the middle range
	Mid Gain (Part Equalizer Mid Gain)	-15 dB–0–+15 dB	Gain of the middle frequency range
	Q (Part Equalizer Mid Q)	0.5, 1.0, 2.0, 4.0, 8.0	Width of the middle frequency range Set a higher value for Q to narrow the range to be affected.
	High Freq (Part Equalizer High Frequency)	630 Hz, , 800 Hz, 1000 Hz, 1250 Hz, 1600 Hz, 2000 Hz, 2500 Hz, 3150 Hz, 4000 Hz, 5000 Hz, 6300 Hz, 8000 Hz, 10000 Hz, 12500 Hz, 16000 Hz	Frequency of the high range
	High Gain (Part Equalizer High Gain)	-15 dB–0–+15 dB	Gain of the high frequency range

TFX Edit

Menu [Shift] +Cursor [◄] [►]	Parameter Cursor [◄] [►]	Value Value [-] [+]	Explanation
TFX1 (TFX 1) TFX2 (TFX 2)	Type (TFX Type)	00–29	Use this parameter to select from among the 29 available total effect. For details on total effect parameters, refer to **"TFX Parameters"** (p. 19).
	Ctrl (TFX Control)	0–127	Globally controls the selected total effect. Global control means to control multiple parameters simultaneously.
	Switch (TFX Switch)	OFF, ON	Specifies whether total effect will be used (ON) or not used (OFF).
	Parameters for each type ➡ **"TFX Parameters"** (p. 19)		Edit the parameters for the selected TFX type.
	Limit ModeSw (TFX Limit Mode Switch)	OFF, ON	If you turn Limit Mode on, the effect depth is restricted to prevent feedback or an extremely high volume. Parameters that are affected by Limit Mode are indicated by a ★ symbol (p. 19). This can be convenient when you're performing in high-volume conditions at a club or hall. * This parameter is not shown for types that have no parameters marked by ★.
	HeadMargin (TFX Head Margin)	-18 dB, -15 dB, -12 dB, -9 dB, -6 dB, -3 dB, 0 dB	Simultaneously adjusts the input and output gain of the total effect. This is convenient when adjusting dynamics-type effects (such as overdrive or compressor) that produce their effect by varying the volume. For some effects, it may be difficult to notice the result of this adjustment.

TFX Parameters

Parameters that are affected by Limit Mode are indicated by a ★ symbol.

Parameter	Value	Explanation
01: Flt+Drive (FILTER+DRIVE)		
A low-pass filter with overdrive. It cuts the high frequencies and adds distortion.		
Cutoff	0–127	Adjusts the frequency that will be cut.
Resonance ★	0–127	Adjusts peak frequency response at the cutoff frequency.
Drive ★	0–127	Adds distortion.
02: Isolator (ISOLATOR)		
Isolates or removes the low, mid, or high frequency ranges.		
Low ★	0–127	Isolates/removes the low-frequency range.
Mid ★	0–127	Isolates/removes the mid-frequency range.
High ★	0–127	Isolates/removes the high-frequency range.
03: DJFX Looper (DJFX LOOPER)		
Loops a short portion of the input sound. You can vary the playback direction and playback speed of the input sound to add turntable-type effects.		
Length ★	0–127	Specifies the length of the loop.
Speed	-1.0–+1.0	Specifies the playback direction and playback speed. Negative (-) settings make the sound play backward. Positive (+) settings make the sound play forward. With a value of 0.0, playback stops.
Loop Sw	OFF, ON	If you turn this on while sound is playing, the sound at that point will be looped. Turn this off to cancel the loop.
04: BPM Looper (BPM LOOPER)		
Loops a short portion of the input sound.		
Length ★	0–127	Specifies the length of the loop.
Timing	OFF, 1–8	Specifies the timing (in 8th note units) at which sounds looped during a measure will automatically start playing. If you don't want the loop to play automatically, turn this **"OFF."**
Loop Sw	OFF, ON	If you turn this on while sound is playing, the sound at that point will be looped. Turn this off to defeat looping.
05: Bit Crush (BIT CRUSH)		
This creates a lo-fi sound.		
Sample Rate	0–127	Adjusts the sample rate.
Bit ★	0–127	Adjusts the bit depth.
Filter	0–127	Adjusts the filter depth.
06: Wah (WAH)		
Produces a wah effect.		
Peak	0–127	Adjusts the width of frequencies to which effect is applied.
Rate	0–127	Adjust the speed of modulation.
Manual	0–127	Adjusts the pitch of the effect sound.
07: Reverb (REVERB)		
Adds reverberation to the sound.		
Reverb Time	0–127	Adjusts the reverberation time.
Tone	0–127	Adjusts the tone of the reverberation.
Balance	D64–63E	Adjusts the volume balance between the direct sound and effect sound.
08: Delay (DELAY)		
Repeats the sound.		
Delay Time	Note *1	Adjusts the interval of the repeats.
Feedback ★	0–127	Adjusts the number of the repeats.
Balance	D64–63E	Adjusts the volume balance between the direct sound and effect sound.
09: Tape Echo (TAPE ECHO)		
Simulates a tape-type echo unit of the past.		
Rate	0–127	Specifies the tape speed.
Intensity	0–127	Specifies the amount of echo repeat.
Balance	D64–63E	Adjusts the volume balance between the direct sound and effect sound.

Parameter	Value	Explanation
10: Pitch Sft (PITCH SHIFTER)		
Changes the pitch.		
Pitch	0–127	Adjusts the amount of pitch change.
Feedback ★	0–127	Adjusts the amount of pitch-shifted sound that is fed back.
Balance	D64–63E	Adjusts the volume balance between the direct sound and effect sound.
11: Voice Trans (VOICE TRANS)		
Processes a human voice to create a variety of characters.		
Formant	0–127	Adjusts the character (formant) of the voice.
Effect Level	0–127	Adjusts the volume of the effect sound.
Direct Level	0–127	Adjusts the volume of the direct sound.
12: Flanger (FLANGER)		
Creates modulation reminiscent of a jet airplane taking off and landing.		
Depth	0–127	Adjusts the depth of modulation.
Rate	0–127	Adjusts the speed of modulation.
Feedback ★	0–127	Adjusts the proportion of effect sound that is returned to the input.
Balance	D64–63E	Adjusts the volume balance between the direct sound and effect sound.
13: Slicer+Flg (SLICER+FLANGER)		
Repeatedly cuts the sound. A flanger is added.		
Timing Ptn (Timing Pattern)	P01–P16 *2	The timing at which the sound is cut.
Rate	Note *1	Adjusts the length of Timing Pattern.
Feedback ★	0–127	Adjusts the flanger depth.
Attack	0–127	Adjusts the speed at which the level will change between steps.
14: Phaser (PHASER)		
Creates modulation by adding a phase-shifted sound.		
Depth ★	0–127	Adjusts the depth of modulation.
Rate	0–127	Adjusts the speed of modulation.
Manual	0–127	Adjusts the pitch of the effect sound.
Balance	D64–63E	Adjusts the volume balance between the direct sound and effect sound.
15: Chorus (CHORUS)		
Adds spaciousness and richness to the sound.		
Depth	0–127	Adjusts the depth of modulation.
Rate	0–127	Adjusts the rate of modulation.
Balance	D64–63E	Adjusts the volume balance between the direct sound and effect sound.
16: Tremolo/Pan (TREMOLO/PAN)		
Cyclically varies the volume or panning.		
Depth	0–127	Adjusts the amount of change in volume/panning.
Rate	0–127	Adjusts the speed of volume/panning change.
Waveform	TRM, PAN	Switches the curve of the cyclic change in volume (TRM) / panning (PAN).
17: Overdrive (OVERDRIVE)		
Mildly distorts the sound.		
Drive ★	0–127	Adjusts the degree of distortion.
Tone ★	0–127	Adjusts the tone.
Level ★	0–127	Adjusts the volume.
18: Distortion (DISTORTION)		
Intensely distorts the sound.		
Drive ★	0–127	Adjusts the degree of distortion.
Tone ★	0–127	Adjusts the tone.
Level ★	0–127	Adjusts the volume.

Parameter	Value	Explanation
19: Fuzz (FUZZ)		
Adds overtones and intensely distorts the sound.		
Drive ★	0–127	Adjusts the degree of distortion.
Tone ★	0–127	Adjusts the tone.
Level ★	0–127	Adjusts the volume.
20: Octave (OCTAVE)		
Adds a pitch at lower octaves.		
-2 Oct Level	0–127	Adds a pitch two octaves below.
-1 Oct Level	0–127	Adds a pitch one octave below.
Direct Level	0–127	Adjusts the volume of the direct sound.
21: Subsonic (SUBSONIC)		
Adds a low-frequency sine wave based on the volume being input to the effect (*3).		
Pitch	0–127	Adjusts the frequency of the sine wave.
Threshold	0–127	Adjusts the volume at which the sine wave will begin sounding.
Balance	D64–63E	Adjusts the volume balance between the direct sound and effect sound.
22: Ring Mod (RING MODULATOR)		
Gives the sound a metallic character.		
Frequency ★	0–127	Adjusts the pitch of the metallic sound.
Sens ★	0–127	Adjusts the depth to which the frequency is modulated.
Balance	D64–63E	Adjusts the volume balance between the direct sound and effect sound.
23: ChromaticPS (CHROMATIC PITCH SHIFTER)		
A two-voice pitch shifter that changes the pitch in semitone steps.		
Pitch1	-12–+12	Changes pitch 1 in semitone steps over a +/-1 octave range.
Pitch2	-12–+12	Changes pitch 2 in semitone steps over a +/-1 octave range.
Balance	D64–63E	Adjusts the volume balance between the direct sound and effect sound.
24: C.Canceller (CENTER CANCELLER)		
Cancels the vocal or other sound located in the center.		
L-R Balance	L64–63R	Adjusts the point at which maximum cancellation occurs.
Low Boost	0–127	Boosts the low-frequency sounds located in the center, such as the bass.
High Boost	0–127	Boosts the high-frequency sounds.
25: Vinyl Sim (VINYL SIMULATOR)		
Simulates sound heard from an analog record.		
Freq Range (Frequency Range)	0–127	Adjusts the frequency response of the playback system.
Noise Level	0–127	Adjusts the volume of noise.
Wow/Flutter	0–127	Adjusts the rotational instability of the analog record.
26: RadioTuning (RADIO TUNING)		
Simulates sound heard from a radio.		
Detune	0–127	Adjusts the tuning drift of the radio.
Noise Level	0–127	Adjusts the volume of noise.
Balance	D64–63E	Adjusts the volume balance between the direct sound and effect sound.
27: Noise Gen (NOISE GENERATOR)		
Applies a lo-fi effect, and also adds noises such as white noise and record noise.		
White Noise	0–127	Adjusts the volume of the **"hiss"** noise.
Disc Noise	0–127	Adjusts the volume of the **"pop"** noise.
Hum Noise	0–127	Adjusts the volume of the **"hum"** noise.

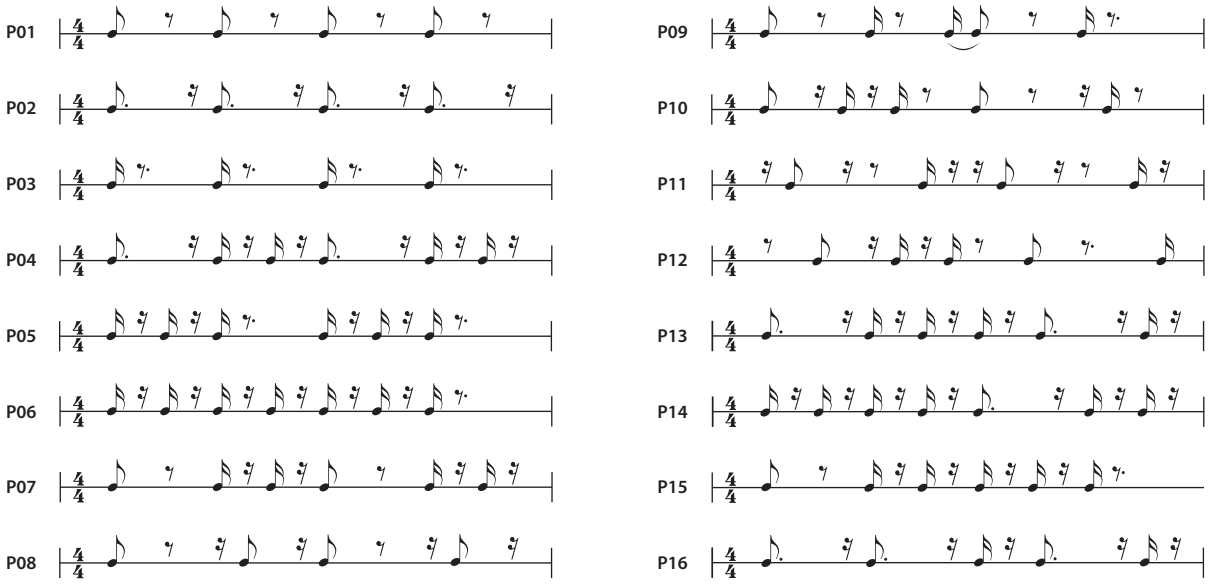
Parameter	Value	Explanation
28: Comp (COMPRESSOR)		
Makes the sound more consistent.		
Sustain	0–127	Adjusts the depth of the compressor.
Attack ★	0–127	Adjusts the attack. If Limit mode is on, this adjusts the release.
Level ★	0–127	Adjusts the volume.
29: Equalizer (EQUALIZER)		
Adjusts the volume of each frequency region.		
Low ★	0–127	Adjusts the low-frequency volume.
Mid ★	0–127	Adjusts the mid-frequency volume.
High ★	0–127	Adjusts the high-frequency volume.

*1: This setting is specified as a note value relative to the sequencer's tempo.
Note values that you can specify:

	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		Dotted half note
	Whole note						

However, you can't select a setting that would cause the delay time to exceed approximately 2,000 msec.

***2:** Choose from the following Timing Patterns.



The cycle of the Timing Pattern is based on a 4/4 time signature.
You can use Rate to adjust the synchronization speed as follows.
Rate maximum: One cycle of Timing Pattern corresponds to one measure.
Rate minimum: One cycle of Timing Pattern corresponds to a 32nd note.
By changing the Rate setting you can change the cycle in the range between a 32nd note to one full measure.

*3: Set Balance to the center value, adjust PITCH to raise the frequency of the sine wave, and set Threshold so that the sine wave is heard appropriately for the input source. After you've finished setting the Threshold, adjust the Pitch and Balance. This is a useful way to strengthen a kick drum.

REVERB Edit

Menu [Shift] +Cursor [◄] [►]	Parameter Cursor [◄] [►]	Value Value [-] [+]	Explanation
REVERB (Reverb)	Level (Reverb Level)	0–127	Adjusts the volume of reverb sound.
	Switch (Reverb Switch)	OFF, ON	Switches the reverb on/off.

Reverb Parameters

Parameter	Value	Explanation
Reverb Type	**00:** OFF **01:** Room 1 **02:** Room 2 **03:** Hall 1 **04:** Hall 2 **05:** Plate **06:** GM2 Reverb	Selects the type of reverb. **OFF:** Reverb will not be used **Room 1/2:** Reverb that simulates the reverberation of a room **Hall 1/2:** Reverb that simulates the reverberation of a hall **Plate:** Simulation of a plate echo **GM2 Reverb:** GM2 reverb

01–05: Room 1/2, Hall 1/2, Plate

Pre Delay	0–100 ms (msec)	Adjusts the delay time from the direct sound until the reverb sound is heard.
Time	0.1–10 s (sec)	Time length of reverberation
Density	0–127	Density of reverb
Diffusion	0–127	Adjusts the change in the density of the reverb over time. The higher the value, the more the density increases with time. (The effect of this setting is most pronounced with long reverb times.)
LF Damp	0–100	Adjusts the low-frequency portion of the reverb.
HF Damp	0–100	Adjusts the high-frequency portion of the reverb.
Spread	0–127	Reverb spread
Tone	0–127	Tonal character of the reverb

06: GM2 Reverb

Character	0–5	Type of reverb
Time	0–127	Time length of reverberation

PROGRAM EFX Edit

Menu [Shift] +Cursor [◄] [►]	Parameter Cursor [◄] [►]	Value Value [-] [+]	Explanation
PROGRAM EFX (Program EFX)	FX TempoSync (EFX Tempo Sync Switch)	OFF, ON	Synchronizes MFX and Delay to the tempo. If this is **"OFF,"** the Tempo Sync setting of each effect is used.

The applicable MFX types are listed below.

04: Step Flt (Step Filter)
06: Auto Wah (Auto Wah)
07: Humanizer (Humanizer)
09: Phaser1 (Phaser 1)
12: Step Ph (Step Phaser)
13: Mlt Phaser (Multi Stage Phaser)
16: Tremolo (Tremolo)
17: Auto Pan (Auto Pan)
18: Slicer (Slicer)
22: Chorus (Chorus)
23: Flanger (Flanger)
24: Step Flg (Step Flanger)
25: Hexa-Cho (Hexa-Chorus)
26: Tre Cho (Tremolo Chorus)
27: Space-D (Space-D)
34: Delay (Delay)
35: Mod Delay (Modulation Delay)
36: 3Tap Delay (3 Tap Pan Delay)
37: 4Tap Delay (4 Tap Pan Delay)
38: Mlt Tap Dly (Multi Tap Delay)
39: Rvs Delay (Reverse Delay)
40: Tm Ctrl Dly (Time Ctrl Delay)
43: Pitch Sft (Pitch Shifter)
44: 2Voice PS (2 Voice Pitch Shifter)
45: Od->Cho (Overdrive → Chorus)
46: Od->Flg (Overdrive → Flanger)
47: Od->Dly (Overdrive → Delay)
48: Dist->Cho (Distortion → Chorus)
49: Dist->Flg (Distortion → Flanger)
50: Dist->Dly (Distortion → Delay)
52: OD/DS->AWah (OD/DS → Auto Wah)
57: EP->Tre (EP Amp Sim → Tremolo)
58: EP->Cho (EP Amp Sim → Chorus)
59: EP->Flg (EP Amp Sim → Flanger)
60: EP->Ph (EP Amp Sim → Phaser)
61: EP->Dly (EP Amp Sim → Delay)
62: Eh->Cho (Enhancer → Chorus)
63: Eh->Flg (Enhancer → Flanger)
64: Eh->Dly (Enhancer → Delay)
65: Cho->Dly (Chorus → Delay)
66: Flg->Dly (Flanger → Delay)
67: Cho->Flg (Chorus → Flanger)

DELAY Edit

Menu [Shift] +Cursor [◄] [►]	Parameter Cursor [◄] [►]	Value Value [-] [+]	Explanation
DELAY (Delay)	Level (Delay Level)	0–127	Adjusts the volume of delay sound.
	Switch (Delay Switch)	OFF, ON	Switches the delay on/off.
	Sync (Delay Sync)	msec, NOTE	If this is set to **"msec,"** you can specify the DELAY Time in msec units. If this is set to **"NOTE,"** you can specify the DELAY Note in terms of a note value relative to the tempo. If Fx TempoSync is **"ON,"** this indicates (NOTE), and operation is the same as when **"NOTE"** is specified.
	Time (Delay Time) * This is valid only if "msec" is selected for Delay Sync.	0–1300 ms (msec)	Delay time from when the original sound is heard to when the delay sound is heard
	Note (Delay Note) * This is valid only if "NOTE" is selected for Delay Sync.	1/64T, 1/64, 1/32T, 1/32, 1/16T, 1/32., 1/16, 1/8T, 1/16., 1/8, 1/4T, 1/8., 1/4, 1/2T, 1/4., 1/2, 1/1T, 1/2., 1/1, 2/1T, 1/1., 2/1	
	Acceleration (Delay Acceleration)	0–15	Speed at which the current delay time changes to the specified delay time when you change the delay time. The rate of change for the Delay Time directly affects the rate of pitch change.
	Feedback (Delay Feedback)	-98%–0–+98%	Adjusts the amount of the delay sound that's fed back into the effect. Negative (-) values invert the phase.
	HF Damp (Delay HF Damp)	200 Hz, 250 Hz, 315 Hz, 400 Hz, 500 Hz, 630 Hz, 800 Hz, 1000 Hz, 1250 Hz, 1600 Hz, 2000 Hz, 2500 Hz, 3150 Hz, 4000 Hz, 5000 Hz, 6300 Hz, 8000 Hz, BYPASS	Adjusts the frequency above which sound fed back to the effect is filtered out. If you do not want to filter out any high frequencies, set this parameter to BYPASS.
	Low Gain (Delay Low Gain)	-15 dB–0–+15 dB	Amount of low-range boost/cut
	High Gain (Delay High Gain)	-15 dB–0–+15 dB	Amount of high-range boost/cut

MFX Parameters

The multi-effects feature 67 different kinds of effects. Some of the effects consist of two or more different effects connected in series.

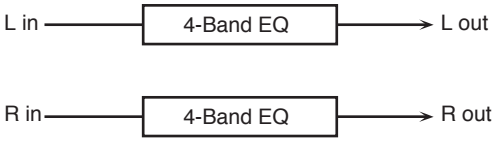
Parameters marked with a sharp **"#"** can be controlled using a Multi-Effects Control (p. 54) (Two setting items will change simultaneously for **"#1"** and **"#2"**).

Type	MFX Name	Page
	00: Thru (Thru)	–
FILTER	**01:** Equalizer (Equalizer)	p. 26
	02: Spectrum (Spectrum)	p. 26
	03: Low Boost (Low Boost)	p. 26
	04: Step Flt (Step Filter)	p. 26
	05: Enhancer (Enhancer)	p. 27
	06: Auto Wah (Auto Wah)	p. 27
	07: Humanizer (Humanizer)	p. 27
	08: Sp Sim (Speaker Simulator)	p. 27
MODULATION	**09:** Phaser1 (Phaser 1)	p. 28
	10: Phaser2 (Phaser 2)	p. 28
	11: Phaser3 (Phaser 3)	p. 28
	12: Step Ph (Step Phaser)	p. 29
	13: Mlt Phaser (Multi Stage Phaser)	p. 29
	14: Inf Phaser (Infinite Phaser)	p. 29
	15: Ring Mod (Ring Modulator)	p. 30
	16: Tremolo (Tremolo)	p. 30
	17: Auto Pan (Auto Pan)	p. 30
	18: Slicer (Slicer)	p. 31
	19: Rotary 1 (Rotary 1)	p. 31
	20: Rotary 2 (Rotary 2)	p. 32
	21: Rotary 3 (Rotary 3)	p. 32
CHORUS	**22:** Chorus (Chorus)	p. 33
	23: Flanger (Flanger)	p. 33
	24: Step Flg (Step Flanger)	p. 34
	25: Hexa-Cho (Hexa-Chorus)	p. 34
	26: Tre Cho (Tremolo Chorus)	p. 35
	27: Space-D (Space-D)	p. 35
DYNAMICS	**28:** Overdrive (Overdrive)	p. 35
	29: Dist (Distortion)	p. 36
	30: GtrAmp Sim (Guitar Amp Simulator)	p. 36
	31: Comp (Compressor)	p. 36
	32: Limiter (Limiter)	p. 37
	33: Gate (Gate)	p. 37
DELAY	**34:** Delay (Delay)	p. 37
	35: Mod Delay (Modulation Delay)	p. 38
	36: 3Tap Delay (3 Tap Pan Delay)	p. 38
	37: 4Tap Delay (4 Tap Pan Delay)	p. 39
	38: Mlt Tap Dly (Multi Tap Delay)	p. 39
	39: Rvs Delay (Reverse Delay)	p. 40
	40: Tm Ctrl Dly (Time Ctrl Delay)	p. 40
LO-FI	**41:** LOFI Comp (Lo-Fi Compress)	p. 40
	42: BitCrusher (Bit Crusher)	p. 41
PITCH	**43:** Pitch Sft (Pitch Shifter)	p. 41
	44: 2Voice PS (2 Voice Pitch Shifter)	p. 41

Type	MFX Name	Page
COMBINATION	**45:** Od->Cho (Overdrive → Chorus)	p. 42
	46: Od->Flg (Overdrive → Flanger)	p. 42
	47: Od->Dly (Overdrive → Delay)	p. 42
	48: Dist->Cho (Distortion → Chorus)	p. 42
	49: Dist->Flg (Distortion → Flanger)	p. 43
	50: Dist->Dly (Distortion → Delay)	p. 43
	51: OD/DS->TWah (OD/DS → Touch Wah)	p. 44
	52: OD/DS->AWah (OD/DS → Auto Wah)	p. 44
	53: AmpSim->Cho (Guitar Amp Sim → Chorus)	p. 45
	54: AmpSim->Flg (Guitar Amp Sim → Flanger)	p. 46
	55: AmpSim->Ph (Guitar Amp Sim → Phaser)	p. 47
	56: AmpSim->Dly (Guitar Amp Sim → Delay)	p. 48
	57: EP->Tre (EP Amp Sim → Tremolo)	p. 49
	58: EP->Cho (EP Amp Sim → Chorus)	p. 49
	59: EP->Flg (EP Amp Sim → Flanger)	p. 50
	60: EP->Ph (EP Amp Sim → Phaser)	p. 50
	61: EP->Dly (EP Amp Sim → Delay)	p. 51
	62: Eh->Cho (Enhancer → Chorus)	p. 51
	63: Eh->Flg (Enhancer → Flanger)	p. 51
	64: Eh->Dly (Enhancer → Delay)	p. 52
	65: Cho->Dly (Chorus → Delay)	p. 52
	66: Flg->Dly (Flanger → Delay)	p. 53
	67: Cho->Flg (Chorus → Flanger)	p. 53

01: Equalizer (Equalizer)

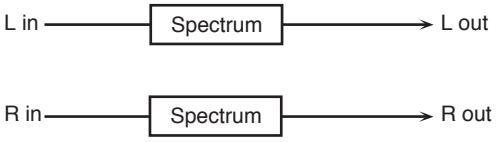
This is a four-band stereo equalizer (low, mid x 2, high).



Parameter	Value	Explanation
Low Freq	200, 400 Hz	Frequency of the low range
Low Gain #	-15–+15 dB	Amount of low-range boost/cut
Mid1 Freq	200–8000 Hz	Frequency of the middle range 1
Mid1 Gain	-15–+15 dB	Gain of the middle range 1
Mid1 Q	0.5, 1.0, 2.0, 4.0, 8.0	Width of the middle range 1 Set a higher value for Q to narrow the range to be affected.
Mid2 Freq	200–8000 Hz	Frequency of the middle range 2
Mid2 Gain	-15–+15 dB	Gain of the middle range 2
Mid2 Q	0.5, 1.0, 2.0, 4.0, 8.0	Width of the middle range 2 Set a higher value for Q to narrow the range to be affected.
High Freq	2000, 4000, 8000 Hz	Frequency of the high range
High Gain #	-15–+15 dB	Amount of high-range boost/cut
Level #	0–127	Output volume

02: Spectrum (Spectrum)

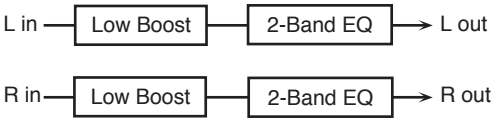
This is a stereo spectrum. Spectrum is a type of filter which modifies the timbre by boosting or cutting the level at specific frequencies.



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 volume

03: Low Boost (Low Boost)

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

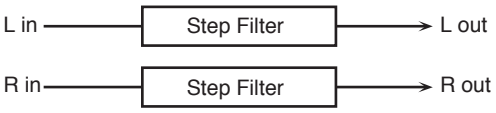


Parameter	Value	Explanation
Boost Freq #	50–125 Hz	Center frequency at which the lower range will be boosted
Boost Gain #	0–+12 dB	Amount by which the lower range will be boosted
Boost Wid (Boost width)	WIDE, MID, NARROW	Width of the lower range that will be boosted
Low Gain	-15–+15 dB	Amount of low-range boost/cut
High Gain	-15–+15 dB	Amount of high-range boost/cut
Level	0–127	Output volume

04: Step Flt. (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.

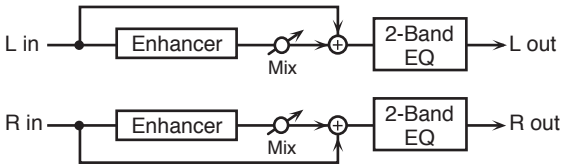
You can use MFX CONTROL to restart the step sequence from the beginning (p. 54).



Parameter	Value	Explanation
Step 01–16	0–127	Cutoff frequency at each step
Sync	Hz, NOTE	**Hz:** The Rate value is specified in Hz. **NOTE:** The Rate value is specified as a note value.
Rate #	0.05–10.00 Hz, note	Rate of modulation
Attack #	0–127	Speed at which the cutoff frequency changes between steps
FilterType	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
FilterSlope	-12, -24, -36 dB	Slope (steepness) of the filter (Amount of attenuation per octave) **-12 dB:** gentle **-24 dB:** steep **-36 dB:** extremely steep
FilterReso # (Filter Resonance)	0–127	Filter resonance level Increasing this value will emphasize the region near the cutoff frequency.
FilterGain	0–+12 dB	Amount of boost for the filter output
Level	0–127	Output volume

05: Enhancer (Enhancer)

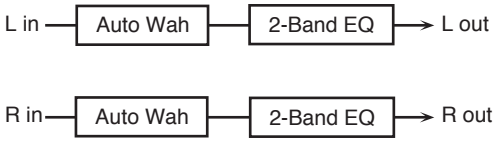
Controls the overtone structure of the high frequencies, adding sparkle and tightness to the sound.



Parameter	Value	Explanation
Sens #	0–127	Sensitivity of the enhancer
Mix #	0–127	Level of the overtones generated by the enhancer
Low Gain	-15–+15 dB	Amount of low-range boost/cut
High Gain	-15–+15 dB	Amount of high-range boost/cut
Level	0–127	Output volume

06: Auto Wah (Auto Wah)

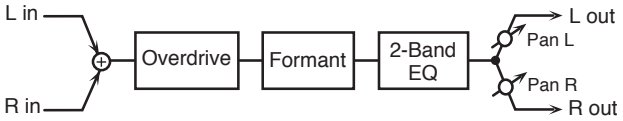
Cyclically controls a filter to create cyclic change in timbre.



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	Sensitivity with which the filter is modified
Polarity	UP, DOWN	Sets the direction in which the frequency will change when the auto-wah filter is modulated. **UP:** The filter will change toward a higher frequency. **DOWN:** The filter will change toward a lower frequency.
Sync	Hz, NOTE	**Hz:** The Rate value is specified in Hz. **NOTE:** The Rate value is specified as a note value.
Rate #	0.05–10.00 Hz, note	Rate at which the wah effect is modulated
Depth #	0–127	Depth at which the wah effect is modulated
Phase #	0–180 deg	Adjusts the degree of phase shift of the left and right sounds when the wah effect is applied.
Low Gain	-15–+15 dB	Amount of low-range boost/cut
High Gain	-15–+15 dB	Amount of high-range boost/cut
Level	0–127	Output volume

07: Humanizer (Humanizer)

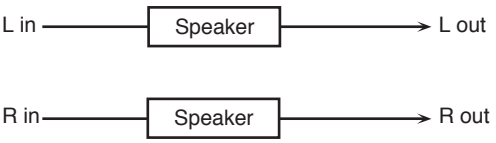
Adds a vowel character to the sound, making it similar to a human voice.



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	Vowel1
Vowel2	a, e, i, o, u	Vowel2
Sync	Hz, NOTE	**Hz:** The Rate value is specified in Hz. **NOTE:** The Rate value is specified as a note value.
Rate #	0.05–10.00 Hz, note	Frequency at which the two vowels switch
Depth #	0–127	Depth of the effect
In Sync Sw (Input Sync Switch)	OFF, ON	LFO reset on/off Determines whether the LFO for switching the vowels is reset by the input signal (ON) or not (OFF).
In Sync Thre (Input Sync Threshold)	0–127	Volume level at which reset is applied
Manual #	0–100	Point at which Vowel 1/2 switch **49 or less:** Vowel 1 will have a longer duration. **50:** Vowel 1 and 2 will be of equal duration. **51 or more:** Vowel 2 will have a longer duration.
Low Gain	-15–+15 dB	Amount of low-range boost/cut
High Gain	-15–+15 dB	Amount of high-range boost/cut
Pan #	L64–63R	Stereo location of the output
Level	0–127	Output volume

08: Sp Sim (Speaker Simulator)

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



Parameter	Value	Explanation
Type	(See the following table)	Type of speaker
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, from 1 to 3, with the microphone becoming more distant as the value increases.
Mic Level #	0–127	Volume of the microphone
Direct Level #	0–127	Volume of the direct sound
Level #	0–127	Output volume

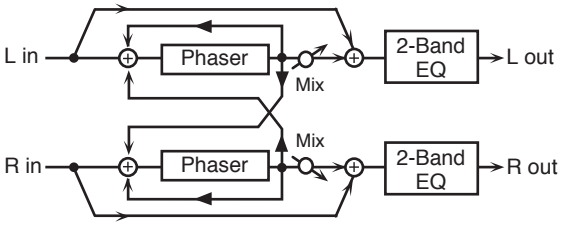
Specifications of each Speaker Type

The speaker column indicates the diameter of each speaker unit (in inches) and the number of units.

Type	Cabinet	Speaker	Microphone
SMALL 1	Small open-back enclosure	10	Dynamic
SMALL 2	Small open-back enclosure	10	Dynamic
MIDDLE	Open back enclosure	12 x 1	Dynamic
JC-120	Open back enclosure	12 x 2	Dynamic
BUILT-IN 1	Open back enclosure	12 x 2	Dynamic
BUILT-IN 2	Open back enclosure	12 x 2	Condenser
BUILT-IN 3	Open back enclosure	12 x 2	Condenser
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

09: Phaser1 (Phaser 1)

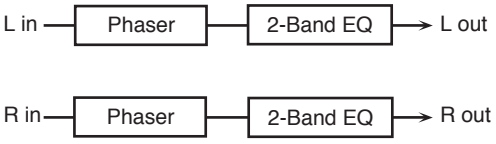
This is a stereo phaser. A phase-shifted sound is added to the original sound and modulated.



Parameter	Value	Explanation
Mode	4-STAGE, 8-STAGE, 12-STAGE	Number of phaser stages
Manual #	0–127	Center frequency at which the sound is modulated
Sync	Hz, NOTE	**Hz:** The Rate value is specified in Hz. **NOTE:** The Rate value is specified as a note value.
Rate #	0.05–10.00 Hz, note	Modulation rate
Depth	0–127	Modulation depth
Polarity	INVERSE, SYNCHRO	Selects whether the left and right phase of the modulation will be the same or the opposite. **INVERSE:** The left and right phase will be opposite. When using a mono source, this spreads the sound. **SYNCHRO:** The left and right phase will be the same. Select this when inputting a stereo source.
Resonance #	0–127	Amount of feedback
Feedback	-98–+98%	Adjusts the proportion of the phaser sound that is fed back into the effect. Negative (-) values invert the phase.
Mix #	0–127	Volume of phase-shifted sound
Low Gain	-15–+15 dB	Amount of low-range boost/cut
High Gain	-15–+15 dB	Amount of high-range boost/cut
Level	0–127	Output volume

10: Phaser2 (Phaser 2)

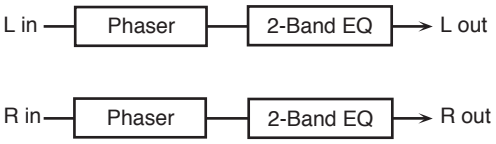
This simulates an analog phaser of the past.
It is particularly suitable for electric piano.



Parameter	Value	Explanation
Rate #	0–100	Modulation rate
Color	1, 2	Modulation character
Low Gain	-15–+15 dB	Amount of low-range boost/cut
High Gain	-15–+15 dB	Amount of high-range boost/cut
Level	0–127	Output volume

11: Phaser3 (Phaser 3)

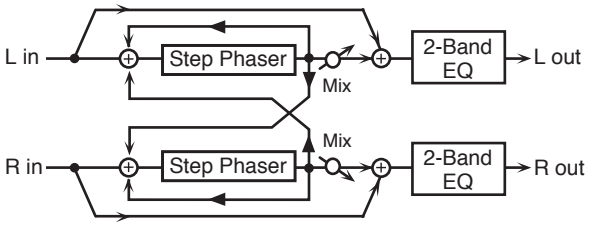
This simulates a different analog phaser than Phaser 2.
It is particularly suitable for electric piano.



Parameter	Value	Explanation
Speed #	0–100	Modulation rate
Low Gain	-15–+15 dB	Amount of low-range boost/cut
High Gain	-15–+15 dB	Amount of high-range boost/cut
Level	0–127	Output volume

12: Step Ph (Step Phaser)

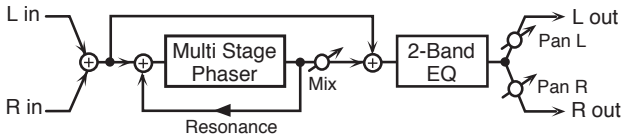
This is a stereo phaser. The phaser effect will be varied gradually.



Parameter	Value	Explanation
Mode	4-STAGE, 8-STAGE, 12-STAGE	Number of phaser stages
Manual #	0–127	Center frequency at which the sound is modulated
Sync	Hz, NOTE	**Hz:** The Rate value is specified in Hz. **NOTE:** The Rate value is specified as a note value.
Rate #	0.05–10.00 Hz, note	Modulation rate
Depth	0–127	Modulation depth
Polarity	INVERSE, SYNCHRO	Selects whether the left and right phase of the modulation will be the same or the opposite. **INVERSE:** The left and right phase will be opposite. When using a mono source, this spreads the sound. **SYNCHRO:** The left and right phase will be the same. Select this when inputting a stereo source.
Resonance #	0–127	Amount of feedback
Feedback	-98–+98%	Adjusts the proportion of the phaser sound that is fed back into the effect. Negative (-) values invert the phase.
Step Sync	Hz, NOTE	**Hz:** The Rate value is specified in Hz. **NOTE:** The Rate value is specified as a note value.
StepRate #	0.10–20.00 Hz, note	Rate of the step-wise change in the phaser effect
Mix #	0–127	Volume of phase-shifted sound
Low Gain	-15–+15 dB	Amount of low-range boost/cut
High Gain	-15–+15 dB	Amount of high-range boost/cut
Level	0–127	Output volume

13: Mlt. Phaser (Multi Stage Phaser)

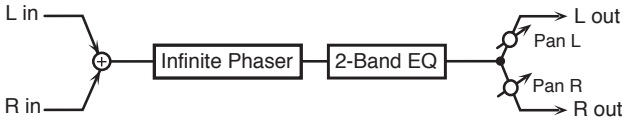
Extremely high settings of the phase difference produce a deep phaser effect.



Parameter	Value	Explanation
Mode	4-STAGE, 8-STAGE, 12-STAGE, 16-STAGE, 20-STAGE, 24-STAGE	Number of phaser stages
Manual #	0–127	Center frequency at which the sound is modulated
Sync	Hz, NOTE	**Hz:** The Rate value is specified in Hz. **NOTE:** The Rate value is specified as a note value.
Rate #	0.05–10.00 Hz, note	Modulation rate
Depth	0–127	Modulation depth
Resonance #	0–127	Amount of feedback
Mix #	0–127	Volume of phase-shifted sound
Pan #	L64–63R	Stereo location of the output
Low Gain	-15–+15 dB	Amount of low-range boost/cut
High Gain	-15–+15 dB	Amount of high-range boost/cut
Level	0–127	Output volume

14: Inf Phaser (Infinite Phaser)

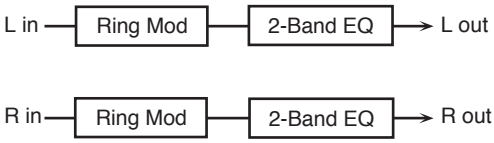
A phaser that continues raising/lowering the frequency at which the sound is modulated.



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	Volume of phase-shifted sound
Pan #	L64–63R	Stereo location of the output
Low Gain	-15–+15 dB	Amount of low-range boost/cut
High Gain	-15–+15 dB	Amount of high-range boost/cut
Level	0–127	Output volume

15: Ring Mod (Ring Modulator)

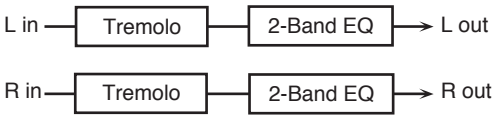
This is an effect that applies amplitude modulation (AM) to the input signal, producing bell-like sounds. You can also change the modulation frequency in response to changes in the volume of the sound sent into the effect.



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

16: Tremolo (Tremolo)

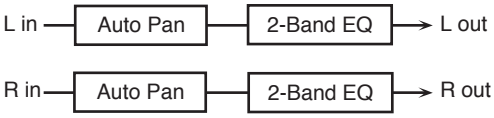
Cyclically modulates the volume to add tremolo effect to the sound.



Parameter	Value	Explanation
Mod Wave	TRI, SQR, SIN SAW1, SAW2	Modulation wave **TRI:** triangle wave **SQR:** square wave **SIN:** sine wave **SAW1/2:** sawtooth wave
	SAW1 SAW2 	
Sync	Hz, NOTE	**Hz:** The Rate value is specified in Hz. **NOTE:** The Rate value is specified as a note value.
Rate #	0.05–10.00 Hz, note	Frequency of the change
Depth #	0–127	Depth to which the effect is applied
Low Gain	-15–+15 dB	Amount of low-range boost/cut
High Gain	-15–+15 dB	Amount of high-range boost/cut
Level	0–127	Output volume

17: Auto Pan (Auto Pan)

Cyclically modulates the stereo location of the sound.

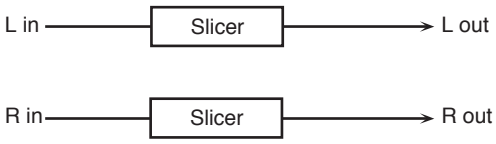


Parameter	Value	Explanation
Mod Wave	TRI, SQR, SIN, SAW1, SAW2	Modulation wave **TRI:** triangle wave **SQR:** square wave **SIN:** sine wave **SAW1/2:** sawtooth wave
	SAW1 SAW2 	
Sync	Hz, NOTE	**Hz:** The Rate value is specified in Hz. **NOTE:** The Rate value is specified as a note value.
Rate #	0.05–10.00 Hz, note	Frequency of the change
Depth #	0–127	Depth to which the effect is applied
Low Gain	-15–+15 dB	Amount of low-range boost/cut
High Gain	-15–+15 dB	Amount of high-range boost/cut
Level	0–127	Output volume

18: Slicer (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.

You can use MFX CONTROL to restart the step sequence from the beginning (p. 54).

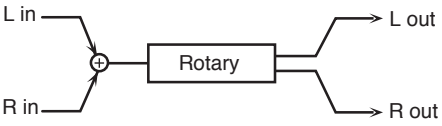


Parameter	Value	Explanation
Step 01–16	0–127	Level at each step
Sync	Hz, NOTE	**Hz:** The Rate value is specified in Hz. **NOTE:** The Rate value is specified as a note value.
Rate #	0.05–10.00 Hz, note	Rate at which the 16-step sequence will cycle
Attack #	0–127	Speed at which the level changes between steps
In Sync Sw (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)
In Sync Thre (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 volume

19: Rotary 1 (Rotary 1)

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 tones.

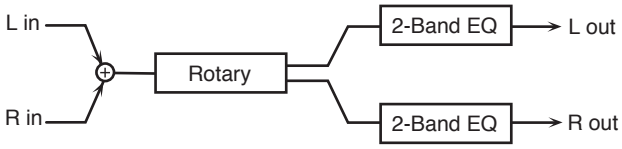


Parameter	Value	Explanation
Speed #	SLOW, FAST	Simultaneously switch the rotational speed of the low frequency rotor and high frequency rotor. **SLOW:** Slows down the rotation to the Slow Rate. **FAST:** Speeds up the rotation to the Fast Rate.
Wf Slow (Woofer Slow Speed)	0.05–10.00 Hz	Slow speed (SLOW) of the low frequency rotor
Wf Fast (Woofer Fast Speed)	0.05–10.00 Hz	Fast speed (FAST) of the low frequency rotor
Wf Accel (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.
Wf Level (Woofer Level)	0–127	Volume of the low frequency rotor
Tw Slow (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
Tw Fast (Tweeter Fast Speed)	0.05–10.00 Hz	
Tw Accel (Tweeter Acceleration)	0–15	
Tw Level (Tweeter Level)	0–127	
Separation	0–127	Spatial dispersion of the sound
Level #	0–127	Output volume

20: Rotary 2 (Rotary 2)

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

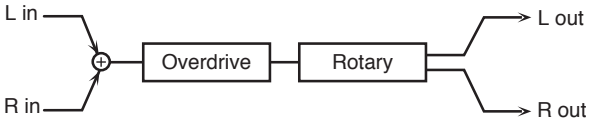
This effect features the same specifications as the VK-7's built-in rotary speaker.



Parameter	Value	Explanation
Speed #	SLOW, FAST	Rotational speed of the rotating speaker **SLOW:** Slows down the rotation to the Slow Rate. **FAST:** Speeds up the rotation to the Fast Rate.
Brake #	OFF, ON	Switches the rotation of the rotary speaker. When this is turned on, the rotation will gradually stop. When it is turned off, the rotation will gradually resume.
Wf Slow (Woofer Slow Speed)	0.05–10.00 Hz	Low-speed rotation speed of the woofer
Wf Fast (Woofer Fast Speed)	0.05–10.00 Hz	High-speed rotation speed of the woofer
Wf Trans Up (Woofer Trans Up)	0–127	Adjusts the rate at which the woofer rotation speeds up when the rotation is switched from Slow to Fast.
Wf Trans Dw (Woofer Trans Down)	0–127	Adjusts the rate at which the woofer rotation speeds down when the rotation is switched from Fast to Slow.
Wf Level (Woofer Level)	0–127	Volume of the woofer
Tw Slow (Tweeter Slow Speed)	0.05–10.00 Hz	Settings of the tweeter The parameters are the same as for the woofer.
Tw Fast (Tweeter Fast Speed)	0.05–10.00 Hz	
Tw Trans Up (Tweeter Trans Up)	0–127	
Tw Trans Dw (Tweeter Trans Down)	0–127	
Tw Level (Tweeter Level)	0–127	
Spread	0–10	Sets the rotary speaker stereo image.
Low Gain	-15–+15 dB	Amount of low-range boost/cut
High Gain	-15–+15 dB	Amount of high-range boost/cut
Level #	0–127	Output volume

21: Rotary 3 (Rotary 3)

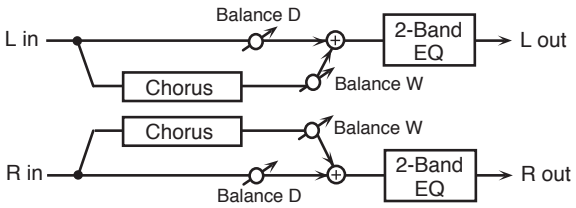
This type includes an overdrive. By distorting the sound you can produce the intense organ sound used in hard rock.



Parameter	Value	Explanation
Speed #	SLOW, FAST	Rotational speed of the rotating speaker **SLOW:** Slows down the rotation to the Slow Rate. **FAST:** Speeds up the rotation to the Fast Rate.
Brake #	OFF, ON	Switches the rotation of the rotary speaker. When this is turned on, the rotation will gradually stop. When it is turned off, the rotation will gradually resume.
Wf Slow (Woofer Slow Speed)	0.05–10.00 Hz	Low-speed rotation speed of the woofer
Wf Fast (Woofer Fast Speed)	0.05–10.00 Hz	High-speed rotation speed of the woofer
Wf Trans Up (Woofer Trans Up)	0–127	Adjusts the rate at which the woofer rotation speeds up when the rotation is switched from Slow to Fast.
Wf Trans Dw (Woofer Trans Down)	0–127	Adjusts the rate at which the woofer rotation speeds down when the rotation is switched from Fast to Slow.
Wf Level (Woofer Level)	0–127	Volume of the woofer
Tw Slow (Tweeter Slow Speed)	0.05–10.00 Hz	Settings of the tweeter The parameters are the same as for the woofer.
Tw Fast (Tweeter Fast Speed)	0.05–10.00 Hz	
Tw Trans Up (Tweeter Trans Up)	0–127	
Tw Trans Dw (Tweeter Trans Down)	0–127	
Tw Level (Tweeter Level)	0–127	
Spread	0–10	Sets the rotary speaker stereo image.
Low Gain	-15–+15 dB	Amount of low-range boost/cut
High Gain	-15–+15 dB	Amount of high-range boost/cut
Level #	0–127	Output volume
OD Switch (Overdrive Switch)	OFF, ON	Overdrive on/off
OD Gain # (Overdrive Gain)	0–127	Overdrive input level Higher values will increase the distortion.
OD Drive # (Overdrive Drive)	0–127	Degree of distortion
OD Level (Overdrive Level)	0–127	Volume of the overdrive

22: Chorus (Chorus)

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



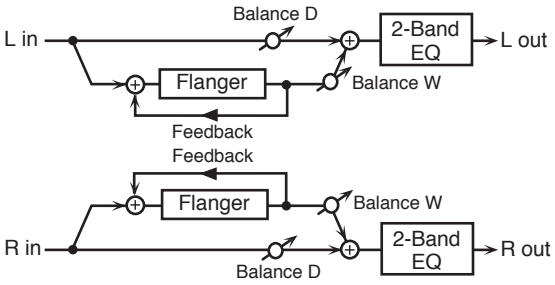
Parameter	Value	Explanation
Filter Type	OFF, LPF, HPF	Type of filter **OFF:** no filter is used **LPF:** cuts the frequency range above the Cutoff **HPF:** cuts the frequency range below the Cutoff
Cof Freq (Cutoff Freq)	200–8000 Hz	Center frequency when using the filter to cut a specific frequency range
Pre Delay	0.0–100.0 ms	Adjusts the delay time from the direct sound until the chorus sound is heard.
Sync	Hz, NOTE	**Hz:** The Rate value is specified in Hz. **NOTE:** The Rate value is specified as a note value.
Rate #	0.05–10.00 Hz, note	Rate of modulation
Depth	0–127	Depth of modulation
Phase	0–180 deg	Spatial spread of the sound
Low Gain	-15–+15 dB	Amount of low-range boost/cut
High Gain	-15–+15 dB	Amount of high-range boost/cut
Balance #	D100:0W–D0:100W	Volume balance between the direct sound (D) and the chorus sound (W)
Level	0–127	Output volume

23: Flanger (Flanger)

This is a stereo flanger (The LFO has the same phase for left and right.).

It produces a metallic resonance that rises and falls like a jet airplane taking off or landing.

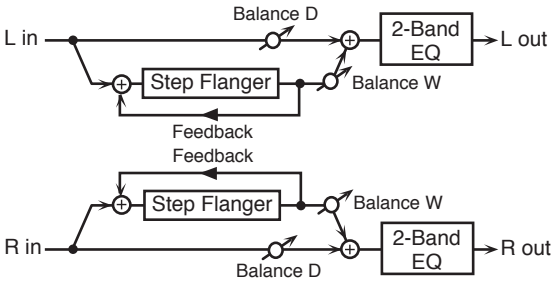
A filter is provided so that you can adjust the timbre of the flanged sound.



Parameter	Value	Explanation
Filter Type	OFF, LPF, HPF	Type of filter **OFF:** no filter is used **LPF:** cuts the frequency range above the Cutoff **HPF:** cuts the frequency range below the Cutoff
Cof Freq (Cutoff Freq)	200–8000 Hz	Center frequency when using the filter to cut a specific frequency range
Pre Delay	0.0–100.0 ms	Adjusts the delay time from the direct sound until the flanger sound is heard.
Sync	Hz, NOTE	**Hz:** The Rate value is specified in Hz. **NOTE:** The Rate value is specified as a note value.
Rate #	0.05–10.00 Hz, note	Rate of modulation
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 (-) values invert the phase.
Low Gain	-15–+15 dB	Amount of low-range boost/cut
High Gain	-15–+15 dB	Amount of high-range boost/cut
Balance #	D100:0W–D0:100W	Volume balance between the direct sound (D) and the flanger sound (W)
Level	0–127	Output volume

24: Step Flg (Step Flanger)

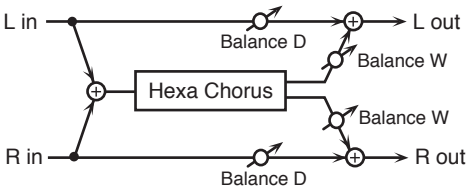
This is a flanger in which the flanger pitch changes in steps. The speed at which the pitch changes can also be specified in terms of a note-value of a specified tempo.



Parameter	Value	Explanation
Filter Type	OFF, LPF, HPF	Type of filter **OFF:** no filter is used **LPF:** cuts the frequency range above the Cutoff **HPF:** cuts the frequency range below the Cutoff
Cof Freq (Cutoff Freq)	200–8000 Hz	Center frequency when using the filter to cut a specific frequency range
Pre Delay	0.0–100.0 ms	Adjusts the delay time from the direct sound until the flanger sound is heard.
Sync	Hz, NOTE	**Hz:** The Rate value is specified in Hz. **NOTE:** The Rate value is specified as a note value.
Rate #	0.05–10.00 Hz, note	Rate of modulation
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 (-) values invert the phase.
Step Sync	Hz, NOTE	**Hz:** The Rate value is specified in Hz. **NOTE:** The Rate value is specified as a note value.
StepRate #	0.10–20.00 Hz, note	Rate (period) of pitch change
Low Gain	-15–+15 dB	Amount of low-range boost/cut
High Gain	-15–+15 dB	Amount of high-range boost/cut
Balance #	D100:0W–D0:100W	Volume balance between the direct sound (D) and the flanger sound (W)
Level	0–127	Output volume

25: Hexa-Cho (Hexa-Chorus)

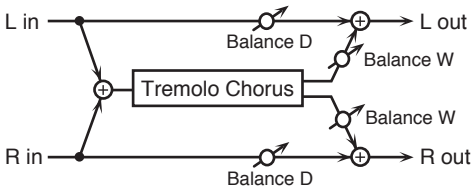
Uses a six-phase chorus (six layers of chorused sound) to give richness and spatial spread to the sound.



Parameter	Value	Explanation
Pre Delay	0.0–100.0 ms	Adjusts the delay time from the direct sound until the chorus sound is heard.
Sync	Hz, NOTE	**Hz:** The Rate value is specified in Hz. **NOTE:** The Rate value is specified as a note value.
Rate #	0.05–10.00 Hz, note	Rate of modulation
Depth	0–127	Depth of modulation
Pre Delay Dev (Pre Delay Deviation)	0–20	Adjusts the differences in Pre Delay between each chorus sound.
Depth Dev (Depth Deviation)	-20–+20	Adjusts the difference in modulation depth between each chorus sound.
Pan Dev (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 volume

26: Tre Cho (Tremolo Chorus)

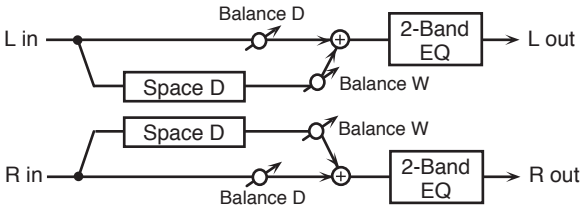
This is a chorus effect with added Tremolo (cyclic modulation of volume).



Parameter	Value	Explanation
Pre Delay	0.0–100.0 ms	Adjusts the delay time from the direct sound until the chorus sound is heard.
ChorusSync	Hz, NOTE	**Hz:** The Cho Rate value is specified in Hz. **NOTE:** The Cho Rate value is specified as a note value.
Cho Rate # (Chorus Rate)	0.05–10.00 Hz, note	Modulation frequency of the chorus effect
Chorus Depth	0–127	Modulation depth of the chorus effect
Trem Sync (Tremolo Sync)	Hz, NOTE	**Hz:** The TremRate value is specified in Hz. **NOTE:** The TremRate value is specified as a note value.
TremRate # (Tremolo Rate)	0.05–10.00 Hz, note	Modulation frequency of the tremolo effect
TremSeparate (Tremolo Separation)	0–127	Spread of the tremolo effect
TremPhase (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 volume

27: Space-D (Space-D)

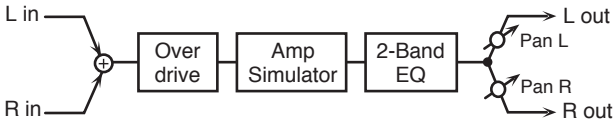
This is a multiple chorus that applies two-phase modulation in stereo. It gives no impression of modulation, but produces a transparent chorus effect.



Parameter	Value	Explanation
Pre Delay	0.0–100.0 ms	Adjusts the delay time from the direct sound until the chorus sound is heard.
Sync	Hz, NOTE	**Hz:** The Rate value is specified in Hz. **NOTE:** The Rate value is specified as a note value.
Rate #	0.05–10.00 Hz, note	Rate of modulation
Depth	0–127	Depth of modulation
Phase	0–180 deg	Spatial spread of the sound
Low Gain	-15–+15 dB	Amount of low-range boost/cut
High Gain	-15–+15 dB	Amount of high-range boost/cut
Balance #	D100:0W–D0:100W	Volume balance between the direct sound (D) and the chorus sound (W)
Level	0–127	Output volume

28: Overdrive (Overdrive)

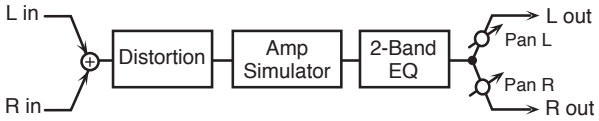
This is an overdrive that provides heavy distortion.



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.
AmpType	SMALL, BUILT-IN, 2-STACK, 3-STACK	Type of guitar amp **SMALL:** small amp **BUILT-IN:** single-unit type amp **2-STACK:** large double stack amp **3-STACK:** large triple stack amp
Low Gain	-15–+15 dB	Amount of low-range boost/cut
High Gain	-15–+15 dB	Amount of high-range boost/cut
Pan #	L64–63R	Stereo location of the output
Level	0–127	Output volume

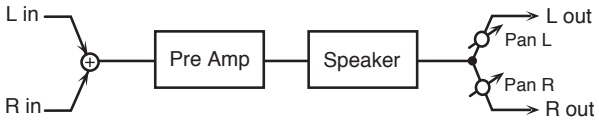
29: Dist. (Distortion)

This is a distortion effect that provides heavy distortion. The parameters are the same as for **"28: Overdrive."**



30: GtrAmp Sim (Guitar Amp Simulator)

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



Parameter	Value	Explanation
Pre Amp Sw	OFF, ON	Turns the amp switch on/off.
Type	JC-120 CLEAN TWIN MATCHDRIVE BG LEAD MS1959I MS1959II MS1959I+II SLDN LEAD METAL5150 METAL LEAD OD-1, OD-2 TURBO DISTORTION FUZZ	Type of guitar amp
Volume #	0–127	Volume and amount of distortion of the amp
Master #	0–127	Volume of the entire pre-amp
Gain	LOW, MIDDLE, HIGH	Amount of pre-amp distortion
Bass	0–127	Tone of the bass/mid/treble frequency range * Middle cannot be set if **"MATCHDRIVE"** is selected as the Type.
Middle		
Treble		
Presence	0–127	Tone for the ultra-high frequency range
Bright	OFF, ON	Turning this **"ON"** produces a sharper and brighter sound. * This parameter applies to the **"JC-120," "Clean Twin,"** and **"BG Lead"** Types.
Speaker Sw	OFF, ON	Selects whether the sound will be sent through the speaker simulation (ON) or not (OFF)
SpType (Speaker Type)	(See the following table)	Type of speaker
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, from 1 to 3, with the microphone becoming more distant as the value increases.
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
Level #	0–127	Output volume

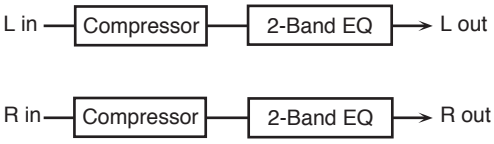
Specifications of each Speaker Type

The speaker column indicates the diameter of each speaker unit (in inches) and the number of units.

Type	Cabinet	Speaker	Microphone
SMALL 1	Small open-back enclosure	10	Dynamic
SMALL 2	Small open-back enclosure	10	Dynamic
MIDDLE	Open back enclosure	12 x 1	Dynamic
JC-120	Open back enclosure	12 x 2	Dynamic
BUILT-IN 1	Open back enclosure	12 x 2	Dynamic
BUILT-IN 2	Open back enclosure	12 x 2	Condenser
BUILT-IN 3	Open back enclosure	12 x 2	Condenser
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

31: Comp (Compressor)

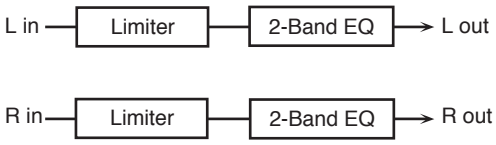
Flattens out high levels and boosts low levels, smoothing out fluctuations in volume.



Parameter	Value	Explanation
Attack #	0–127	Sets the time from when the input exceeds the Threshold until the volume starts being compressed.
Threshold #	0–127	Adjusts the volume at which compression begins.
Post Gain	0–+18 dB	Adjusts the output gain.
Low Gain	-15–+15 dB	Amount of low-range boost/cut
High Gain	-15–+15 dB	Amount of high-range boost/cut
Level #	0–127	Output volume

32: Limiter (Limiter)

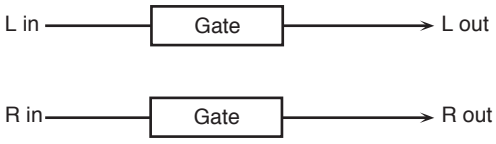
Compresses signals that exceed a specified volume level, preventing distortion from occurring.



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	Amount of low-range boost/cut
High Gain	-15–+15 dB	Amount of high-range boost/cut
Level #	0–127	Output volume

33: Gate (Gate)

Cuts the reverb's decay 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.

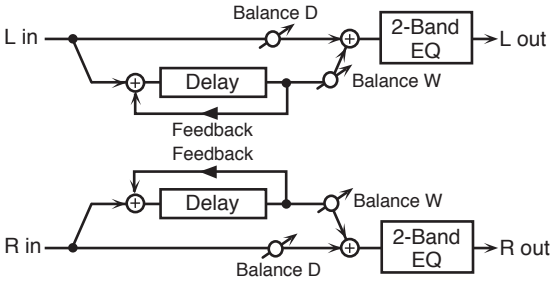


Parameter	Value	Explanation
Threshold #	0–127	Volume level at which the gate begins to close
Mode	GATE, DUCK	Type of gate **GATE:** The gate will close when the volume of the original sound decreases, cutting the original sound. **DUCK (Ducking):** The gate will close when the volume of the original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

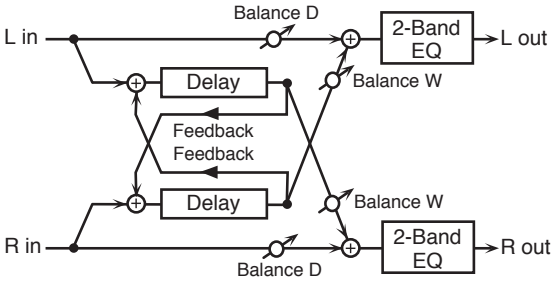
34: Delay (Delay)

This is a stereo delay.

When Feedback Mode is NORMAL:



When Feedback Mode is CROSS:

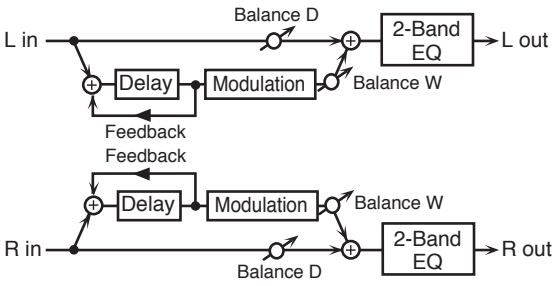


Parameter	Value	Explanation
Dly L/R Sync (Delay Left/Right Sync)	msec, NOTE	**msec:** The Delay L/R value is specified in msec. **NOTE:** The Delay L/R value is specified as a note value.
Delay L/R (Delay Left/Right)	0–1300 ms, note	Adjusts the time until the delay sound is heard.
Phase L/R (Phase Left/Right)	NORMAL, INVERSE	Phase of the delay sound **NORMAL:** Non-inverted **INVERT:** Inverted
FbackMode (Feedback Mode)	NORMAL, CROSS	Selects the way in which delay sound is fed back into the effect. (See the figures.)
Feedback #	-98–+98%	Adjusts the amount of the delay sound that's fed back into the effect. Negative (-) values invert the phase.
HF Damp	200–8000 Hz, BYPASS	Adjusts the frequency above which sound fed back to the effect is filtered out. If you do not want to filter out any high frequencies, set this parameter to BYPASS.
Low Gain	-15–+15 dB	Amount of low-range boost/cut
High Gain	-15–+15 dB	Amount of high-range boost/cut
Balance #	D100:0W–D0:100W	Volume balance between the direct sound (D) and the delay sound (W)
Level	0–127	Output volume

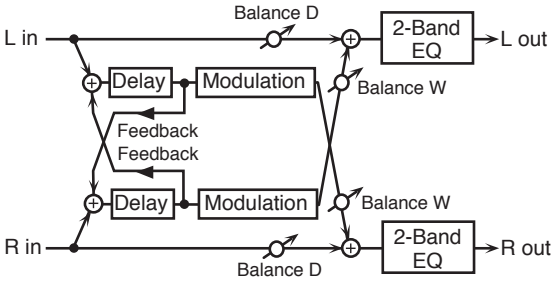
35: Mod Delay (Modulation Delay)

Adds modulation to the delayed sound.

When Feedback Mode is NORMAL:



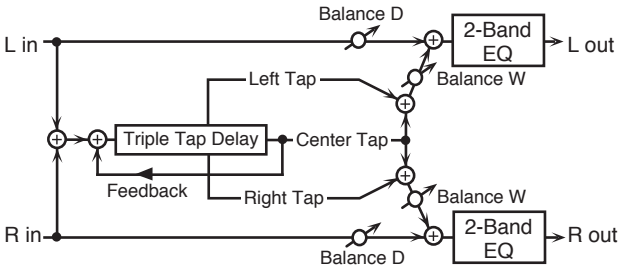
When Feedback Mode is CROSS:



Parameter	Value	Explanation
Dly L/R Sync (Delay Left/Right Sync)	msec, NOTE	**msec:** The Delay L/R value is specified in msec. **NOTE:** The Delay L/R value is specified as a note value.
Delay L/R (Delay Left/Right)	0–1300 ms, note	Adjusts the time until the delay sound is heard.
FbackMode (Feedback Mode)	NORMAL, CROSS	Selects the way in which delay sound is fed back into the effect (See the figures.).
Feedback #	-98–+98%	Adjusts the amount of the delay sound that's fed back into the effect. Negative (-) values invert the phase.
HF Damp	200–8000 Hz, BYPASS	Adjusts the frequency above which sound fed back to the effect is filtered out. If you do not want to filter out any high frequencies, set this parameter to BYPASS.
Sync	Hz, NOTE	**Hz:** The Rate value is specified in Hz. **NOTE:** The Rate value is specified as a note value.
Rate #	0.05–10.00 Hz, note	Frequency of modulation
Depth	0–127	Depth of modulation
Phase	0–180 deg	Spatial spread of the sound
Low Gain	-15–+15 dB	Amount of low-range boost/cut
High Gain	-15–+15 dB	Amount of high-range boost/cut
Balance #	D100:0W–D0:100W	Volume balance between the direct sound (D) and the delay sound (W)
Level	0–127	Output volume

36: 3Tap Delay (3 Tap Pan Delay)

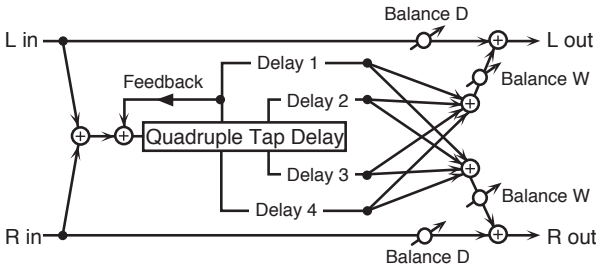
Produces three delay sounds; center, left and right.

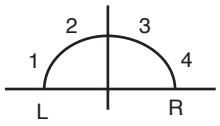


Parameter	Value	Explanation
Dly L/R/C Sync (Delay Left/Right/Center Sync)	msec, NOTE	**msec:** The Delay L/R/C value is specified in msec. **NOTE:** The Delay L/R/C value is specified as a note value.
Delay L/R/C (Delay Left/Right/Center)	0–2600 ms, note	Adjusts the time from the direct sound until the left, right, and center delayed sounds are heard
C Feedback # (Center Feedback)	-98–+98%	Adjusts the amount of the delay sound that's fed back into the effect. Negative (-) values invert the phase.
HF Damp	200–8000 Hz, BYPASS	Adjusts the frequency above which sound fed back to the effect is filtered out. If you do not want to filter out any high frequencies, set this parameter to BYPASS.
Left/Right/ Center Level	0–127	Volume of each delay sound
Low Gain	-15–+15 dB	Amount of low-range boost/cut
High Gain	-15–+15 dB	Amount of high-range boost/cut
Balance #	D100:0W–D0:100W	Volume balance between the direct sound (D) and the delay sound (W)
Level	0–127	Output volume

37: 4Tap Delay (4 Tap Pan Delay)

This effect has four delays.

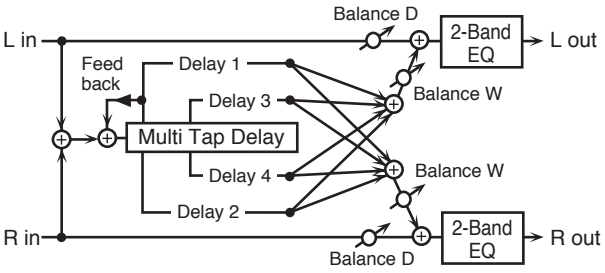




Parameter	Value	Explanation
Dly 1–4 Sync (Delay 1–4 Sync)	msec, NOTE	**msec:** The Dly 1–4 Time value is specified in msec. **NOTE:** The Dly 1–4 Time value is specified as a note value.
Dly 1–4 Time/ Note (Delay 1–4 Time/Note)	0–2600 ms, note	Adjusts the time from the direct sound until delay sounds 1–4 are heard
Dly 1 Fback # (Delay 1 Feedback)	-98–+98%	Adjusts the amount of the delay sound that's fed back into the effect. Negative (-) values invert the phase.
HF Damp	200–8000 Hz, BYPASS	Adjusts the frequency above which sound fed back to the effect is filtered out. If you do not want to filter out any high frequencies, set this parameter to BYPASS.
Dly 1–4 Level (Delay 1–4 Level)	0–127	Volume of each delay
Low Gain	-15–+15 dB	Amount of low-range boost/cut
High Gain	-15–+15 dB	Amount of high-range boost/cut
Balance #	D100:0W–D0:100W	Volume balance between the direct sound (D) and the delay sound (W)
Level	0–127	Output volume

38: Mlt Tap Dly (Multi Tap Delay)

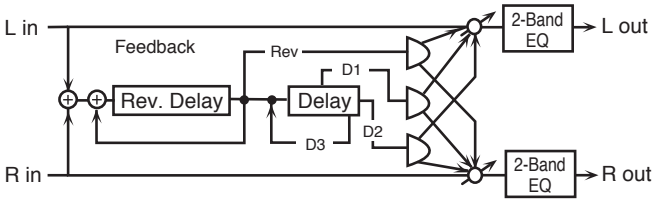
This effect provides four delays. Each of the Delay Time parameters can be set to a note length based on the selected tempo. You can also set the panning and level of each delay sound.



Parameter	Value	Explanation
Dly 1–4 Sync (Delay 1–4 Sync)	msec, NOTE	**msec:** The Dly 1–4 Time value is specified in msec. **NOTE:** The Dly 1–4 Time value is specified as a note value.
Dly 1–4 Time/ NOTE (Delay 1–4 Time/Note)	0–2600 ms, note	Adjusts the time from the direct sound until delay sounds 1–4 are heard
Dly 1 Fback # (Delay 1 Feedback)	-98–+98%	Adjusts the amount of the delay sound that's fed back into the effect. Negative (-) values invert the phase.
HF Damp	200–8000 Hz, BYPASS	Adjusts the frequency above which sound fed back to the effect is filtered out. If you do not want to filter out any high frequencies, set this parameter to BYPASS.
Delay 1–4 Pan	L64–63R	Stereo location of each delay
Dly 1–4 Level (Delay 1–4 Level)	0–127	Volume of each delay
Low Gain	-15–+15 dB	Amount of low-range boost/cut
High Gain	-15–+15 dB	Amount of high-range boost/cut
Balance #	D100:0W–D0:100W	Volume balance between the direct sound (D) and the effect sound (W)
Level	0–127	Output volume

39: Rvs Delay (Reverse Delay)

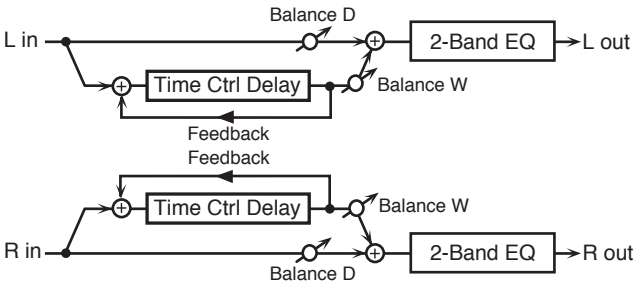
This is a reverse delay that adds a reversed and delayed sound to the input sound. A tap delay is connected immediately after the reverse delay.



Parameter	Value	Explanation
Threshold	0–127	Volume at which the reverse delay will begin to be applied
R-Dly Sync (Reverse Delay Sync)	msec, NOTE	**msec:** The R-Dly Time/Note value is specified in msec. **NOTE:** The R-Dly Time/Note value is specified as a note value.
R-Dly Time/Note (Reverse Delay Time/Note)	0–1300 ms, note	Delay time from when sound is input into the reverse delay until the delay sound is heard
R-Dly Fback # (Reverse 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.
R HF Damp (Reverse Delay HF Damp)	200–8000 Hz, BYPASS	Frequency at which the high-frequency content of the reverse-delayed sound will be cut. If you do not want to filter out any high frequencies, set this parameter to BYPASS.
R-Dly Pan (Reverse Delay Pan)	L64–63R	Stereo location of the reverse delay sound
R-Dly Level (Reverse Delay Level)	0–127	Volume of the reverse delay sound
Dly 1–3 Sync (Delay 1–3 Sync)	msec, NOTE	**msec:** The Delay 1–3 Time/Note value is specified in msec. **NOTE:** The Delay 1–3 Time/Note value is specified as a note value.
Dly 1–3 Time/Note (Delay 1–3 Time/Note)	0–1300 ms, note	Delay time from when sound is input into the tap delay until the delay sound is heard
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.
D HF Damp (Tap Delay HF Damp)	200–8000 Hz, BYPASS	Frequency at which the hi-frequency content of the tap delay sound will be cut. If you do not want to filter out any high frequencies, set this parameter to BYPASS.
Delay 1/2 Pan	L64–63R	Stereo location of the tap delay sounds
Dly 1/2 Level (Delay 1/2 Level)	0–127	Volume of the tap delay sounds
Low Gain	-15–+15 dB	Amount of low-range boost/cut
High Gain	-15–+15 dB	Amount of high-range boost/cut
Balance #	D100:0W–D0:100W	Volume balance between the direct sound (D) and the delay sound (W)
Level	0–127	Output volume

40: Tm Ctrl Dly (Time Ctrl Delay)

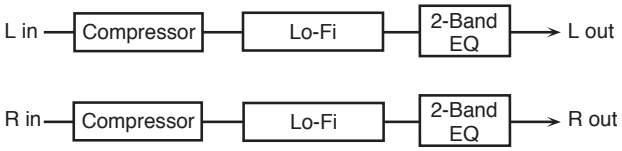
A stereo delay in which the delay time can be varied smoothly.



Parameter	Value	Explanation
Delay Sync	msec, NOTE	**msec:** The Dly Time/Note value is specified in msec. **NOTE:** The Dly Time/Note value is specified as a note value.
Dly Time/NOTE # (Delay Time/Note)	0–1300 ms, note	Delay time from the direct sound until the delay sound is heard
Acceleration	0–15	Adjusts the speed which the Delay Time changes from the current setting to a specified new setting. The rate of change for the Delay Time directly affects the rate of pitch change.
Feedback #	-98–+98%	Adjusts the amount of the delay sound that's fed back into the effect. Negative (-) values invert the phase.
HF Damp	200–8000 Hz, BYPASS	Adjusts the frequency above which sound fed back to the effect is filtered out. If you do not want to filter out any high frequencies, set this parameter to BYPASS.
Low Gain	-15–+15 dB	Amount of low-range boost/cut
High Gain	-15–+15 dB	Amount of high-range boost/cut
Balance #	D100:0W–D0:100W	Volume balance between the direct sound (D) and the delay sound (W)
Level	0–127	Output volume

41: LOFI Comp (Lo-Fi Compress)

This is an effect that intentionally degrades the sound quality for creative purposes.

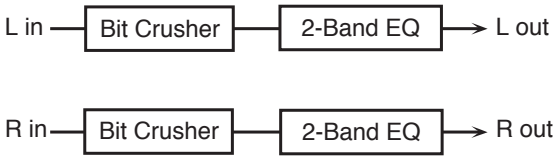


Parameter	Value	Explanation
PreFilter Type	1–6	Selects the type of filter applied to the sound before it passes through the Lo-Fi effect. **1:** Compressor off **2–6:** Compressor on
LoFi Type	1–9	Degrades the sound quality. The sound quality grows poorer as this value is increased.
PostFlt Type	OFF, LPF, HPF	Type of filter **OFF:** no filter is used **LPF:** cuts the frequency range above the Cutoff **HPF:** cuts the frequency range below the Cutoff
PostCutof	200–8000 Hz	Basic frequency of the Post Filter
Low Gain	-15–+15 dB	Amount of low-range boost/cut

Parameter	Value	Explanation
High Gain	-15–+15 dB	Amount of high-range boost/cut
Balance #	D100:0W–D0:100W	Volume balance between the direct sound (D) and the effect sound (W)
Level #	0–127	Output volume

42: BitCrusher (Bit Crusher)

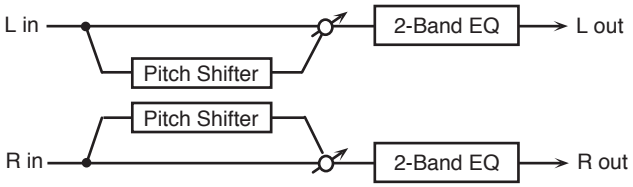
This creates a lo-fi sound.



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	Amount of low-range boost/cut
High Gain	-15–+15 dB	Amount of high-range boost/cut
Level	0–127	Output volume

43: Pitch Sft (Pitch Shifter)

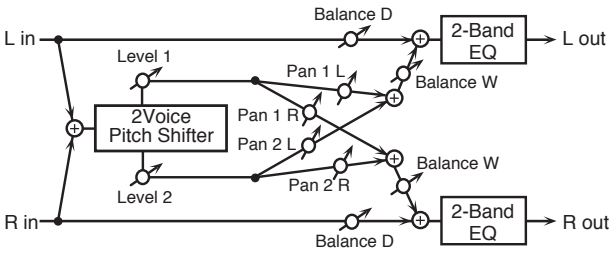
This is a stereo pitch shifter.



Parameter	Value	Explanation
Coarse #1	-24–+12 semi	Adjusts the pitch of the pitch shifted sound in semitone steps.
Fine #1	-100–+100 cent	Adjusts the pitch of the pitch shifted sound in 2-cent steps.
Delay Sync	msec, NOTE	**msec:** The Dly Time/Note value is specified in msec. **NOTE:** The Dly Time/Note value is specified as a note value.
Dly Time/Note (Delay Time/Note)	0–1300 ms, note	Adjusts the delay time from the direct sound until the pitch shifted sound is heard.
Feedback #	-98–+98%	Adjusts the proportion of the pitch shifted sound that is fed back into the effect. Negative (-) values invert the phase.
Low Gain	-15–+15 dB	Amount of low-range boost/cut
High Gain	-15–+15 dB	Amount of high-range boost/cut
Balance #	D100:0W–D0:100W	Volume balance between the direct sound (D) and the pitch shifted sound (W)
Level	0–127	Output volume

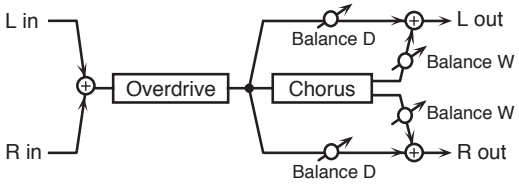
44: 2Voice PS (2 Voice Pitch Shifter)

This shifts the pitch of the original sound. This can add two pitch shifted sounds to the original sound.



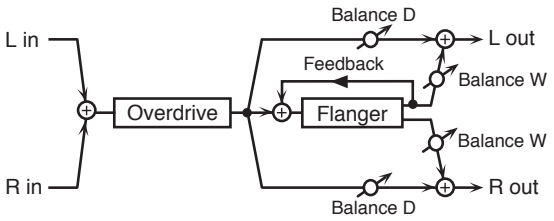
Parameter	Value	Explanation
P1 Coarse #1 (Pitch1 Coarse)	-24–+12 semi	Adjusts the pitch of Pitch Shift 1 in semitone steps.
P1 Fine #1 (Pitch1 Fine)	-100–+100 cent	Adjusts the pitch of Pitch Shift 1 in 2-cent steps.
P1Dly Sync (Pitch1 Delay Sync)	msec, NOTE	**msec:** The P1 Delay value is specified in msec. **NOTE:** The P1 Delay value is specified as a note value.
P1 Delay (Pitch1 Delay)	0–1300 ms, note	Adjusts the delay time from the direct sound until the Pitch Shift 1 sound is heard.
P1 Feedback # (Pitch1 Feedback)	-98–+98%	Adjusts the proportion of the pitch shifted sound that is fed back into the effect. Negative (-) values 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
P2 Coarse #2 (Pitch2 Coarse)	-24–+12 semi	Settings of the Pitch Shift 2 sound. The parameters are the same as for the Pitch Shift 1 sound.
P2 Fine #2 (Pitch2 Fine)	-100–+100 cent	
P2Dly Sync (Pitch2 Delay Sync)	msec, NOTE	
P2 Delay (Pitch2 Delay)	0–1300 ms, note	
P2 Feedback # (Pitch2 Feedback)	-98–+98%	
Pitch2 Pan #	L64–63R	
Pitch2 Level	0–127	
Low Gain	-15–+15 dB	Amount of low-range boost/cut
High Gain	-15–+15 dB	Amount of high-range boost/cut
Balance #	D100:0W–D0:100W	Volume balance between the direct sound (D) and the pitch shifted sound (W)
Level	0–127	Output volume

45: Od->Cho (Overdrive → Chorus)



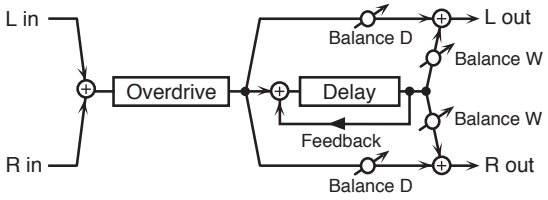
Parameter	Value	Explanation
OD Drive # (Overdrive Drive)	0–127	Degree of distortion Also changes the volume.
OD Pan # (Overdrive Pan)	L64–63R	Stereo location of the overdrive sound
Cho PreDly (Chorus Pre Delay)	0.0–100.0 ms	Adjusts the delay time from the direct sound until the chorus sound is heard.
ChorusSync	Hz, NOTE	**Hz:** The Cho Rate value is specified in Hz. **NOTE:** The Cho Rate value is specified as a note value.
Cho Rate # (Chorus Rate)	0.05–10.00 Hz, note	Rate of modulation
Chorus Depth	0–127	Depth of modulation
Cho Bal # (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 volume

46: Od->Flg (Overdrive → Flanger)



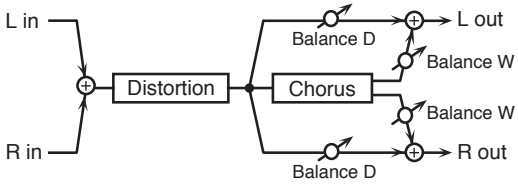
Parameter	Value	Explanation
OD Drive # (Overdrive Drive)	0–127	Degree of distortion Also changes the volume.
OD Pan # (Overdrive Pan)	L64–63R	Stereo location of the overdrive sound
Flg PreDly (Flanger Pre Delay)	0.0–100.0 ms	Adjusts the delay time from the direct sound until the flanger sound is heard.
Flg Sync (Flanger Sync)	Hz, NOTE	**Hz:** The Flg Rate value is specified in Hz. **NOTE:** The Flg Rate value is specified as a note value.
Flg Rate # (Flanger Rate)	0.05–10.00 Hz, note	Rate of modulation
Flg Depth (Flanger Depth)	0–127	Depth of modulation
FlgFeedback # (Flanger Feedback)	-98–+98%	Adjusts the proportion of the flanger sound that is fed back into the effect. Negative (-) values invert the phase.
Flg Bal # (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 volume

47: Od->Dly (Overdrive → Delay)



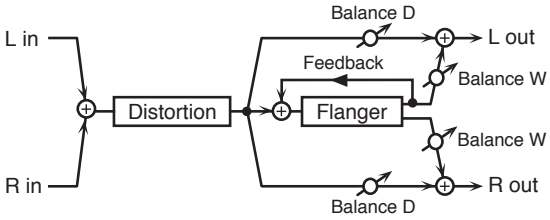
Parameter	Value	Explanation
OD Drive # (Overdrive)	0–127	Degree of distortion Also changes the volume.
OD Pan # (Overdrive Pan)	L64–63R	Stereo location of the overdrive sound
Delay Sync	msec, Note	**msec:** The Dly Time/Note value is specified in msec. **NOTE:** The Dly Time/Note value is specified as a note value.
Dly Time/Note (Delay Time/Note)	0–2600 ms, note	Adjusts the delay time from the direct sound until the delay sound is heard.
DlyFeedback # (Delay Feedback)	-98–+98%	Adjusts the proportion of the delay sound that is fed back into the effect. Negative (-) values invert the phase.
D HF Damp	200–8000 Hz, BYPASS	Adjusts the frequency above which sound fed back to the effect will be cut. If you do not want to cut the high frequencies, set this parameter to BYPASS.
Dly Bal # (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 volume

48: Dist->Cho (Distortion → Chorus)



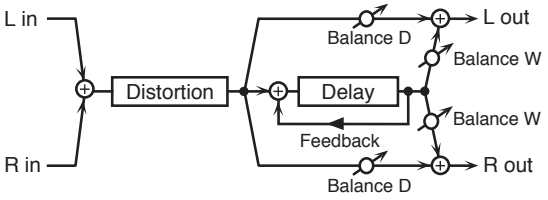
Parameter	Value	Explanation
Dist Drive # (Distortion Drive)	0–127	Degree of distortion Also changes the volume.
Dist Pan # (Distortion Pan)	L64–63R	Stereo location of the distortion sound
Cho PreDly (Chorus Pre Delay)	0.0–100.0 ms	Adjusts the delay time from the direct sound until the chorus sound is heard.
ChorusSync	Hz, NOTE	**Hz:** The Cho Rate value is specified in Hz. **NOTE:** The Cho Rate value is specified as a note value.
Cho Rate # (Chorus Rate)	0.05–10.00 Hz, note	Rate of modulation
Chorus Depth	0–127	Depth of modulation
Cho Bal # (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 volume

49: Dist->Flg (Distortion → Flanger)



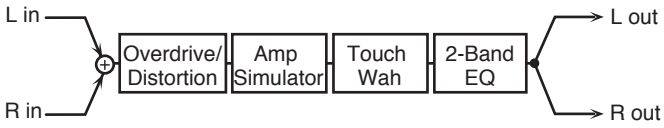
Parameter	Value	Explanation
Dist Drive # (Distortion Drive)	0–127	Degree of distortion Also changes the volume.
Dist Pan # (Distortion Pan)	L64–63R	Stereo location of the distortion sound
Flg PreDly (Flanger Pre Delay)	0.0–100.0 ms	Adjusts the delay time from the direct sound until the flanger sound is heard.
Flg Sync (Flanger Sync)	Hz, NOTE	**Hz:** The Flg Rate value is specified in Hz. **NOTE:** The Flg Rate value is specified as a note value.
Flg Rate # (Flanger Rate)	0.05–10.00 Hz, note	Rate of modulation
Flg Depth (Flanger Depth)	0–127	Depth of modulation
FlgFeedback # (Flanger Feedback)	-98–+98%	Adjusts the proportion of the flanger sound that is fed back into the effect. Negative (-) values invert the phase.
Flg Bal # (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 volume

50: Dist->Dly (Distortion → Delay)



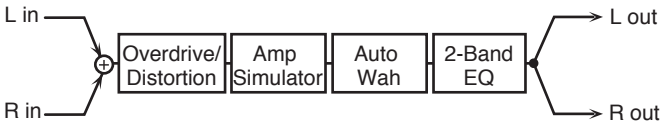
Parameter	Value	Explanation
Dist Drive # (Distortion Drive)	0–127	Degree of distortion Also changes the volume.
Dist Pan # (Distortion Pan)	L64–63R	Stereo location of the distortion sound
Delay Sync	msec, Note	**msec:** The Dly Time/Note value is specified in msec. **NOTE:** The Dly Time/Note value is specified as a note value.
Dly Time/Note (Delay Time/Note)	0–2600 ms, note	Adjusts the delay time from the direct sound until the delay sound is heard.
DlyFeedback # (Delay Feedback)	-98–+98%	Adjusts the proportion of the delay sound that is fed back into the effect. Negative (-) values invert the phase.
D HF Damp	200–8000 Hz, BYPASS	Adjusts the frequency above which sound fed back to the effect will be cut. If you do not want to cut the high frequencies, set this parameter to BYPASS.
Dly Bal # (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 volume

51: OD/DS->TWah (OD/DS → Touch Wah)



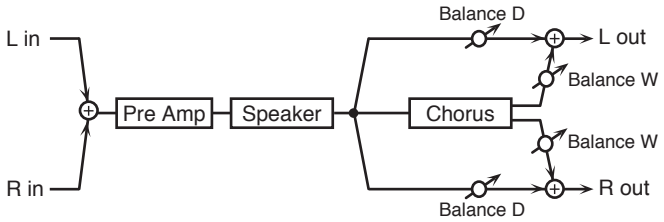
Parameter	Value	Explanation
Drive Switch	OFF, ON	Turns overdrive/distortion on/off
Type	OVERDRIVE, DISTORTION	Type of distortion
Drive #	0–127	Degree of distortion Also changes the volume.
Tone #	0–127	Sound quality of the effect
Amp Switch	OFF, ON	Turns the Amp Simulator on/off.
AmpType	SMALL, BUILT-IN, 2-STACK, 3-STACK	Type of guitar amp **SMALL:** small amp **BUILT-IN:** single-unit type amp **2-STACK:** large double stack amp **3-STACK:** large triple stack amp
Touch Wah Sw (Touch Wah Switch)	OFF, ON	Wah on/off
TWah FilterType (Touch Wah 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.
TWah Polar (Touch Wah Polarity)	DOWN, UP	Sets the direction in which the frequency will change when the touch-wah filter is modulated. **UP:** The filter will change toward a higher frequency. **DOWN:** The filter will change toward a lower frequency.
TWah Sens # (Touch Wah Sens)	0–127	Sensitivity with which the filter is modified
TWah Manual # (Touch Wah Manual)	0–127	Center frequency at which the wah effect is applied
TWah Peak # (Touch Wah Peak)	0–127	Width of the frequency region at which the wah effect is applied. Increasing this value will make the frequency region narrower.
TWah Bal # (Touch Wah Balance)	D100:0W–D0:100W	Adjusts the volume balance between the sound that is sent through the wah (W) and the sound that is not sent through the wah (D).
Low Gain	-15–+15 dB	Amount of low-range boost/cut
High Gain	-15–+15 dB	Amount of high-range boost/cut
Level	0–127	Output volume

52: OD/DS->AWah (OD/DS → Auto Wah)



Parameter	Value	Explanation
Drive Switch	OFF, ON	Turns overdrive/distortion on/off
Type	OVERDRIVE, DISTORTION	Type of distortion
Drive #	0–127	Degree of distortion Also changes the volume.
Tone #	0–127	Sound quality of the effect
Amp Switch	OFF, ON	Turns the Amp Simulator on/off.
AmpType	SMALL, BUILT-IN, 2-STACK, 3-STACK	Type of guitar amp **SMALL:** small amp **BUILT-IN:** single-unit type amp **2-STACK:** large double stack amp **3-STACK:** large triple stack amp
Auto Wah Sw	OFF, ON	Wah on/off
AWah FltType (Auto Wah 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.
AWah Manual # (Auto Wah Manual)	0–127	Center frequency at which the wah effect is applied
AWah Peak # (Auto Wah Peak)	0–127	Width of the frequency region at which the wah effect is applied Increasing this value will make the frequency region narrower.
AWah Sync (Auto Wah Sync)	Hz, NOTE	**Hz:** The AWah Rate value is specified in Hz. **NOTE:** The AWah Rate value is specified as a note value.
AWah Rate # (Auto Wah Rate)	0.05–10.00 Hz, note	Rate at which the wah effect is modulated
AWah Depth # (Auto Wah Depth)	0–127	Depth at which the wah effect is modulated
AWah Bal # (Auto Wah Balance)	D100:0W–D0:100W	Adjusts the volume balance between the sound that is sent through the wah (W) and the sound that is not sent through the wah (D).
Low Gain	-15–+15 dB	Amount of low-range boost/cut
High Gain	-15–+15 dB	Amount of high-range boost/cut
Level	0–127	Output volume

53: AmpSim->Cho (Guitar Amp Sim → Chorus)



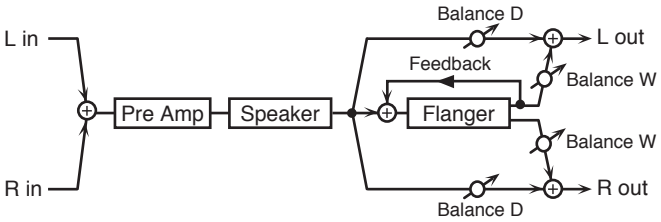
Parameter	Value	Explanation
Pre Amp Sw	OFF, ON	Turns the amp switch on/off.
Type	Type of guitar amp	JC-120, CLEAN TWIN, MATCHDRIVE, BG LEAD, MS1959I, MS1959II, MS1959I+II, SLDN LEAD, METAL5150, METAL LEAD, OD-1, OD-2 TURBO, DISTORTION, FUZZ
Volume #	0–127	Volume and amount of distortion of the amp
Master #	0–127	Volume of the entire pre-amp
Gain	LOW, MIDDLE, HIGH	Amount of pre-amp distortion
Bass	0–127	Tone of the bass/mid/treble frequency range * Middle cannot be set if **"MATCHDRIVE"** is selected as the Type.
Middle	0–127	
Treble	0–127	
Speaker Sw (Speaker Switch)	OFF, ON	Selects whether the sound will be sent through the speaker simulation (ON) or not (OFF)
SpType (Speaker Type)	(See the following table)	Type of speaker
Chorus Sw # (Chorus Switch)	OFF, ON	Chorus on/off
Chorus PreDly (Chorus Pre Delay)	0.0–100.0 ms	Adjusts the delay time from the direct sound until the chorus sound is heard.
Cho Rate (Hz) # (Chorus Rate)	0.05–10.00 Hz	Rate of modulation
Cho Depth # (Chorus Depth)	0–127	Depth of modulation
Cho Bal # (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 volume

Specifications of each Speaker Type

The speaker column indicates the diameter of each speaker unit (in inches) and the number of units.

Type	Cabinet	Speaker	Microphone
SMALL 1	Small open-back enclosure	10	Dynamic
SMALL 2	Small open-back enclosure	10	Dynamic
MIDDLE	Open back enclosure	12 x 1	Dynamic
JC-120	Open back enclosure	12 x 2	Dynamic
BUILT-IN 1	Open back enclosure	12 x 2	Dynamic
BUILT-IN 2	Open back enclosure	12 x 2	Condenser
BUILT-IN 3	Open back enclosure	12 x 2	Condenser
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

54: AmpSim->Flg (Guitar Amp Sim → Flanger)



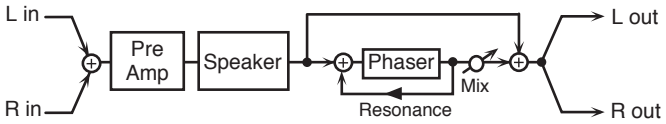
Parameter	Value	Explanation
Pre Amp Sw	OFF, ON	Turns the amp switch on/off.
Type	Type of guitar amp	JC-120, CLEAN TWIN, MATCHDRIVE, BG LEAD, MS1959I, MS1959II, MS1959I+II, SLDN LEAD, METAL5150, METAL LEAD, OD-1, OD-2 TURBO, DISTORTION, FUZZ
Volume #	0–127	Volume and amount of distortion of the amp
Master #	0–127	Volume of the entire pre-amp
Gain	LOW, MIDDLE, HIGH	Amount of pre-amp distortion
Bass	0–127	Tone of the bass/mid/treble frequency range * Middle cannot be set if **"MATCHDRIVE"** is selected as the Type.
Middle	0–127	
Treble	0–127	
Speaker Sw (Speaker Switch)	OFF, ON	Selects whether the sound will be sent through the speaker simulation (ON) or not (OFF)
SpType (Speaker Type)	(See the following table)	Type of speaker
Flanger Sw # (Flanger Switch)	OFF, ON	Flanger on/off
Flg PreDly (Flanger Pre Delay)	0.0–100.0 ms	Adjusts the delay time from the direct sound until the flanger sound is heard.
Flg Rate (Hz) # (Flanger Rate)	0.05–10.00 Hz	Rate of modulation
Flg Depth # (Flanger Depth)	0–127	Depth of modulation
FlgFeedback # (Flanger Feedback)	-98–+98%	Adjusts the proportion of the flanger sound that is fed back into the effect. Negative (-) values invert the phase.
Flg Bal # (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 volume

Specifications of each Speaker Type

The speaker column indicates the diameter of each speaker unit (in inches) and the number of units.

Type	Cabinet	Speaker	Microphone
SMALL 1	Small open-back enclosure	10	Dynamic
SMALL 2	Small open-back enclosure	10	Dynamic
MIDDLE	Open back enclosure	12 x 1	Dynamic
JC-120	Open back enclosure	12 x 2	Dynamic
BUILT-IN 1	Open back enclosure	12 x 2	Dynamic
BUILT-IN 2	Open back enclosure	12 x 2	Condenser
BUILT-IN 3	Open back enclosure	12 x 2	Condenser
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

55: AmpSim->Ph (Guitar Amp Sim → Phaser)



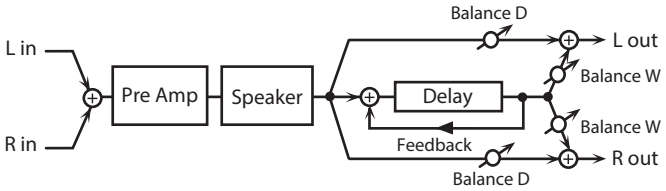
Parameter	Value	Explanation
Pre Amp Sw	OFF, ON	Turns the amp switch on/off.
Type	Type of guitar amp	JC-120, CLEAN TWIN, MATCHDRIVE, BG LEAD, MS1959I, MS1959II, MS1959I+II, SLDN LEAD, METAL5150, METAL LEAD, OD-1, OD-2 TURBO, DISTORTION, FUZZ
Volume #	0–127	Volume and amount of distortion of the amp
Master #	0–127	Volume of the entire pre-amp
Gain	LOW, MIDDLE, HIGH	Amount of pre-amp distortion
Bass	0–127	Tone of the bass/mid/treble frequency range * Middle cannot be set if **"MATCHDRIVE"** is selected as the Type.
Middle	0–127	
Treble	0–127	
Speaker Sw (Speaker Switch)	OFF, ON	Selects whether the sound will be sent through the speaker simulation (ON) or not (OFF)
SpType (Speaker Type)	(See the following table)	Type of speaker
Phs Switch # (Phaser Switch)	OFF, ON	Phaser on/off
Phs Rate (Hz) # (Phaser Rate)	0.05–10.00 Hz	Modulation rate
Phs Manual # (Phaser Manual)	0–127	Center frequency at which the sound is modulated
Phs Depth # (Phaser Depth)	0–127	Modulation depth
Phs Reso # (Phaser Resonance)	0–127	Amount of feedback
Phs Mix # (Phaser Mix)	0–127	Volume of phase-shifted sound
Level	0–127	Output volume

Specifications of each Speaker Type

The speaker column indicates the diameter of each speaker unit (in inches) and the number of units.

Type	Cabinet	Speaker	Microphone
SMALL 1	Small open-back enclosure	10	Dynamic
SMALL 2	Small open-back enclosure	10	Dynamic
MIDDLE	Open back enclosure	12 x 1	Dynamic
JC-120	Open back enclosure	12 x 2	Dynamic
BUILT-IN 1	Open back enclosure	12 x 2	Dynamic
BUILT-IN 2	Open back enclosure	12 x 2	Condenser
BUILT-IN 3	Open back enclosure	12 x 2	Condenser
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

56: AmpSim->Dly (Guitar Amp Sim → Delay)



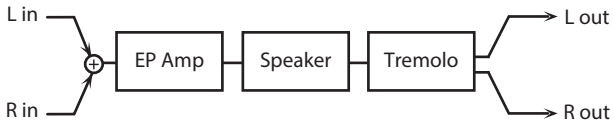
Parameter	Value	Explanation
Pre Amp Sw	OFF, ON	Turns the amp switch on/off.
Type	Type of guitar amp	JC-120, CLEAN TWIN, MATCHDRIVE, BG LEAD, MS1959I, MS1959II, MS1959I+II, SLDN LEAD, METAL5150, METAL LEAD, OD-1, OD-2 TURBO, DISTORTION, FUZZ
Volume #	0–127	Volume and amount of distortion of the amp
Master #	0–127	Volume of the entire pre-amp
Gain	LOW, MIDDLE, HIGH	Amount of pre-amp distortion
Bass	0–127	Tone of the bass/mid/treble frequency range * Middle cannot be set if **"MATCHDRIVE"** is selected as the Type.
Middle	0–127	
Treble	0–127	
Speaker Sw (Speaker Switch)	OFF, ON	Selects whether the sound will be sent through the speaker simulation (ON) or not (OFF)
SpType (Speaker Type)	(See the following table)	Type of speaker
Dly Switch # (Delay Switch)	OFF, ON	Delay on/off
Dly Time # (Delay Time)	0–1300 ms	Adjusts the delay time from the direct sound until the delay sound is heard.
DlyFeedback # (Delay Feedback)	-98–+98%	Adjusts the proportion of the delay sound that is fed back into the effect. Negative (-) values invert the phase.
D HF Damp (Delay HF Damp)	200–8000 Hz, BYPASS	Frequency at which the high-frequency content of the delayed sound will be cut (**BYPASS:** no cut)
Dly Bal # (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 volume

Specifications of each Speaker Type

The speaker column indicates the diameter of each speaker unit (in inches) and the number of units.

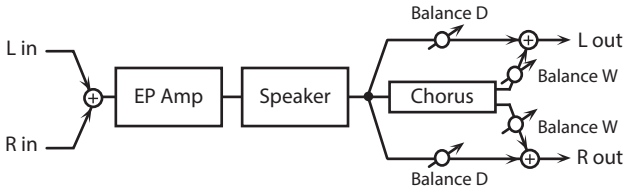
Type	Cabinet	Speaker	Microphone
SMALL 1	Small open-back enclosure	10	Dynamic
SMALL 2	Small open-back enclosure	10	Dynamic
MIDDLE	Open back enclosure	12 x 1	Dynamic
JC-120	Open back enclosure	12 x 2	Dynamic
BUILT-IN 1	Open back enclosure	12 x 2	Dynamic
BUILT-IN 2	Open back enclosure	12 x 2	Condenser
BUILT-IN 3	Open back enclosure	12 x 2	Condenser
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

57: EP->Tre (EP Amp Sim → Tremolo)



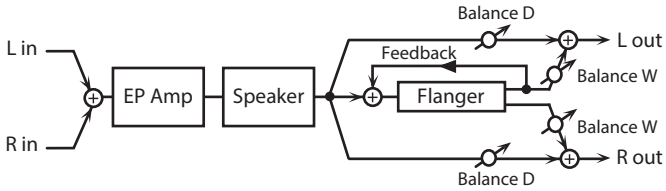
Parameter	Value	Explanation
Type	OLDCASE, NEWCASE, WURLY	Type of amp **OLDCASE:** a standard electric piano sound of the early 70s **NEWCASE:** a standard electric piano sound of the late 70s and early 80s **WURLY:** a standard electric piano sound of the 60s
Bass #	-50–+50	Amount of low-frequency boost/cut
Treble #	-50–+50	Amount of high-frequency boost/cut
Tremolo Sw # (Tremolo Switch)	OFF, ON	Tremolo on/off
Trem Sync (Tremolo Sync)	Hz, NOTE	**Hz:** The TremRate value is specified in Hz. **NOTE:** The TremRate value is specified as a note value.
TremRate # (Tremolo Rate)	0.05–10.00 Hz, note	Rate of the tremolo effect
TremoloDepth #	0–127	Depth of the tremolo effect
Tremolo Duty	-10–+10	Adjusts the duty cycle of the LFO waveform used to apply tremolo.
SpType (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 (Overdrive Switch)	OFF, ON	Overdrive on/off
OD Gain (Overdrive Gain)	0–127	Overdrive input level
OD Drive (Overdrive Drive)	0–127	Degree of distortion
Level	0–127	Output volume

58: EP->Cho (EP Amp Sim → Chorus)



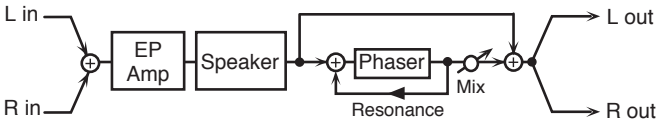
Parameter	Value	Explanation
Type	OLDCASE, NEWCASE, WURLY	Type of amp **OLDCASE:** a standard electric piano sound of the early 70sA **NEWCASE:** a standard electric piano sound of the late 70s and early 80s **WURLY:** a standard electric piano sound of the 60s
Bass #	-50–+50	Amount of low-frequency boost/cut
Treble #	-50–+50	Amount of high-frequency boost/cut
Chorus Sw # (Chorus Switch)	OFF, ON	Chorus on/off
Cho PreDly (Chorus Pre Delay)	0.0–100.0 ms	Adjusts the delay time from the direct sound until the chorus sound is heard.
ChorusSync	Hz, NOTE	**Hz:** The Cho Rate value is specified in Hz. **NOTE:** The Cho Rate value is specified as a note value.
Cho Rate # (Chorus Rate)	0.05–10.00 Hz, note	Rate of modulation
Cho Depth # (Chorus Depth)	0–127	Depth of modulation
Cho Bal # (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).
Sp Type (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 (Overdrive Switch)	OFF, ON	Overdrive on/off
OD Gain (Overdrive Gain)	0–127	Overdrive input level
OD Drive (Overdrive Drive)	0–127	Degree of distortion
Level	0–127	Output volume

59: EP->Flg (EP Amp Sim → Flanger)



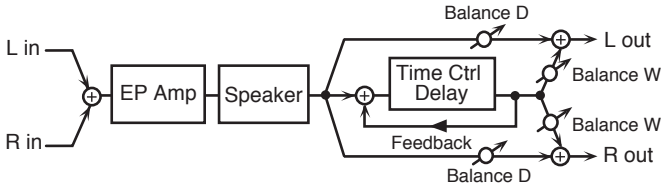
Parameter	Value	Explanation
Type	OLDCASE, NEWCASE, WURLY	Type of amp **OLDCASE:** a standard electric piano sound of the early 70s **NEWCASE:** a standard electric piano sound of the late 70s and early 80s **WURLY:** a standard electric piano sound of the 60s
Bass #	-50–+50	Amount of low-frequency boost/cut
Treble #	-50–+50	Amount of high-frequency boost/cut
Flanger Sw # (Flanger Switch)	OFF, ON	Flanger on/off
Flg PreDly (Flanger Pre Delay)	0.0–100.0 ms	Adjusts the delay time from the direct sound until the flanger sound is heard.
Flg Sync (Flanger Sync)	Hz, NOTE	**Hz:** The Flg Rate value is specified in Hz. **NOTE:** The Flg Rate value is specified as a note value.
Flg Rate # (Flanger Rate)	0.05–10.00 Hz, note	Rate of modulation
Flg Depth # (Flanger Depth)	0–127	Depth of modulation
FlgFeedback # (Flanger Feedback)	-98–+98%	Adjusts the proportion of the flanger sound that is fed back into the effect. Negative (-) values invert the phase.
Flg Bal # (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).
Sp Type (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 (Overdrive Switch)	OFF, ON	Overdrive on/off
OD Gain (Overdrive Gain)	0–127	Overdrive input level
OD Drive (Overdrive Drive)	0–127	Degree of distortion
Level	0–127	Output volume

60: EP->Ph (EP Amp Sim → Phaser)



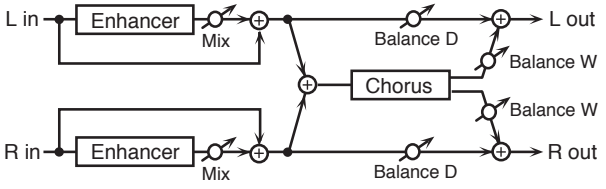
Parameter	Value	Explanation
Type	OLDCASE, NEWCASE, WURLY	Type of amp **OLDCASE:** a standard electric piano sound of the early 70s **NEWCASE:** a standard electric piano sound of the late 70s and early 80s **WURLY:** a standard electric piano sound of the 60s
Bass #	-50–+50	Amount of low-frequency boost/cut
Treble #	-50–+50	Amount of high-frequency boost/cut
Phaser Sw # (Phaser Switch)	OFF, ON	Phaser on/off
Phs Sync (Phaser Sync)	Hz, NOTE	**Hz:** The Phs Rate value is specified in Hz. **NOTE:** The Phs Rate value is specified as a note value.
Phs Rate # (Phaser Rate)	0.05–10.00 Hz, note	Modulation rate
Phs Manual # (Phaser Manual)	0–127	Center frequency at which the sound is modulated
Phs Depth # (Phaser Depth)	0–127	Modulation depth
Phs Reso # (Phaser Resonance)	0–127	Amount of feedback
Phs Mix # (Phaser Mix)	0–127	Volume of phase-shifted sound
Sp Type (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 (Overdrive Switch)	OFF, ON	Overdrive on/off
OD Gain (Overdrive Gain)	0–127	Overdrive input level
OD Drive (Overdrive Drive)	0–127	Degree of distortion
Level	0–127	Output volume

61: EP->Dly (EP Amp Sim → Delay)



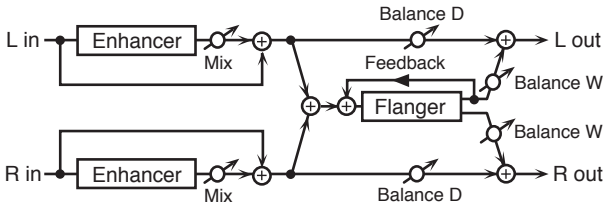
Parameter	Value	Explanation
Type	OLDCASE, NEWCASE, WURLY	Type of amp **OLDCASE:** a standard electric piano sound of the early 70s **NEWCASE:** a standard electric piano sound of the late 70s and early 80s **WURLY:** a standard electric piano sound of the 60s
Bass #	-50–+50	Amount of low-frequency boost/cut
Treble #	-50–+50	Amount of high-frequency boost/cut
Delay Switch #	OFF, ON	Delay on/off
Delay Sync	msec, NOTE	**msec:** The Dly Time/Note value is specified in msec. **NOTE:** The Dly Time/Note value is specified as a note value.
Dly Time/Note # (Delay Time/Note)	0–1300 ms, note	Adjusts the delay time from the direct sound until the delay sound is heard.
Delay Accel (Delay Acceleration)	0–15	Speed at which the current delay time changes to the specified delay time when you change the delay time. The rate of change for the Delay Time directly affects the rate of pitch change.
DlyFeedback # (Delay Feedback)	-98–+98%	Adjusts the proportion of the delay sound that is fed back into the effect. Negative (-) values invert the phase.
D HF Damp (Delay HF Damp)	200–8000 Hz, BYPASS	Adjusts the frequency above which sound fed back to the effect will be cut. If you do not want to cut the high frequencies, set this parameter to BYPASS.
Dly Bal # (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).
Sp Type (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 (Overdrive Switch)	OFF, ON	Overdrive on/off
OD Gain (Overdrive Gain)	0–127	Overdrive input level
OD Drive (Overdrive Drive)	0–127	Degree of distortion
Level	0–127	Output volume

62: Eh->Cho (Enhancer → Chorus)



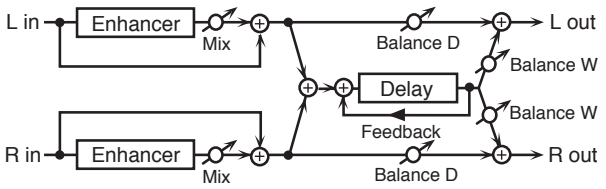
Parameter	Value	Explanation
EnhancerSens #	0–127	Sensitivity of the enhancer
Enhancer Mix #	0–127	Level of the overtones generated by the enhancer
Cho PreDly (Chorus Pre Delay)	0.0–100.0 ms	Adjusts the delay time from the direct sound until the chorus sound is heard.
ChorusSync (Chorus Sync)	Hz, NOTE	**Hz:** The Cho Rate value is specified in Hz. **NOTE:** The Cho Rate value is specified as a note value.
Cho Rate # (Chorus Rate)	0.05–10.00 Hz, note	Rate of modulation
Chorus Depth	0–127	Depth of modulation
Cho Bal # (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 volume

63: Eh->Flg (Enhancer → Flanger)



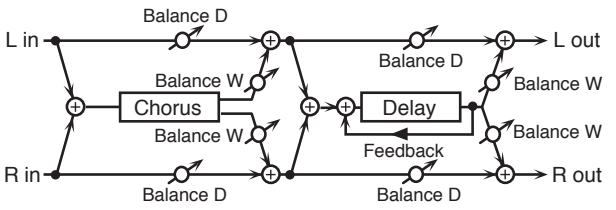
Parameter	Value	Explanation
EnhancerSens #	0–127	Sensitivity of the enhancer
Enhancer Mix #	0–127	Level of the overtones generated by the enhancer
Flg PreDly (Flanger Pre Delay)	0.0–100.0 ms	Adjusts the delay time from the direct sound until the flanger sound is heard.
Flg Sync (Flanger Sync)	Hz, NOTE	**Hz:** The Cho Rate value is specified in Hz. **NOTE:** The Cho Rate value is specified as a note value.
Flg Rate # (Flanger Rate)	0.05–10.00 Hz, note	Rate of modulation
Flg Depth (Flanger Depth)	0–127	Depth of modulation
FlgFeedback # (Flanger Feedback)	-98–+98%	Adjusts the proportion of the flanger sound that is fed back into the effect. Negative (-) values invert the phase.
Flg Bal # (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 volume

64: Eh->Dly (Enhancer → Delay)



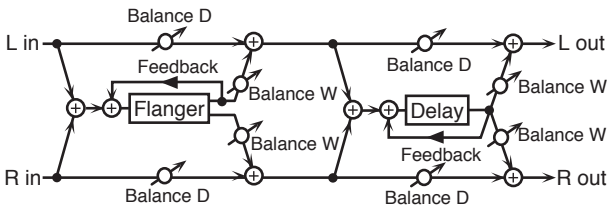
Parameter	Value	Explanation
EnhancerSens #	0–127	Sensitivity of the enhancer
Enhancer Mix #	0–127	Level of the overtones generated by the enhancer
Delay Sync	msec, NOTE	**msec:** The Dly Time/Note value is specified in msec. **NOTE:** The Dly Time/Note value is specified as a note value.
Dly Time/Note (Delay Time/Note)	0–2600 ms, note	Adjusts the delay time from the direct sound until the delay sound is heard.
DlyFeedback # (Delay Feedback)	-98–+98%	Adjusts the proportion of the delay sound that is fed back into the effect. Negative (-) values invert the phase.
D HF Damp (Delay HF Damp)	200–8000 Hz, BYPASS	Adjusts the frequency above which sound fed back to the effect will be cut. If you do not want to cut the high frequencies, set this parameter to BYPASS.
Dly Bal # (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 volume

65: Cho->Dly (Chorus → Delay)



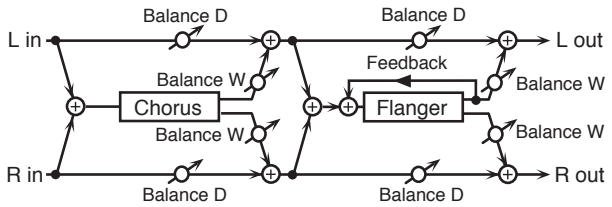
Parameter	Value	Explanation
Cho PreDly (Chorus Pre Delay)	0.0–100.0 ms	Adjusts the delay time from the direct sound until the chorus sound is heard.
ChorusSync	Hz, NOTE	**Hz:** The Cho Rate/Note value is specified in Hz. **NOTE:** The Cho Rate/Note value is specified as a note value.
Cho Rate/Note # (Chorus Rate)	0.05–10.00 Hz, note	Rate of modulation
Chorus Depth	0–127	Depth of modulation
Cho Bal # (Chorus Balance)	D100:0W–D0:100W	Volume balance between the direct sound (D) and the chorus sound (W)
Delay Sync	msec, NOTE	**msec:** The Dly Time/Note value is specified in msec. **NOTE:** The Dly Time/Note value is specified as a note value.
Dly Time/Note (Delay Time/Note)	0–2600 ms, note	Adjusts the delay time from the direct sound until the delay sound is heard.
DlyFeedback # (Delay Feedback)	-98–+98%	Adjusts the proportion of the delay sound that is fed back into the effect. Negative (-) values invert the phase.
D HF Damp (Delay HF Damp)	200–8000 Hz, BYPASS	Adjusts the frequency above which sound fed back to the effect will be cut. If you do not want to cut the high frequencies, set this parameter to BYPASS.
Dly Bal # (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 volume

66: Flg->Dly (Flanger → Delay)



Parameter	Value	Explanation
Flg PreDly (Flanger Pre Delay)	0.0–100.0 ms	Adjusts the delay time from the direct sound until the flanger sound is heard.
Flg Sync (Flanger Sync)	Hz, NOTE	**Hz:** The Flg Rate value is specified in Hz. **NOTE:** The Flg Rate value is specified as a note value.
Flg Rate # (Flanger Rate)	0.05–10.00 Hz, note	Rate of modulation
Flg Depth (Flanger Depth)	0–127	Depth of modulation
FlgFeedback # (Flanger Feedback)	-98–+98%	Adjusts the proportion of the flanger sound that is fed back into the effect. Negative (-) values invert the phase.
Flg Bal # (Flanger Balance)	D100:0W–D0:100W	Volume balance between the direct sound (D) and the flanger sound (W)
Delay Sync	msec, NOTE	**msec:** The Dly Time/Note value is specified in msec. **NOTE:** The Dly Time/Note value is specified as a note value.
Dly Time/Note (Delay Time/Note)	0–2600 ms, note	Adjusts the delay time from the direct sound until the delay sound is heard.
DlyFeedback # (Delay Feedback)	-98–+98%	Adjusts the proportion of the delay sound that is fed back into the effect. Negative (-) values invert the phase.
D HF Damp (Delay HF Damp)	200–8000 Hz, BYPASS	Adjusts the frequency above which sound fed back to the effect will be cut. If you do not want to cut the high frequencies, set this parameter to BYPASS.
Dly Bal # (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 volume

67: Cho->Flg (Chorus → Flanger)



Parameter	Value	Explanation
Cho PreDly (Chorus Pre Delay)	0.0–100.0 ms	Adjusts the delay time from the direct sound until the chorus sound is heard.
ChorusSync	Hz, NOTE	**Hz:** The Cho Rate value is specified in Hz. **NOTE:** The Cho Rate value is specified as a note value.
Cho Rate # (Chorus Rate)	0.05–10.00 Hz, note	Modulation frequency of the chorus effect
Chorus Depth	0–127	Modulation depth of the chorus effect
Cho Bal # (Chorus Balance)	D100:0W–D0:100W	Volume balance between the direct sound (D) and the chorus sound (W)
Flg PreDly (Flanger Pre Delay)	0.0–100.0 ms	Adjusts the delay time from the direct sound until the flanger sound is heard.
Flg Sync (Flanger Sync)	Hz, NOTE	**Hz:** The Flg Rate value is specified in Hz. **NOTE:** The Flg Rate value is specified as a note value.
Flg Rate # (Flanger Rate)	0.05–10.00 Hz, note	Modulation frequency of the flanger effect
Flg Depth (Flanger Depth)	0–127	Modulation depth of the flanger effect
FlgFeedback # (Flanger Feedback)	-98–+98%	Adjusts the proportion of the flanger sound that is fed back into the effect. Negative (-) values invert the phase.
Flg Bal # (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 volume

Note

3	Sixty-fourth-note triplet		Sixty-fourth note	3	Thirty-second-note triplet		Thirty-second note
3	Sixteenth-note triplet		Dotted thirty-second note		Sixteenth note	3	Eighth-note triplet
	Dotted sixteenth note		Eighth note	3	Quarter-note triplet		Dotted eighth note
	Quarter note	3	Half-note triplet		Dotted quarter note		Half note
3	Whole-note triplet		Dotted half note		Whole note	3	Double-note triplet
	Dotted whole note		Double note				

About the STEP RESET Function

04: Step Filter
18: Slicer

The above types contain a sixteen-step sequencer. For these types, you can use an MFX CONTROL to reset the sequence to play from the first step. To do this, set the MFX CONTROL Destination to **"Step Reset."**

For example, if you are using the modulation lever to control the effect, you would make the following settings.

Parameter	Value
Source	**CC01:** Modulation
Destination	Step Reset
Sens	+63

With these settings, the sequence will play back from the first step whenever you operate the modulation lever.

Controlling an MFX via MIDI (MFX CONTROL)

You can use MIDI messages such as control change messages to control the principal MFX parameters. This capability is called **"MFX CONTROL (multi-effects control)."**

The parameters that can be controlled are preset for each MFX type, and are the parameters marked by a **"#"** symbol in the explanations of each MFX parameter on p. 25 and following. Up to four multi-effects control settings can be assigned using MFX CONTROL.

To use MFX CONTROL, you'll need to specify which MIDI message (Source) will affect which parameter (Destination), and how greatly (Sens).

Parameter	Value	Explanation
Source (1–4)	Specifies the MIDI message that will control the corresponding MFX CONTROL parameter.	
	OFF	MFX CONTROL will not be used.
	CC01–31	Controller number 1–31
	CC33–95	Controller number 33–95
	BEND	Pitch bend
	AFT	Aftertouch
	SYS 1–4	Use the controller that is assigned by the System Parameter setting Sys Ctrl 1–4.
Destination (1–4)	Refer to the parameters marked **"#"** on p. 26 and following	Selects the multi-effect parameter that will be controlled by control source 1–4. The type of parameters that can be selected will depend on the type of multi-effect you've selected in MFX Type.
Sens (1–4)	-63–+63	Specifies the depth of MFX CONTROL. Specify a positive (+) value if you want to change the value of the assigned destination in a positive direction (larger, toward the right, faster, etc.), or specify a negative (-) value if you want to change the value in a negative direction (smaller, toward the left, slower, etc.). Larger values will allow a greater amount of control.

Mic Edit

1. Press the **[Menu]** button.

2. Use the cursor **[◄] [►]** buttons to select **"MIC EDIT"** and press the **[Enter]** button.

Menu [Shift] + Cursor [◄] [►]	Parameter Cursor [◄] [►]	Value Value [-] [+]	Explanation
MIC (Microphone)	Phantom Sw (Mic Phantom Switch)	OFF, ON	If you're using a condenser mic, connect it via the balanced (XLR) plug and turn this **"ON"** (phantom power is not supplied to the 1/4" plug). If you're using a dynamic mic, turn this **"OFF."** * You must leave phantom power turned off unless you have connected a condenser mic that requires a phantom power supply. Supplying phantom power to a dynamic mic or an audio playback device can cause malfunctions. For details on mic specifications, refer to the owner's manual of the mic you're using. (This unit's phantom power supply provides DC 48 V, 10 mA maximum.) **MEMO** Phantom power settings are not memorized by the unit. When you turn off the power, the phantom power returns to "OFF."
	Level (Mic Level)	0–127	Adjusts the mic input level.
	Mode (Mic Mode)	Specifies the MIC mode.	
		OFF	The mic is not used.
		VOCODER	The vocoder is used.
		MOD	This is a mic modulation function that lets you use your voice to apply change to the sounds you're playing. Changes in the volume of your voice can vary a parameter of the synthesizer's analog part.
		BYPASS	The voice being input to the mic is output without change.

MIC VOCODER edit (if "VOCODER" is selected as the MIC Mode)

Menu [Shift] + Cursor [◄] [►]	Parameter Cursor [◄] [►]	Value Value [-] [+]	Explanation
MIC VOCODER (Mic Vocoder)	Rev Send (Reverb Send Level)	0–127	Adjusts the amount of reverb for the sound that passes through vocoder.
	Envelope (Vocoder Envelope)	Selects the type of vocalization.	
		SHARP	The human voice is emphasized.
		SOFT	The instrumental sound is emphasized.
		LONG	A vintage sound with a long decay is produced.
	Mic Sens (Mic Sensitivity)	0–127	Specifies the input sensitivity of the mic.
	Synth Level (Vocoder Synth Level)	0–127	Specifies the input level of the instrumental sound.
	Mic Mix (Vocoder Mic Mix Level)	0–127	Specifies the amount of mic sound passing through the Mic HPF (Mic High Pass Filter) that is added to the output of the vocoder.
	Mic HPF (Mic High Pass Filter)	BYPASS, 1000 Hz, 1250 Hz, 1600 Hz, 2000 Hz, 2500 Hz, 3150 Hz, 4000 Hz, 5000 Hz, 6300 Hz, 8000 Hz, 10000 Hz, 12500 Hz, 16000 Hz	Specifies the frequency at which the high-pass filter (HPF) applied to the mic sound starts to take effect. This does nothing if BYPASS is specified.
	Level (Mic Vocoder Level)	0–127	Adjusts the output level of the sound that passes through the vocoder.

MIC MODULATION (if "MOD" is selected as the MIC Mode)

Menu [Shift] + Cursor [◄] [►]	Parameter Cursor [◄] [►]	Value Value [-] [+]	Explanation
MIC MOD (Mic Modulation)	Dest (Mic Modulation Destination)		Here you can specify the parameter that is controlled by the mic modulation function. The following parameters can be controlled. Mic modulation applies only to an analog part (it does not apply to a digital part).
		Not using Mic Modulation	
		OFF	MIC MOD is not used
		Opening and Closing the Filter	
		CUTOFF	Changes the cutoff frequency.
		RESO	Emphasizes the portion of the sound in the region of the cutoff frequency, adding character to the sound.
		Changing the Volume	
		AMP-LEV	Changes the volume.
		Applying Cross Modulation	
		X-MOD	Changes the depth of cross modulation.
		Changing the Pitch	
		PIT-OSC1 PIT-OSC2	Changes the oscillator pitch.
		Adjusting the pulse width.	
		PW-OSC1 PW-OSC2	Adjusts the pulse width. This effect is applied if ⊓⊔ (asymmetrical square wave) is selected as the oscillator waveform.
		Applying LFO to Modulate Sounds	
		PIT-LFO1 PIT-LFO2	Changes the depth at which the LFO modulates the oscillator pitch.
		FLT-LFO1 FLT-LFO2	Changes the depth at which the LFO modulates the filter cutoff frequency.
		AMP-LFO1 AMP-LFO2	Changes the depth at which the LFO modulates the amp volume.
		LFO1 RATE LFO2 RATE	Adjusts the modulation speed of the LFO. If the LFO's Tempo Sync is ON, the speed does not change.
	Sens (Mic Modulation Sensitivity)	-63–0–+63	Specifies the depth of modulation. If you wish to modify the selected parameter in a positive (+) direction – i.e., a higher value or faster etc. – from its current setting, select a positive (+) value. If you wish to modify the selected parameter in a negative (-) direction – i.e., a lower value or slower etc. – from its current setting, select a negative (-) value. For either positive or negative settings, greater absolute values will allow greater amounts of change. Set this to **"0"** if you don't want to apply the effect.

MIDI Control

Operations on the JD-XA's panel can be transmitted as MIDI messages from the MIDI OUT connector or USB MIDI OUT.

1. Press the [MIDI CTRL] button to turn it on.

According to your keyboard performance or panel operations, MIDI messages are output on eight channels (default setting: channels 9–16) different than the channels used by the analog parts and digital parts.

2. Use the ANALOG PART Select and DIGITAL PART Select buttons to select a part.

For each part, you can specify a desired MIDI channel and assign controllers to the knobs and sliders.

You can use the sequencer to record the performance of a MIDI Control part onto the track of the specified channel.

The output destination of the recorded track's performance data can be specified in Track Settings.

➡ **"Pattern Utility"** (p. 65) → **"Track Settings"**

3. Use the ANALOG PART On and DIGITAL PART On buttons to turn on the part that you want to output the keyboard and controller data.

Section	Parameter Cursor [◄] [►]	Value Value [-] [+]	Explanation
PART (Part)	Kbd Sw (Part Keyboard Switch)	OFF, ON	Turns each part's keyboard switch on/off. **MEMO** This parameter is switched when you press a Part On button.
	Range Lower (Keyboard Range Lower)	C -1–G 9	Specifies the lowest key of the keyboard range for each part.
	Range Upper (Keyboard Range Upper)	C -1–G 9	Specifies the highest key of the keyboard range for each part. **NOTE** If you raise the lowest key above the highest key, or the highest key below the lowest key, the other setting will change to the same value.
	Arp Sw (Arpeggio Switch)	OFF, ON	Turns each part's arpeggio switch on/off.
PART MIDI (Part MIDI)	Ch (Channel)	1–16	Specifies the MIDI channel for each part.
PART CTRL SW (Part Control Switch)	Bend (Control Bender)	OFF, ON	For each controller, these settings specify whether MIDI messages are (ON) or are not (OFF) be transmitted to the part.
	Mod (Control Modulation)	OFF, ON	
	Hold (Control Hold Pedal)	OFF, ON	
	Pedal1 (Control Pedal 1)	OFF, ON	
	Pedal2 (Control Pedal 2)	OFF, ON	
	Wheel1 (Control Wheel 1)	OFF, ON	
	Wheel2 (Control Wheel 2)	OFF, ON	
MIDI CTRL (MIDI Control)	LFO Rate	CC01-CC31 CC33-CC127 BEND AFT	Specify the MIDI message that is assigned to each knob or slider.
	LFO Fade		
	LFO Pitch		
	LFO Filter		
	LFO Amp		
	OSC1 Pitch		
	OSC1 Fine		
	OSC1 PWM		
	OSC1 PW		
	Cross Mod		
	OSC2 Pitch		
	OSC2 Fine		
	OSC2 PWM		
	OSC2 PW		
	PEnv Depth		
	PEnv A		
	PEnv D		

Section	Parameter Cursor [◄] [►]	Value Value [-] [+]	Explanation
MIDI CTRL (MIDI Control)	A-OSC1	CC01-CC31 CC33-CC127 BEND AFT	Specify the MIDI message that is assigned to each knob or slider.
	A-OSC2		
	AUX		
	HPF		
	Drive		
	Cutoff		
	Resonance		
	Key Follow		
	Filt Env		
	Filt A		
	Filt D		
	Filt S		
	Filt R		
	Amp Level		
	Amp A		
	Amp D		
	Amp S		
	Amp R		
	Portamento		

Trigger Mode

You can assign MIDI messages to the **[01]**–**[16]** buttons so that the assigned MIDI message is transmitted from the MIDI OUT connector or USB MIDI OUT when you press the corresponding button. These messages are not transmitted to the internal sound engine or to the sequencer.

1. Hold down the [Shift] button and press the [MIDI CTRL] button.

The Program No. display changes to "trG," trigger mode turns on, and the trigger mode parameters appear.

2. When you press the [01]–[16] buttons, the assigned MIDI messages are transmitted.

They are transmitted on the channel of the currently selected part.

* To turn trigger mode off, hold down the **[Shift]** button and press the **[MIDI CTRL]** button once again.

MEMO

If trigger mode is on but the trigger mode parameters are not shown, hold down the **[Exit]** button and press one of the **[01]**–**[16]** buttons to see the trigger mode parameters.

Button [01]–[16]	Parameter Cursor [◄] [►]	Value Value [-] [+]	Explanation	
[01]–[16]	Assign	When you change the value, you'll be able to edit any related values.		
		NOTE	**Number:**	Note number
			Velocity:	Velocity
		CC	**Number:**	Control change number
			On Value:	Value when button is turned on
			Off Value:	Value when button is turned off
		BEND-DOWN		Outputs a pitch bend message.
		BEND-UP		
		AFT		Outputs a channel pressure message.
		PC+BS	**MSB:**	Bank select MSB
			LSB:	Bank select LSB
			PC:	Program change
	Type (*)	MOMENTARY	Remains on while you hold down the button. Turns off when you release the button.	
		LATCH	The setting is turned on/off each time you press the button.	

* Available if Assign is NOTE, CC, BEND-DOWN,BEND-UP, or AFT.

Using the Arpeggio Function

Turning Arpeggio On/Off

1. **Press [Arpeggio] to turn the arpeggio function on.**
2. **Hold down a chord on the keyboard.**
3. **To turn the arpeggio function off, press the [Arpeggio] button once again to make it go dark.**

   The Arpeggio Switch parameter of each part specifies which part(s) will play arpeggios.

   ➡ **"Part Arpeggio Switch (Arp Sw)"** (p. 3)

Making Settings for the Arpeggio Function

1. **Hold down the [Shift] button and press the [Arpeggio] button.**
2. **Use the cursor buttons to select a parameter, and use the [-] [+] buttons to change the value.**

   Arp Hold: If this is on, the arpeggio continues playing even if you take your hand off the keyboard.

Using a pedal switch

If you hold down a pedal switch while playing a chord, the arpeggio continues playing even if you release the keyboard.

1. **Connect your pedal switch (e.g., DP series; sold separately) to the HOLD jack.**
2. **Press the [ARPEGGIO] button.**
3. **Play a chord while holding down the pedal switch.**

   If you play a different chord or key while the arpeggio is being held, the arpeggio also changes.

Parameter Cursor [◄] [►]	Value Value [-] [+]	Explanation
Grid	1/4, 1/8, 1/8L, 1/8H, 1/12, 1/16, 1/16L, 1/16H, 1/24	Specifies the time signature and swing of the arpeggio. This determines the note value of one grid unit, and specifies the shuffle strength (none/light/heavy). **1/4:** Quarter note (one grid unit =one beat) **1/8:** Eighth note (two grid units = one beat) **1/8L:** Eighth note, light shuffle (two grid units = one beat; light shuffle) **1/8H:** Eighth note, heavy shuffle (two grid units = one beat; heavy shuffle) **1/12:** Eighth note triplet (three grid units = one beat) **1/16:** 16th note (four grid units = one beat) **1/16L:** 16th note, light shuffle (four grid units = one beat; light shuffle) **1/16H:** 16th note, heavy shuffle (four grid units = one beat; heavy shuffle) **1/24:** 16th note triplet (six grid units = one beat)
Duration	30–120%, Full	Specifies the duration that each arpeggiated note is sounded. This determines whether notes are played briefly to produce a staccato feel, or lengthened to produce a tenuto feel. **30–120:** For example if this is set to **"30,"** a note on the grid (or in the case of a note that is extended across multiple grid units by a tie, the last tied note) will have a duration that is 30% of the note value specified by the Grid setting. **Full:** Even if consecutive grid units are not connected by a tie, the note continues to sound until the same note is again assigned to play.
Motif	➡ **"Selecting the upward/downward variation (Motif)"**	Specifies how notes are sounded if more keys are pressed than the number of notes specified by the arpeggio. Refer to **"Selecting the upward/downward variation (Motif)"** (p. 60).
Velocity	REAL, 1–127	Specifies the strength at which the arpeggiated notes are sounded. **REAL:** The velocity depends on the strength at which you play each key. **1–127:** The notes are sounded at the velocity you specify here, regardless of how strongly you play the keys.
Oct Range **(Octave Range)**	-3–+3	Specifies the range across which the arpeggio's pitch is shifted. The pitch range is shifted in steps of an octave each cycle. You can specify this separately for the upward direction and the downward direction (maximum ±3 octaves).
Accent	0–100	Specifies the strength of the arpeggio's accents. If this is set to **"100,"** dynamics are applied to the notes according to the velocities of the notes assigned to the arpeggio. If this is set to **"0,"** all notes are sounded at the same strength.

Selecting the upward/downward variation (Motif)

You can specify how notes are sounded if you hold down more keys than the number of notes specified by the arpeggio.

* If you hold down fewer keys than the number of notes in the arpeggio, the highest key you press is sounded.

Value	Explanation
Up (L)	Notes are sounded consecutively starting with the lowest key you pressed, and only the lowest key you pressed is sounded every time.
Up (L&H)	Notes are sounded consecutively starting with the lowest key you pressed, and both the lowest and highest keys you pressed are sounded every time.
Up (_)	Notes you press will be sounded, from low to high. No note is necessarily sounded every time.
Down (L)	Notes are sounded consecutively starting with the highest key you pressed, and only the lowest key you pressed is sounded every time.
Down (L&H)	Notes are sounded consecutively starting with the highest key you pressed, and both the lowest and highest keys you pressed are sounded every time.
Down (_)	Notes you press will be sounded, from high to low. No note is necessarily sounded every time.
U/D (L)	Notes are sounded consecutively from the lowest key you pressed, up toward the highest key and then returning back toward the lowest key; only the lowest key you pressed is sounded every time.
U/D (L&H)	Notes are sounded consecutively from the lowest key you pressed, up toward the highest key and then returning back toward the lowest key; both the lowest and highest keys you pressed are sounded every time.
U/D (_)	Notes you press will be sounded, from low to high, and then back down from high to low. No note is necessarily sounded every time.
Rand (L)	Keys you pressed are sounded in random order, and only the lowest key you pressed is sounded every time.
Rand (_)	Notes you press will be sounded, in random order. No note is necessarily sounded every time.
Phrase	When you press a single key, a phrase based on the pitch of that key is played. If you press more than one key, the last-pressed key is used.

< Example >

With an arpeggio assigned (from the lowest note) as **"1-2-3-2,"** you hold down the **"C-D-E-F-G"** keys

- **"UP (L)"** setting:
  C-D-E-D → C-E-F-E → C-F-G-F (→ repeat)
- **"UP (_)"** setting:
  C-D-E-D → D-E-F-E → E-F-G-F (→ repeat)
- **"U/D (L&H)"** setting:
  C-D-G-D → C-E-G-E → C-F-G-F → C-E-G-E (→ repeat)

Selecting an Arpeggio Template

1. **Press the [Arpeggio] button.**
   The arpeggio function turns on, and the ARPEGGIO screen appears.
   By holding down the **[Shift]** button and pressing the **[Arpeggio]** button, you can access the ARPEGGIO screen without turning the function on/off.
2. **Use the Cursor [◄] [►] buttons to select "Select Template," and then press the [Enter] button.**
3. **Use the [-] [+] buttons to select an arpeggio template, and press the [Enter] button.**
4. **Press the [Exit] button to return to the program select screen.**

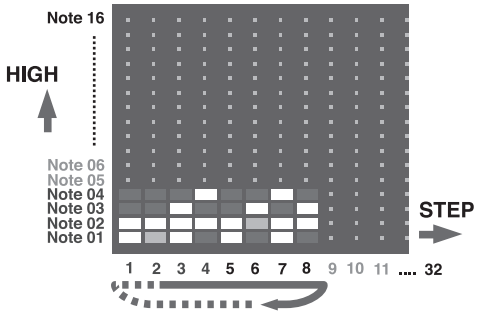
MEMO

When you select a template, all arpeggio parameters are changed to the values of the template.

Creating an Arpeggio

About arpeggios

An arpeggio contains data in a grid of up to 32 steps by 16 notes, with settings that specify the chord style and how the arpeggio is sounded.



Each grid location contains one of the following items of data.

- On: Note-on (with velocity data)
- Tie: Tie (hold the preceding note)
- Off (Rest): Rest (not sounded)

Based on **"the lowest key you press during input,"** the relative key position and order are stored in the arpeggio data.

Using the [-] [+] Buttons and [01]–[16] Buttons to Input Data

1. **Hold down the [Shift] button and press the [Arpeggio] button.**
   The ARPEGGIO screen appears without changing the arpeggio on/off status.
2. **Use the cursor [◄] [►] buttons to select "Pattern Edit," and press the [Enter] button.**
3. **Use the cursor [◄] [►] buttons to select "End Step," and specify the number of steps.**
4. **Use the cursor and [-] [+] buttons to select the note number that you want to input.**
   If data has been input for the specified note number, the **[01]**–**[16]** button corresponding to each step is lit.

   MEMO

   You can also use the keyboard to specify the note number and velocity at the same time.
5. **Use the cursor and [-] [+] buttons to specify the velocity that you want to input.**

6. Using the [01]–[16] buttons, turn "On" the button of each step that you want to input.

- If you once again press a button that is **"On,"** it turns **"Off."**
- You can't turn **"On"** a step that is beyond the specified number of steps.
- If you want to use the **[01]**–**[16]** buttons to work with step 17 and later, hold down the **[Shift]** button and press the **[02]** button to change the step range. To return to working with steps 1–16, hold down the **[Shift]** button and press the **[01]** button.

Entering a TIE

If you press the **[Enter]** button, the velocity indication becomes **"TIE."**

By holding down the **[Enter]** button and turning a **[01]**–**[16]** button **"On,"** you can enter a **"TIE"** at the specified step.

7. Press the [Exit] button several times to return to the top screen.

Using Step Recording to Input Data

1. Hold down the [Shift] button and press the [Arpeggio] button.

The ARPEGGIO screen appears without changing the arpeggio on/off status.

2. Use the cursor [◄] [►] buttons to select "Pattern Edit," and press the [Enter] button.

3. Use the cursor [◄] [►] buttons to select "End Step," and specify the number of steps.

4. Press the [Step REC] button to make it light.

5. Play once on the keyboard.

The note is recorded in step 1; you automatically advance to the next step and the **[02]** button blinks.
If you select multiple notes, a chord is recorded.

6. Repeat step 5 and record until the "End Step."

- If you want to erase data from a step (or enter a rest), press the **[Erase]** button.
- If you want to enter a tie, press the **[Enter]** button.
- If you want to change the step that you're recording, press one of the **[01]**–**[16]** buttons.
  If you want to use the **[01]**–**[16]** buttons to work with step 17 and later, hold down the **[Shift]** button and press the **[02]** button to change the step range.
  To return to working with steps 1–16, hold down the **[Shift]** button and press the **[01]** button.

7. Press the [Step REC] button to finish step recording.

8. Press the [Exit] button several times to return to the top screen.

Initializing the Arpeggio

In the ARP EDIT screen, you can hold down the **[Shift]** button and press the **[Program Select]** button to initialize the arpeggio.
Initialize the arpeggio if you want to start working from a blank condition.

Playing a Preview

In the ARP EDIT screen, press the **[Play]** button to audition the arpeggio that you've input.
Press the **[Play]** button once again to stop.

Pattern Sequencer

The pattern sequencer lets you record keyboard performance and knob operations, and play them back repeatedly.

When you record, the currently selected part is recorded.

The pattern time signature is 4/4.

Changing the Length of One Step

1. Press the [Scale] button.

Changes the length of one step. The indicators at the left of the button show the setting.

- The **[01]**–**[12]** buttons correspond to a recording input range of two beats, allowing you to enter 16th note triplets.
- The **[01]**–**[12]** buttons correspond to a recording input range of one measure, allowing you to enter 8th note triplets.
- The **[01]**–**[16]** buttons correspond to a recording input range of two beats, allowing you to enter 32nd notes.
- The **[01]**–**[16]** buttons correspond to a recording input range of one measure, allowing you to enter 16th notes.

NOTE

Even if you change the Scale, the length of one step relative to the already-recorded data does not change.

Changing the Number of Measures in the Pattern

1. Press the [Pattern Length] button.

2. Use the [01]–[04] buttons or the [-] [+] buttons to specify the length.

* For some Scale settings, use the **[01]**–**[08]** buttons to specify the length.

3. Press the [Enter] button.

a. If you're increasing the number of measures

The screen asks **"With Copying?"**

- **[Enter]** button — Changes the number of measures by repeatedly copying the recorded data.
- **[Exit]** button — Changes the measure position at which looping occurs, leaving the recorded data unchanged.

b. If you're decreasing the number of measures

The measure position at which looping occurs is changed, leaving the recorded data unchanged.

Changing the Tempo

Here you can specify the tempo of the arpeggio or the pattern sequencer.

- **[Tap]** button: You can change the tempo by pressing the **[Tap]** button three times or more at quarter-note intervals of the desired tempo.
- **[TEMPO]** knob: Specifies the tempo in the range 60–240.
- **[Shift]** + **[Tap]**: Displays the tempo parameter. Use the **[-] [+]** buttons to specify the integer value of the tempo. You can use **[Shift]** + **[-] [+]** buttons to specify the tempo value below the decimal point.

MEMO

- By turning Tempo Rec ON during Realtime REC, tempo changes can be recorded in the pattern.
- The tempo is saved individually for each program.

➡ Owner's manual **"Saving a Program (Write)"** (p. 7)

Click Settings

1. Press the [Menu] button.

2. Select "SYSTEM" and then press the [Enter] button.

3. Choose the CLICK parameter, and use the [-] [+] buttons to change the value.

4. Press the [Exit] button several times to return to the top screen.

Save the system parameters if necessary.

➡ Owner's manual **"Saving the System Settings"** (p. 14)

Realtime Recording (Real Time REC)

Here's how to create a pattern by recording your performance of the keyboard and controllers in real time. Your performance is recorded by layering it onto the selected pattern.

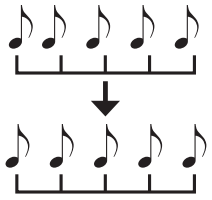
1. Use the ANALOG PART or DIGITAL PART On [01]–[04] buttons to turn on the part that you want to record.

2. Press the [Real Time REC] button (REC STANDBY).

3. Make settings for realtime recording.

Use the cursor **[◀] [▶]** buttons to select a parameter, and use the **[-] [+]** buttons to change the value.

Parameter Cursor [◀] [▶]	Explanation	
Cnt In (Count In) * This is shown only during REC STANDBY.	Selects the way in which recording is started.	
	Off:	Recording starts when you press the **[Play]** button.
	1 MEAS:	When you press the **[Play]** button, recording starts after a one-measure count.
	2 MEAS:	When you press the **[Play]** button, recording starts after a two-measure count.
	WAIT NOTE:	Recording starts when you press the **[Play]** button, or when you play a note on the keyboard or press the hold pedal.

Parameter Cursor [◄] [►]	Explanation
Input Qtz (Input Quantize)	Quantize is a function that automatically corrects inaccuracies in the timing at which you play the keyboard, tightening-up the rhythmic accuracy. You can apply the quantize function during realtime recording. This setting specifies whether quantize will be applied during recording. **OFF:** Quantize is not applied during recording. **GRID:** Quantize is applied during recording. Use this when you need precise timing, such as for drums or bass.  **SHFL (SHUFFLE):** Shuffle quantize is applied during recording. Use this when you want to give the rhythm a shuffle or swing feel.
Reso (Resolution)	Specifies the note timing value at which quantization is applied. **GRID:** 1/32 (𝅘𝅥𝅯)–1/4 (♩) **SHFL:** 1/16 (𝅘𝅥𝅯)–1/8 (♪)
Strength	This setting is used with grid quantize. It specifies the degree to which your notes are moved to precise intervals of the note values specified by the Reso setting. If this is set to **"100%,"** the notes that you record are moved all the way to exact intervals of the specified Reso. With lower percentages, less correction is applied. If this is set to **"0%,"** the timing is not corrected at all. 0–100%
Rate	Use this setting when applying shuffle quantize. With a setting of **"50%"** the notes are spaced at equal intervals. As you increase this setting, you'll get an increasingly **"bouncy"** feel as though the notes were dotted.
Loop Rec	Specify whether Real Time REC turns off (OFF) or stays on (ON) when you move to the next loop after recording your performance.
Tempo Rec	Specifies whether tempo changes are recorded (ON) or not recorded (OFF).
Click Switch	Temporarily turns the click on/off.

4. **Press the [Play] button to start recording.**

During playback, you can also press the **[Real Time REC]** button to start recording.

5. **Play the keyboard.**

Movements of the knobs and wheels are also recorded.

MEMO

Knob movements are recorded on the part that is selected by PART Select.

6. **Press the [Real Time Rec] button to stop recording.**

Erasing Only a Portion of a Phrase (Realtime Erase)

1. **Use the ANALOG PART or DIGITAL PART On [01]–[04] buttons to select the part that you want to erase.**

2. **During playback or recording, press the [Erase] button (Erase Mode).**

The button is lit, allowing you to erase notes. The Erase screen appears.

3. **Use the [-] [+] buttons to choose what you want to erase, and then press the [Enter] button.**

The chosen data is erased while you hold down the button.

MEMO

In erase mode, notes of the key you hold down are erased while you continue holding down that key.

If you hold down two keys, all notes between those two keys are erased.

4. **Press the [Erase] button once again.**

The button goes dark and turns the Erase Mode off.

Step Recording (Step REC)

Here's how to create a pattern by recording your keyboard performance one step at a time.

Your new recording replaces the pattern that's selected.

Controller	Explanation
[01]–[16] buttons	The button of the step being recorded is blinking.

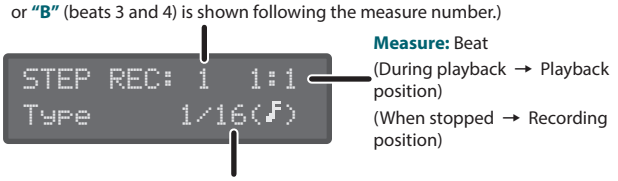
1. **Use the ANALOG PART or DIGITAL PART On [01]–[04] buttons to select the part that you want to record.**

2. **Press the [Step REC] button.**

The **[01]** button blinks.

The following screen is shown until you stop recording.

Indicates the measures **"1–4"** that are being controlled by the 16 steps. (If one measure cannot be expressed by 16 steps, the indication **"A"** (beats 1 and 2) or **"B"** (beats 3 and 4) is shown following the measure number.)



You can use the Cursor **[◄] [►]** buttons to select a parameter, and use the **[-] [+]** buttons to edit the value of that parameter.

Parameter Cursor [◄] [►]	Value [-] [+]
Type (Note Type)	**1/64 (𝅘𝅥𝅰)–2/1 (𝅝):** Specifies the length of the notes being input, as a note value. The note value indicates the length from note-on until the next note-on. **MEMO** If you change the Scale, the corresponding Note Type is automatically set.
Gate Time (Duration of the Note)	**5–200%:** Specifies the duration of the notes relative to the note type. Gate time indicates the time from note-on to note-off. Specify a lower value if you want a staccato feel, or a higher value if you want to produce tenuto or a slur. Normally you'll specify a value of about 80%.
Velocity (Keyboard Dynamics)	**REAL:** the actually-played dynamics **1–127:** fixed dynamics

3. **Play one note on the keyboard.**

Your performance is recorded in step 1; you automatically advance to the next step and the **[02]** button lights.

You can record a chord by selecting multiple notes.

4. Repeat step 3 to record each step.

MEMO

- To erase the data at a step (or to enter a rest), press the **[Erase]** button.
- To enter a tie, press the **[Enter]** button.
- To change the step that you're recording, press one of the **[01]**–**[16]** buttons.
- If you want to use the **[01]**–**[16]** buttons to change the measures that you're controlling, refer to **"Changing the Measures Controlled by the Step Buttons"** (p. 65).

5. Press the [Step Rec] button to stop recording.

Step Recording 2 (Step REC 2)

While playing or stopped, use the **[01]**–**[16]** buttons to record on the selected step (step recording 2).

1. Press the [Step REC] button twice to turn Step REC off.

2. Use the ANALOG PART or DIGITAL PART On [01]–[04] buttons to select the part that you want to record.

3. On the keyboard, play the note that you want to record, and then use the [01]–[16] buttons to turn the step on.

The note length is the length you specify for the Step REC parameter Type (note type).

MEMO

- You can also record on a specified step by playing a note and pressing a **[01]**–**[16]** button to specify the step. You can also specify chords.
- By turning a knob while holding down one of the **[01]**–**[16]** buttons, you can record the last state of that knob in the specified step.
- Operation of the knob is recorded on the part selected in the PART Select.
- If you want to use the **[01]**–**[16]** buttons to change the measures that you're controlling, refer to **"Changing the Measures Controlled by the Step Buttons"** (p. 65).

Playing Patterns

1. Press the [Play] button.

You can perform the following operations during playback.

Part Mute

Press **[Shift]** + each part's On **[01]**–**[04]** buttons

Realtime Erase

➡ **"Erasing Only a Portion of a Phrase (Realtime Erase)"** (p. 64)

2. To stop, press the [Play] button once again.

Changing the Measures Controlled by the Step Buttons

If the pattern is longer than 16 steps, hold down the **[Shift]** button and use the **[1]**–**[4]** buttons to change the range of measures and beats that are controlled by the 16 step buttons.

Depending on the scale setting, you can also use the **[Shift]** button + **[01]**–**[08]** buttons to change this.

Erasing an Entire Pattern (Pattern Erase)

Here's how to erase an entire pattern.

1. Hold down the [Shift] button and press the [Erase] button.

The Erase screen appears.

2. Use the [-] [+] buttons to select what you want to erase.

Value [-] [+]	Explanation
Track	Erase only the data of the selected track.
SysEx	Erase only the system exclusive data.
Tempo	Erase only the tempo data.
All	Erase the entire contents of the pattern. * Pattern Length, Scale, and Track Settings are not initialized. If you want Pattern Length, Scale, and Track Settings to also be initialized, execute Pattern Init. For more about Pattern Init, refer to the owner's manual section **"Initializing a Sound (Init)"** (p. 7).

3. Press the [Enter] button.

The data is erased.

Pattern Utility

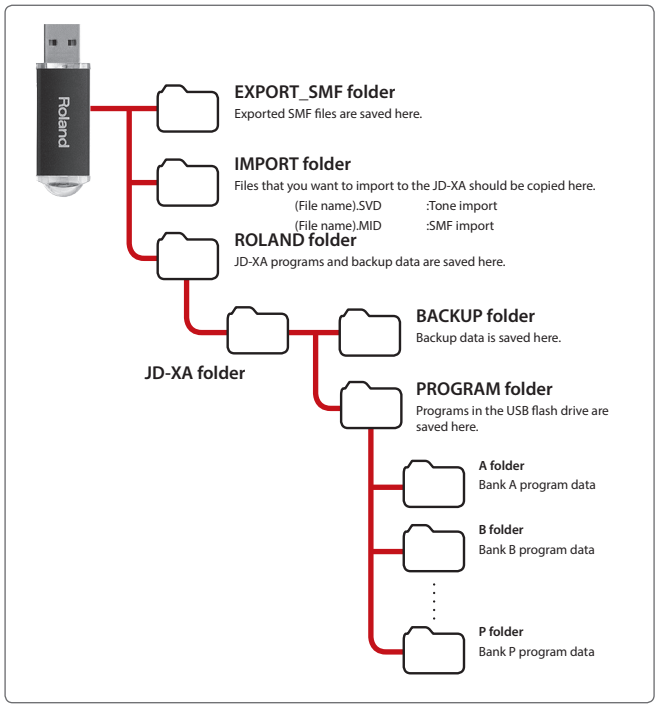
You can specify a pattern's output destination settings, and import or export SMF data.

1. Press the [Menu] button.

2. Select "PATTERN UTIL" and then press the [Enter] button.

3. Use the cursor [◄] [►] buttons to select the function that you want to execute, and then press the [Enter] button.

Function Cursor [◄] [►]	Explanation
Track Settings	Specifies the output destination of each track. **INT:** The track plays the JD-XA's internal sound generator. **EXT:** The track plays an external sound module connected to the MIDI OUT/USB COMPUTER port. **BOTH** The track plays the internal sound generator and the external sound module. **OFF** The track is not output. * This setting is saved in the program together with the pattern.
SMF Import	Imports the specified SMF from the USB flash drive into the temporary area. * When you import, the current state of the temporary area is discarded. The SMF that you want to import must be saved in the **"IMPORT"** folder of the USB flash drive. **SMF data that can be imported:** • Only SMF format 0 is supported. • Up to four measures of SMF data can be imported. Subsequent data is not imported. MEMO In the SMF Import screen, you can press the **[Play]** button to audition the selected SMF.
SMF Export	Exports the pattern currently in the temporary area to the **"EXPORT_SMF"** folder of the USB flash drive as an SMF with the name you specify.



Saving a Pattern (Write)

A pattern that you create will be lost if you select a different program or if you power-off the JD-XA.

When you've created a pattern that you like, you should save it as a program.

The pattern is saved as a program.

➡ Owner's manual **"Saving a Program (Write)"** (p. 7)

CC Assignments

Analog Part

The MIDI messages corresponding to each controller are shown below.
Even for the same controller, the MIDI channel that is output will change depending on the part that you select.
The MIDI messages that are output will also change depending on the LFO1/2 and PITCH ENV1/2 selection.

LFO [Rate] knob
LFO1: CC16 (LFO1 Rate)
LFO2: CC17 (LFO2 Rate)

LFO [Fade Time] slider
LFO1: NRPN MSB: 0, LSB: 6 (LFO1 Fade Time)
LFO2: NRPN MSB: 0, LSB: 7 (LFO2 Fade Time)

LFO [Pitch Depth] slider
LFO1: NRPN MSB: 0, LSB: 9 (LFO1 Pitch Depth)
LFO2: NRPN MSB: 0, LSB: 10 (LFO2 Pitch Depth)

LFO [Filter Depth] slider
LFO1: NRPN MSB: 0, LSB: 12 (LFO1 Filter Depth)
LFO2: NRPN MSB: 0, LSB: 13 (LFO2 Filter Depth)

LFO [Amp Depth] slider
LFO1: NRPN MSB: 0, LSB: 15 (LFO1 Amp Depth)
LFO2: NRPN MSB: 0, LSB: 16 (LFO2 Amp Depth)

A-OSC1 [Pitch] knob
CC19 (OSC1 Pitch)

A-OSC1 [Fine] knob
CC22 (OSC1 Fine)

A-OSC1 [PWM] slider
NRPN MSB: 0, LSB: 31 (OSC1 PWM Depth)

A-OSC1 [PW] slider
NRPN MSB: 0, LSB: 28 (OSC1 PW)

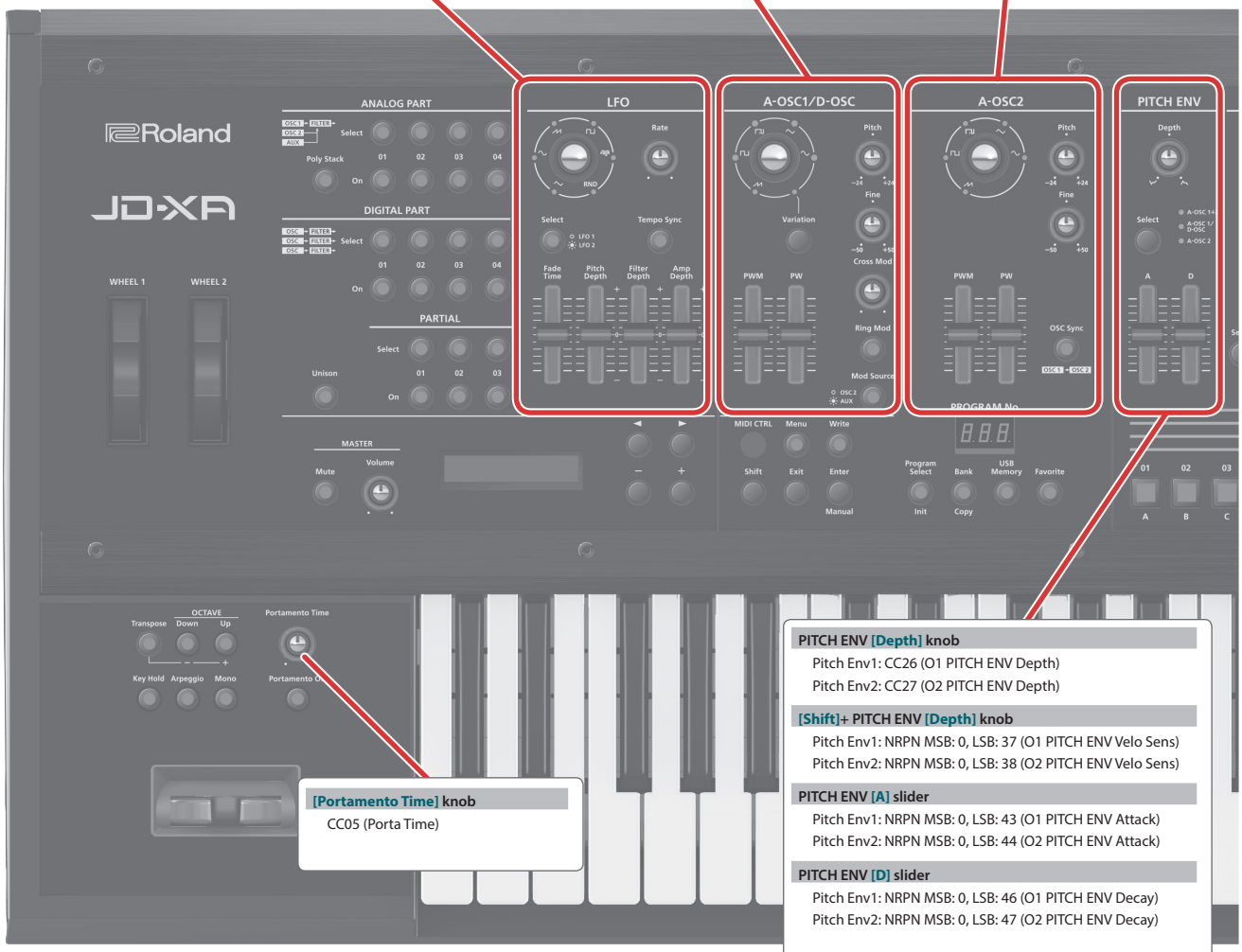
A-OSC1 [Cross Mod] knob
CC25 (Cross Mod)

A-OSC2 [Pitch] knob
CC20 (OSC2 Pitch)

A-OSC2 [Fine] knob
CC23 (OSC2 Fine)

A-OSC2 [PWM] slider
NRPN MSB: 0, LSB: 32 (OSC2 PWM Depth)

A-OSC2 [PW] slider
NRPN MSB: 0, LSB: 29 (OSC2 PW)



[Portamento Time] knob
CC05 (Porta Time)

PITCH ENV [Depth] knob
Pitch Env1: CC26 (O1 PITCH ENV Depth)
Pitch Env2: CC27 (O2 PITCH ENV Depth)

[Shift]+ PITCH ENV [Depth] knob
Pitch Env1: NRPN MSB: 0, LSB: 37 (O1 PITCH ENV Velo Sens)
Pitch Env2: NRPN MSB: 0, LSB: 38 (O2 PITCH ENV Velo Sens)

PITCH ENV [A] slider
Pitch Env1: NRPN MSB: 0, LSB: 43 (O1 PITCH ENV Attack)
Pitch Env2: NRPN MSB: 0, LSB: 44 (O2 PITCH ENV Attack)

PITCH ENV [D] slider
Pitch Env1: NRPN MSB: 0, LSB: 46 (O1 PITCH ENV Decay)
Pitch Env2: NRPN MSB: 0, LSB: 47 (O2 PITCH ENV Decay)

FILTER [HPF] knob
CC114 (FILTER HPF Cutoff)

FILTER [Drive] knob
CC115 (FILTER Drive)

FILTER [Cutoff] knob
CC102 (FILTER Cutoff)

[Shift]+ FILTER [Cutoff] knob
CC103 (FILTER Cutoff Fine)

FILTER [Resonance] knob
CC105 (FILTER Resonance)

FILTER [Key Follow] knob
CC111 (FILTER Key Follow)

[Shift]+ FILTER [Key Follow] knob
CC112 (FILTER KF Fine)

FILTER [ENV Depth] knob
CC108 (FILTER ENV Depth)

[Shift]+ FILTER [ENV Depth] knob
NRPN MSB: 0, LSB: 58 (FILTER ENV Velo Sens)

FILTER [A] slider
NRPN MSB: 0, LSB: 70 (FILTER ENV Attack)

FILTER [D] slider
NRPN MSB: 0, LSB: 73 (FILTER ENV Decay)

FILTER [S] slider
NRPN MSB: 0, LSB: 76 (FILTER ENV Sustain)

FILTER [R] slider
NRPN MSB: 0, LSB: 79 (FILTER ENV Release)

AMP [Level] knob
CC117 (AMP Level)

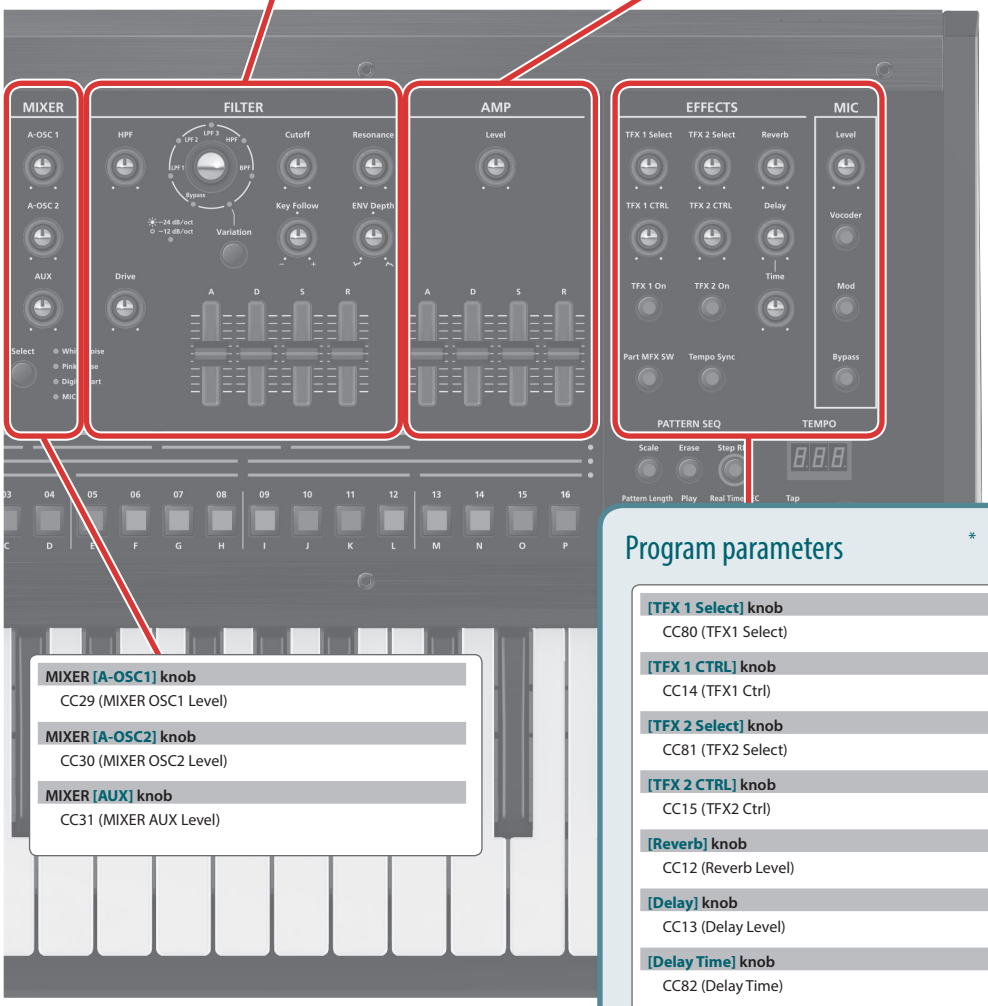
[Shift]+AMP [Level] knob
NRPN MSB: 0, LSB: 85 (AMP Level V-Sens)

AMP [A] slider
NRPN MSB: 0, LSB: 88 (AMP ENV Attack)

AMP [D] slider
NRPN MSB: 0, LSB: 91 (AMP ENV Decay)

AMP [S] slider
NRPN MSB: 0, LSB: 94 (AMP ENV Sustain)

AMP [R] slider
NRPN MSB: 0, LSB: 97 (AMP ENV Release)



MIXER [A-OSC1] knob
CC29 (MIXER OSC1 Level)

MIXER [A-OSC2] knob
CC30 (MIXER OSC2 Level)

MIXER [AUX] knob
CC31 (MIXER AUX Level)

Program parameters

* The channel follows the system parameter Prog Ctrl Ch.

[TFX 1 Select] knob
CC80 (TFX1 Select)

[TFX 1 CTRL] knob
CC14 (TFX1 Ctrl)

[TFX 2 Select] knob
CC81 (TFX2 Select)

[TFX 2 CTRL] knob
CC15 (TFX2 Ctrl)

[Reverb] knob
CC12 (Reverb Level)

[Delay] knob
CC13 (Delay Level)

[Delay Time] knob
CC82 (Delay Time)

[MIC Level] knob
CC83 (MIC Level)

Digital part:

The MIDI messages corresponding to each controller are shown below.
Even for the same controller, the MIDI channel that is output will change depending on the part that you select.
The MIDI messages that are output will also change depending on the partial 1/2/3 selection.

LFO [Rate] knob
PARTIAL1: CC16 (LFO Rate)
PARTIAL2: CC17 (LFO Rate)
PARTIAL3: CC18 (LFO Rate)

LFO [Fade Time] slider
PARTIAL1: NRPN MSB: 0, LSB: 6 (LFO Fade Time)
PARTIAL2: NRPN MSB: 0, LSB: 7 (LFO Fade Time)
PARTIAL3: NRPN MSB: 0, LSB: 8 (LFO Fade Time)

LFO [Pitch Depth] slider
PARTIAL1: NRPN MSB: 0, LSB: 9 (LFO Pitch Depth)
PARTIAL2: NRPN MSB: 0, LSB: 10 (LFO Pitch Depth)
PARTIAL3: NRPN MSB: 0, LSB: 11 (LFO Pitch Depth)

LFO [Filter Depth] slider
PARTIAL1: NRPN MSB: 0, LSB: 12 (LFO Filter Depth)
PARTIAL2: NRPN MSB: 0, LSB: 13 (LFO Filter Depth)
PARTIAL3: NRPN MSB: 0, LSB: 14 (LFO Filter Depth)

LFO [Amp Depth] slider
PARTIAL1: NRPN MSB: 0, LSB: 15 (LFO Amp Depth)
PARTIAL2: NRPN MSB: 0, LSB: 16 (LFO Amp Depth)
PARTIAL3: NRPN MSB: 0, LSB: 17 (LFO Amp Depth)

[Shift]+ LFO [Amp Depth] slider
PARTIAL1: NRPN MSB: 0, LSB: 18 (LFO Pan Depth)
PARTIAL2: NRPN MSB: 0, LSB: 19 (LFO Pan Depth)
PARTIAL3: NRPN MSB: 0, LSB: 20 (LFO Pan Depth)

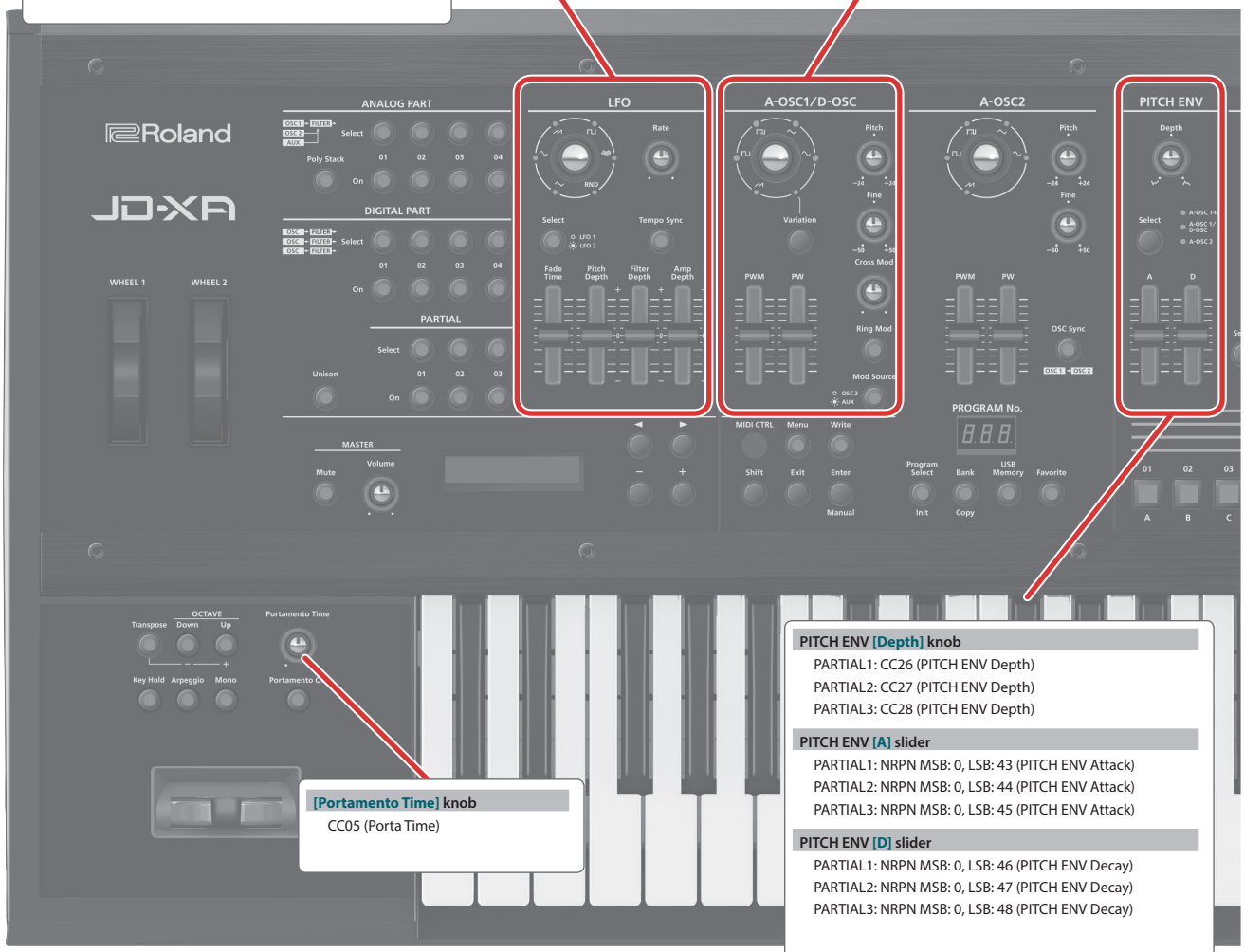
D-OSC [Pitch] knob
PARTIAL1: CC19 (OSC Pitch)
PARTIAL2: CC20 (OSC Pitch)
PARTIAL3: CC21 (OSC Pitch)

[Shift]+ D-OSC [Pitch] knob
PARTIAL1: NRPN MSB: 0, LSB: 100 (AMP Pan)
PARTIAL2: NRPN MSB: 0, LSB: 101 (AMP Pan)
PARTIAL3: NRPN MSB: 0, LSB: 102 (AMP Pan)

D-OSC [Fine] knob
PARTIAL1: CC22 (OSC Detune)
PARTIAL2: CC23 (OSC Detune)
PARTIAL3: CC24 (OSC Detune)

D-OSC [PWM] slider
PARTIAL1: NRPN MSB: 0, LSB: 31 (OSC PWM Depth)
PARTIAL2: NRPN MSB: 0, LSB: 32 (OSC PWM Depth)
PARTIAL3: NRPN MSB: 0, LSB: 33 (OSC PWM Depth)

D-OSC [PW] slider
PARTIAL1: NRPN MSB: 0, LSB: 28 (OSC PW)
PARTIAL2: NRPN MSB: 0, LSB: 29 (OSC PW)
PARTIAL3: NRPN MSB: 0, LSB: 30 (OSC PW)



[Portamento Time] knob
CC05 (Porta Time)

PITCH ENV [Depth] knob
PARTIAL1: CC26 (PITCH ENV Depth)
PARTIAL2: CC27 (PITCH ENV Depth)
PARTIAL3: CC28 (PITCH ENV Depth)

PITCH ENV [A] slider
PARTIAL1: NRPN MSB: 0, LSB: 43 (PITCH ENV Attack)
PARTIAL2: NRPN MSB: 0, LSB: 44 (PITCH ENV Attack)
PARTIAL3: NRPN MSB: 0, LSB: 45 (PITCH ENV Attack)

PITCH ENV [D] slider
PARTIAL1: NRPN MSB: 0, LSB: 46 (PITCH ENV Decay)
PARTIAL2: NRPN MSB: 0, LSB: 47 (PITCH ENV Decay)
PARTIAL3: NRPN MSB: 0, LSB: 48 (PITCH ENV Decay)

FILTER [HPF] knob
PARTIAL1: CC114 (FILTER HPF Cutoff)
PARTIAL2: CC115 (FILTER HPF Cutoff)
PARTIAL3: CC116 (FILTER HPF Cutoff)

FILTER [Cutoff] knob
PARTIAL1: CC102 (FILTER Cutoff)
PARTIAL2: CC103 (FILTER Cutoff)
PARTIAL3: CC104 (FILTER Cutoff)

FILTER [Resonance] knob
PARTIAL1: CC105 (FILTER Resonance)
PARTIAL2: CC106 (FILTER Resonance)
PARTIAL3: CC107 (FILTER Resonance)

FILTER [Key Follow] knob
PARTIAL1: CC111 (FILTER Key Follow)
PARTIAL2: CC112 (FILTER Key Follow)
PARTIAL3: CC113 (FILTER Key Follow)

FILTER [ENV Depth] knob
PARTIAL1: CC108 (FILTER ENV Depth)
PARTIAL2: CC109 (FILTER ENV Depth)
PARTIAL3: CC110 (FILTER ENV Depth)

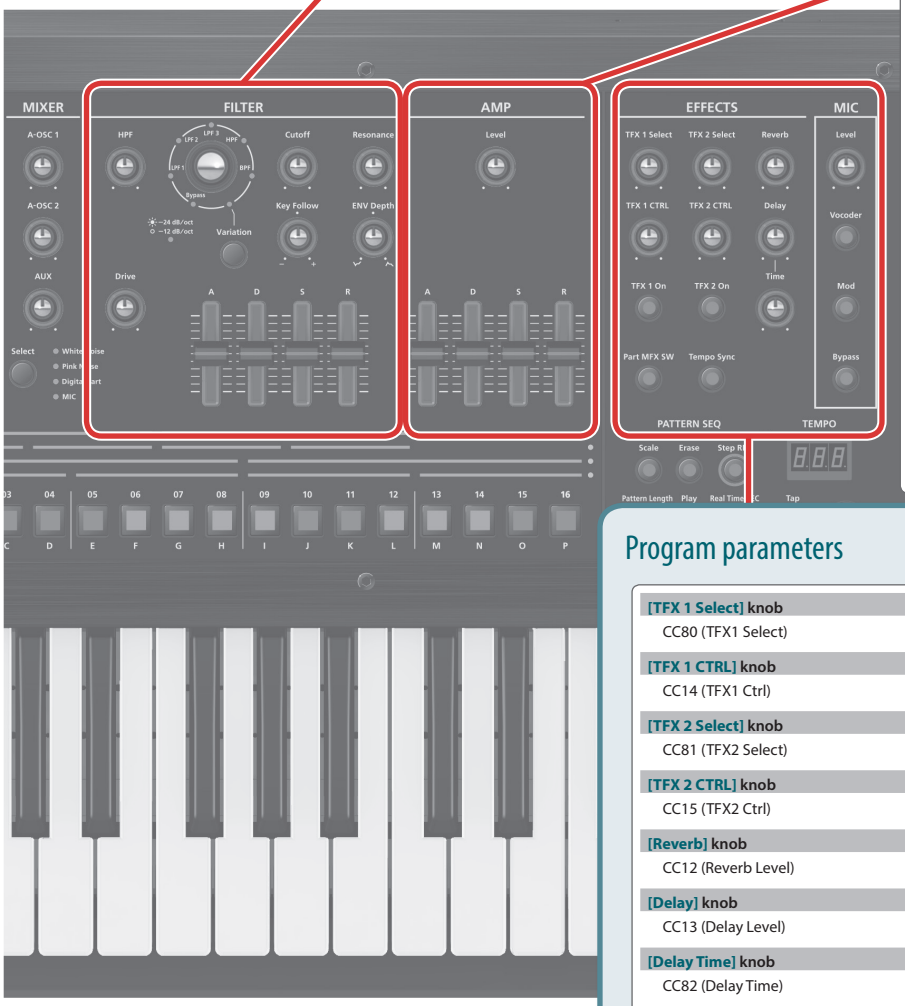
[Shift]+ FILTER [ENV Depth] knob
PARTIAL1: NRPN MSB: 0, LSB: 58 (FILTER ENV Velo Sens)
PARTIAL2: NRPN MSB: 0, LSB: 59 (FILTER ENV Velo Sens)
PARTIAL3: NRPN MSB: 0, LSB: 60 (FILTER ENV Velo Sens)

FILTER [A] slider
PARTIAL1: NRPN MSB: 0, LSB: 70 (FILTER ENV Attack)
PARTIAL2: NRPN MSB: 0, LSB: 71 (FILTER ENV Attack)
PARTIAL3: NRPN MSB: 0, LSB: 72 (FILTER ENV Attack)

FILTER [D] slider
PARTIAL1: NRPN MSB: 0, LSB: 73 (FILTER ENV Decay)
PARTIAL2: NRPN MSB: 0, LSB: 74 (FILTER ENV Decay)
PARTIAL3: NRPN MSB: 0, LSB: 75 (FILTER ENV Decay)

FILTER [S] slider
PARTIAL1: NRPN MSB: 0, LSB: 76 (FILTER ENV Sustain)
PARTIAL2: NRPN MSB: 0, LSB: 77 (FILTER ENV Sustain)
PARTIAL3: NRPN MSB: 0, LSB: 78 (FILTER ENV Sustain)

FILTER [R] slider
PARTIAL1: NRPN MSB: 0, LSB: 79 (FILTER ENV Release)
PARTIAL2: NRPN MSB: 0, LSB: 80 (FILTER ENV Release)
PARTIAL3: NRPN MSB: 0, LSB: 81 (FILTER ENV Release)



AMP [Level] knob
PARTIAL1: CC117 (AMP Level)
PARTIAL2: CC118 (AMP Level)
PARTIAL3: CC119 (AMP Level)

[Shift]+AMP [Level] knob
PARTIAL1: NRPN MSB: 0, LSB: 85 (AMP Level V-Sens)
PARTIAL2: NRPN MSB: 0, LSB: 86 (AMP Level V-Sens)
PARTIAL3: NRPN MSB: 0, LSB: 87 (AMP Level V-Sens)

AMP [A] slider
PARTIAL1: NRPN MSB: 0, LSB: 88 (AMP ENV Attack)
PARTIAL2: NRPN MSB: 0, LSB: 89 (AMP ENV Attack)
PARTIAL3: NRPN MSB: 0, LSB: 90 (AMP ENV Attack)

AMP [D] slider
PARTIAL1: NRPN MSB: 0, LSB: 91 (AMP ENV Decay)
PARTIAL2: NRPN MSB: 0, LSB: 92 (AMP ENV Decay)
PARTIAL3: NRPN MSB: 0, LSB: 93 (AMP ENV Decay)

AMP [S] slider
PARTIAL1: NRPN MSB: 0, LSB: 94 (AMP ENV Sustain)
PARTIAL2: NRPN MSB: 0, LSB: 95 (AMP ENV Sustain)
PARTIAL3: NRPN MSB: 0, LSB: 96 (AMP ENV Sustain)

AMP [R] slider
PARTIAL1: NRPN MSB: 0, LSB: 97 (AMP ENV Release)
PARTIAL2: NRPN MSB: 0, LSB: 98 (AMP ENV Release)
PARTIAL3: NRPN MSB: 0, LSB: 99 (AMP ENV Release)

Program parameters

* The channel follows the system parameter Prog Ctrl Ch.

[TFX 1 Select] knob
CC80 (TFX1 Select)

[TFX 1 CTRL] knob
CC14 (TFX1 Ctrl)

[TFX 2 Select] knob
CC81 (TFX2 Select)

[TFX 2 CTRL] knob
CC15 (TFX2 Ctrl)

[Reverb] knob
CC12 (Reverb Level)

[Delay] knob
CC13 (Delay Level)

[Delay Time] knob
CC82 (Delay Time)

[MIC Level] knob
CC83 (MIC Level)

MIDI CTRL Parts

The MIDI messages (default values) corresponding to each controller are shown below.
Even for the same controller, the MIDI channel that is output will change depending on the part that you select.
MIDI CTRL lets you assign controllers to the knobs and sliders (p. 57).

LFO [Rate] knob
CC16

LFO [Fade Time] slider
CC91

LFO [Pitch Depth] slider
CC92

LFO [Filter Depth] slider
CC93

LFO [Amp Depth] slider
CC94

OSC1 [Pitch] knob
CC10

OSC1 [Fine] knob
CC22

OSC1 [PWM] slider
CC27

OSC1 [PW] slider
CC28

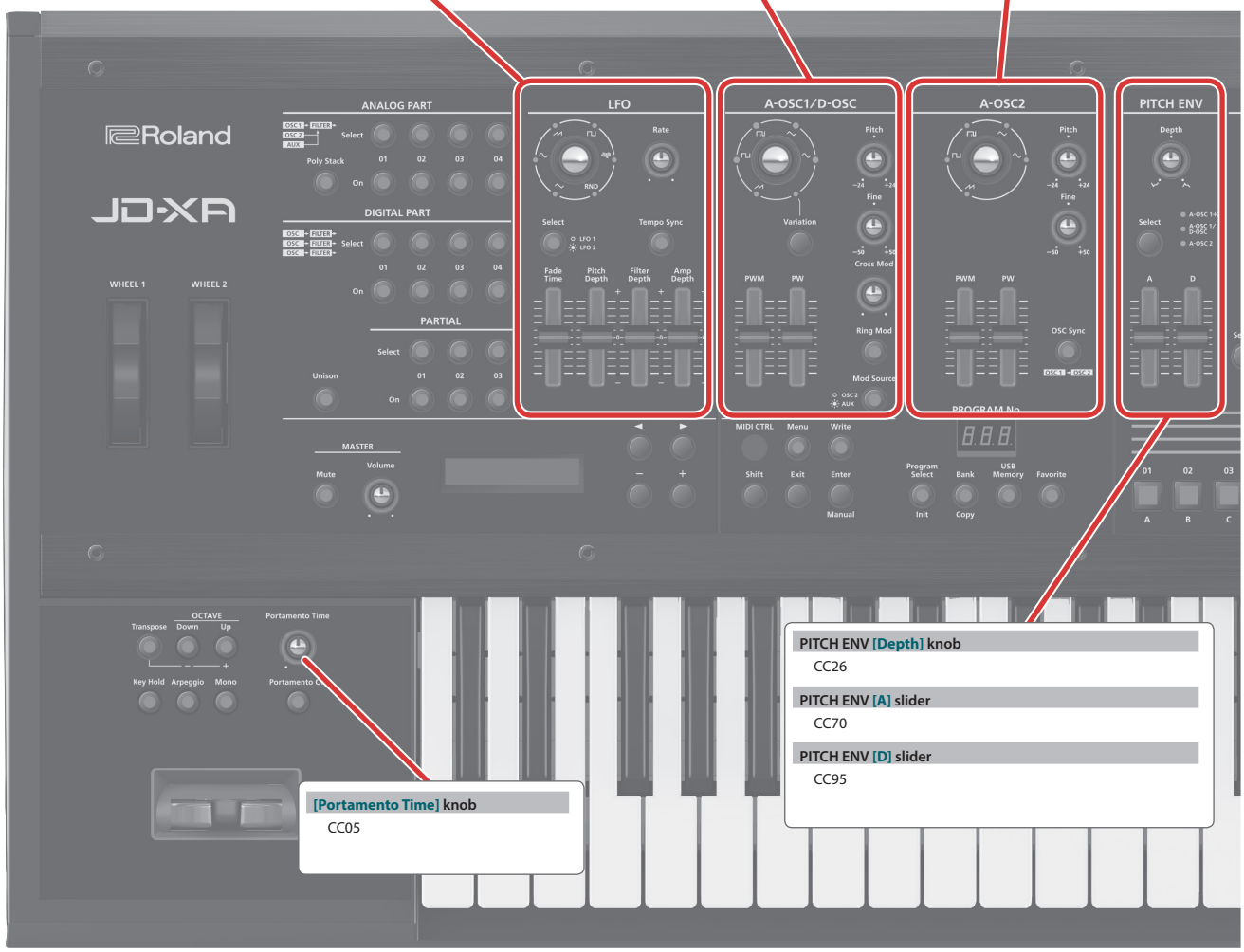
OSC1 [Cross Mod] knob
CC25

OSC2 [Pitch] knob
CC20

OSC2 [Fine] knob
CC23

OSC2 [PWM] slider
CC02

OSC2 [PW] slider
CC04



[Portamento Time] knob
CC05

PITCH ENV [Depth] knob
CC26

PITCH ENV [A] slider
CC70

PITCH ENV [D] slider
CC95

FILTER [HPF] knob
CC114

FILTER [Drive] knob
CC115

FILTER [Cutoff] knob
CC74

FILTER [Resonance] knob
CC71

FILTER [Key Follow] knob
CC111

FILTER [ENV Depth] knob
CC108

FILTER [A] slider
CC76

FILTER [D] slider
CC77

FILTER [S] slider
CC78

FILTER [R] slider
CC79

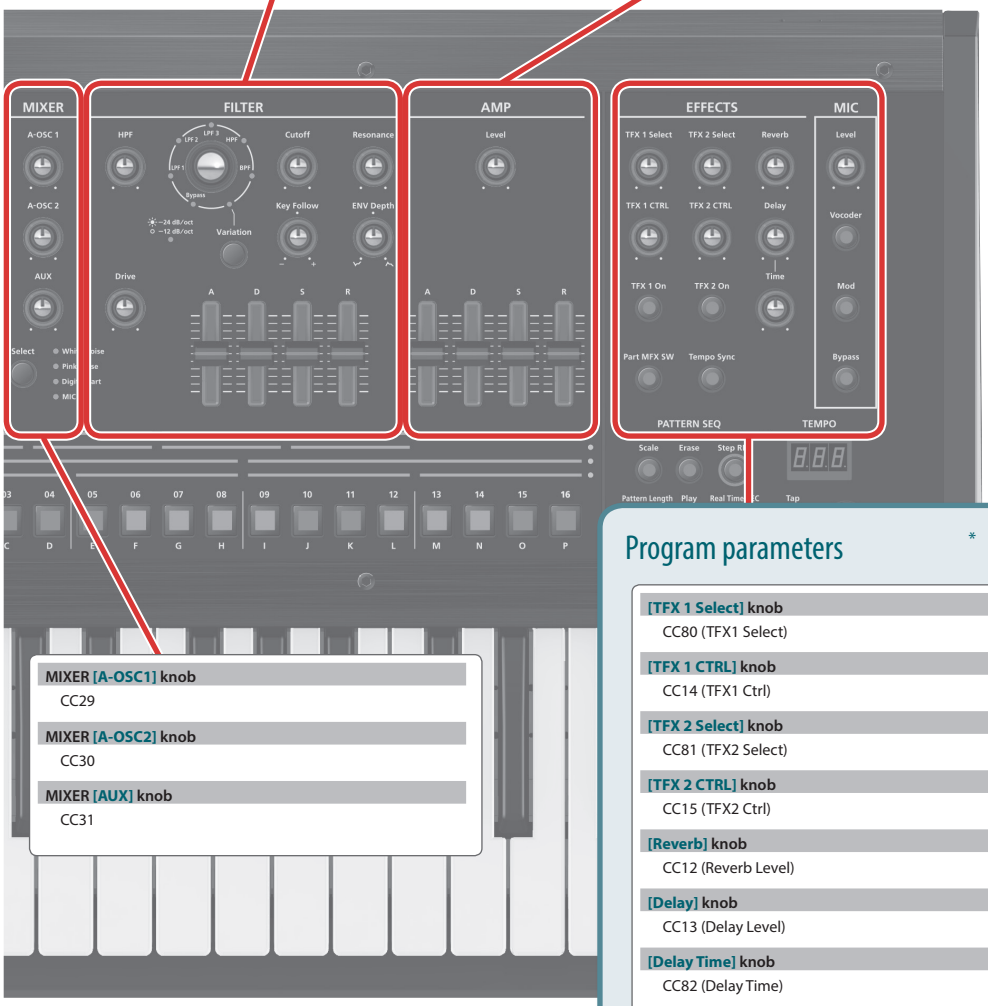
AMP [Level] knob
CC07

AMP [A] slider
CC73

AMP [D] slider
CC75

AMP [S] slider
CC117

AMP [R] slider
CC72



MIXER [A-OSC1] knob
CC29

MIXER [A-OSC2] knob
CC30

MIXER [AUX] knob
CC31

Program parameters

* The channel follows the system parameter Prog Ctrl Ch.

[TFX 1 Select] knob
CC80 (TFX1 Select)

[TFX 1 CTRL] knob
CC14 (TFX1 Ctrl)

[TFX 2 Select] knob
CC81 (TFX2 Select)

[TFX 2 CTRL] knob
CC15 (TFX2 Ctrl)

[Reverb] knob
CC12 (Reverb Level)

[Delay] knob
CC13 (Delay Level)

[Delay Time] knob
CC82 (Delay Time)

[MIC Level] knob
CC83 (MIC Level)

Digital OSC Waveform List

No.	Wave Name
	SAW-A
	SQR-A
	PW-SQR-A
	TRI-A
	SINE-A
	SUPER-SAW
	NOISE-A
	NOISE-B
	NOISE-C
	SAW-B
	SAW-C
	SQR-B
	SQR-C
	PW-SQR-B
	PW-SQR-C
	TRI-B
	TRI-C
	SINE-B
	SINE-C
1	JP-8 Saw
2	Syn Saw Wave
3	MG Saw 1
4	GR-300 Saw
5	P5 Saw
6	MG Saw 2
7	Calc.Saw
8	Calc.Saw inv
9	Digital Saw
10	JD Fat Saw
11	Unison Saw
12	DistSaw Wave
13	JP-8 Pls 05
14	Pulse Wave
15	Ramp Wave 1
16	Ramp Wave 2
17	Sine
18	PWM Wave 1
19	PWM Wave 2
20	PWM Wave 3
21	PWM Wave 4
22	Hollo Wave1
23	Hollo Wave2
24	Hollo Wave2+
25	SynStrings 1
26	SynStrings 2
27	SynStrings 3
28	SynStrings 4
29	SynStrings 5
30	SynStrings5+
31	SynStrings 6
32	SynStrings 7
33	SynStrings 8
34	SynStrings 9
35	FM Brass
36	Lead Wave 1
37	Lead Wave 2

No.	Wave Name
38	Lead Wave 3
39	Lead Wave 4
40	Lead Wave 5
41	SqrLeadWave
42	SqrLeadWave+
43	SBF Lead 1
44	SBF Lead 2
45	Sync Sweep
46	Saw Sync
47	Unison Sync
48	Unison Sync+
49	Sync Wave
50	X-Mod Wave 1
51	X-Mod Wave 2
52	X-Mod Wave 3
53	X-Mod Wave 4
54	X-Mod Wave 5
55	X-Mod Wave 6
56	X-Mod Wave 7
57	FeedbackWave
58	SubOSC Wave1
59	SubOSC Wave2
60	SubOSC Wave3
61	Saw+Sub Wave
62	DipthongWave
63	DipthongWv +
64	Heaven Wave
65	Fanta Synth
66	Syn Vox 1
67	Syn Vox 2
68	Org Vox
69	ZZZ Vox
70	Male Ooh
71	Doo
72	MMM Vox
73	Digital Vox
74	Spark Vox 1
75	Spark Vox 2
76	Aah Formant
77	Eeh Formant
78	Iih Formant
79	Ooh Formant
80	Uuh Formant
81	SBF Vox
82	SBF Digi Vox
83	VP-330 Choir
84	FM Syn Vox
85	Fine Wine
86	Digi Loop
87	Vib Wave
88	Bell Wave 1
89	Bell Wave 1+
90	Bell Wave 2
91	Bell Wave 3
92	Bell Wave 4
93	Digi Wave 1

No.	Wave Name
94	Digi Wave 2
95	Digi Wave 3
96	DIGI Bell
97	DIGI Bell +
98	Digi Chime
99	Org Bell
100	FM Bell
101	Hooky
102	Klack Wave
103	Syn Sax
104	Can Wave 1
105	Can Wave 2
106	MIDI Clav
107	Huge MIDI
108	Huge MIDI +
109	Pulse Clav
110	Pulse Clav+
111	Cello Wave
112	Cutters
113	5th Wave
114	Nasty
115	Wave Table
116	Bagpipe Wave
117	Wally Wave
118	Brusky Wave
119	Wave Scan
120	Wire String
121	Synth Piano
122	EP Hard
123	Vint. EP mp
124	Vint. EP f
125	Vint. EP ff
126	Stage EP p
127	Stage EP f
128	SA EP 1
129	SA EP 2
130	Wurly mp
131	Wurly mf
132	FM EP 1
133	FM EP 2
134	FM EP 3
135	FM EP 4
136	FM EP 5
137	EP Distone
138	OrganWave 1
139	OrganWave 2
140	OrganWave 3
141	OrganWave 4
142	OrganWave 5
143	OrganWave 5+
144	OrganWave 6
145	PercOrgan 1
146	PercOrgan 1+
147	PercOrgan 2
148	PercOrgan 2+
149	OrganWave 7

No.	Wave Name
150	OrganWave 8
151	Org Basic 1
152	Org Basic 2
153	3rd Perc Org
154	Vint.Organ
155	Chorus Organ
156	Org Perc
157	Org Perc 2nd
158	JLOrg1 Slw L
159	JLOrg1 Slw R
160	JLOrg1 Fst L
161	JLOrg1 Fst R
162	JLOrg2 Slw L
163	JLOrg2 Slw R
164	JLOrg2 Fst L
165	JLOrg2 Fst R
166	TheaterOrg1L
167	TheaterOrg1R
168	TheaterOrg2L
169	TheaterOrg2R
170	TheaterOrg3L
171	TheaterOrg3R
172	Positive '8
173	Pipe Organ
174	CathedralOrg
175	Clav Wave 1
176	Clav Wave 2
177	Clav Wave 3
178	Reg.Clav
179	Harpsi Wave1
180	Harpsi Wave2
181	Harpsi Wave3
182	Marimba Wave
183	Marimba Atk
184	Vibe Wave
185	Xylo Wave 1
186	Xylo Wave 2
187	FM Mallet
188	Tubular Bell
189	Celesta
190	Music Box 1
191	Music Box 2
192	Nylon Gtr
193	Brite Nylon
194	Ac. Gtr ff
195	Strat Sust
196	Strat Wave 1
197	Jazz Gtr
198	Strat Wave 2
199	FstPick70s
200	Funk Gtr
201	Muters
202	Mute Gtr 1
203	Mute Gtr 2
204	Mute Gtr 3
205	Harm Gtr

No.	Wave Name
206	Nasty Gtr
207	E.Gtr Loop
208	Overdrive 1
209	Overdrive 2
210	Dist Gtr 1
211	Dist Gtr 2
212	Mute Dist
213	Fretless
214	SlapBs Wave1
215	SlapBs Wave2
216	Hollow Bass
217	Solid Bass
218	FM Super Bs
219	SynBs Wave
220	SynBs Wave +
221	Banjo Wave
222	Pluck Harp
223	Harp Harm
224	Harp Wave
225	E.Sitar
226	Sitar Wave
227	Sitar Drone
228	Yangqin
229	KalimbaWave1
230	KalimbaWave2
231	Gamelan 1
232	Gamelan 2
233	Gamelan 3
234	Steel Drums
235	Log Drum
236	Bottle Hit
237	Agogo
238	Agogo Bell
239	Crystal
240	Finger Bell
241	Church Bell
242	LargeChrF 1
243	LargeChrF 2
244	Female Aahs1
245	Female Oohs
246	Female Aahs2
247	Male Aahs
248	Gospel Hum 1
249	Gospel Hum 2
250	Pop Voice
251	Jazz Doo 1
252	Jazz Doo 2
253	Jazz Doo 1+
254	Jazz Doo 2+
255	Jazz Doot 1
256	Jazz Doot 2
257	Jazz Dat 1
258	Jazz Dat 2
259	Jazz Bap 1
260	Jazz Bap 2
261	Dow fall 1
262	Dow fall 2
263	Bass Thum
264	Strings 1
265	Strings 2
266	Strings 3
267	Strings 4
268	Strings 5 L
269	Strings 5 R
270	Marcato1 L
271	Marcato1 R
272	Marcato2
273	F.StrStac1
274	F.StrStac2 L
275	F.StrStac2 R
276	Pizz 1
277	Pizz 2
278	Pizzagogo
279	Flute Wave
280	Flute Push
281	PanPipe Wave
282	Bottle Blow
283	Rad Hose
284	Shaku Atk 1
285	Shaku Atk 2
286	OrchUnison L
287	OrchUnison R
288	Tp Section
289	Flugel Wave
290	Fr.Horn Wave
291	Harmonica
292	Harmonica +
293	Cowbell
294	Tabla
295	O'Skool Hit
296	Orch. Hit
297	Punch Hit
298	Philly Hit
299	ClassicHseHt
300	Tao Hit
301	Anklungs
302	Rattles
303	Xylo Seq. 1
304	Wind Chimes
305	Bubble
306	Xylo Seq. 2
307	Siren Wave
308	Scratch 1
309	Scratch 2
310	Scratch 3
311	Scratch 4
312	Scratch 5
313	Scratch 6
314	Scratch Push
315	Scratch Pull
316	Metal Vox 1
317	Metal Vox 1+
318	Metal Vox 2
319	Metal Vox 2+
320	Metal Vox 3
321	Metal Vox 3+
322	Scrape Gut
323	Strat Atk
324	EP Atk
325	Org Atk 1
326	Org Atk 2
327	Org Click
328	Harpsi Thmp1
329	Harpsi Thmp2
330	Shaku Noise
331	Klmba Atk
332	Shami Attack
333	Block
334	Wood Crak
335	AnalogAttack
336	Metal Attack
337	Pole Loop
338	Strike Pole
339	Switch
340	Tuba Slap
341	Plink
342	Plunk
343	Tin Wave
344	Vinyl Noise
345	Pitch Wind
346	Vox Noise 1
347	Vox Noise 2
348	SynVox Noise
349	Digi Breath
350	Agogo Noise
351	Wind Agogo
352	Polishing Nz
353	Dentist Nz
354	CrunchWind
355	ThroatWind
356	MetalWind
357	Atmosphere
358	DigiSpectrum
359	SBF Cym
360	SBF Bell
361	SBF Nz
362	White Noise
363	Pink Noise
364	Thickness Bs
365	Plastic Bass
366	Breakdown Bs
367	Dist TB
368	Pulse Bass
369	Hip Lead
370	VintageStack
371	Tekno Ld 1
372	Icy Keys
373	JP-8StringsL
374	JP-8StringsR
375	Revalation
376	Boreal Pad L
377	Boreal Pad R
378	Sea Waves L
379	Sea Waves R
380	Sweep Pad 1
381	Sweep Pad 2
382	Sweep Pad 3
383	Particles L
384	Particles R
385	3Delay Poly
386	Poly Fat 1
387	Poly Fat 2
388	Poly Fat 3
389	Alan's Pad L
390	Alan's Pad R
391	DlyReso Saw1
392	DlyReso Saw2
393	DlyReso Saw3
394	TranceSaws 1
395	TranceSaws 2
396	TranceSaws 3
397	Tekno Ld 2
398	NuWave
399	EQ Lead 1
400	EQ Lead 2
401	EQ Lead 3
402	80sBrsSect L
403	80sBrsSect R
404	LoveBrsLiveL
405	LoveBrsLiveR
406	ScoopSynBrsL
407	ScoopSynBrsR
408	Power JP L
409	Power JP R
410	ChasingBells
411	Bad Axe L
412	Bad Axe R
413	Cutting Lead
414	Poly Key
415	Buzz Cut
416	DsturbedSync
417	LFO Poly
418	HPF Pad L
419	HPF Pad R
420	Chubby Ld
421	FantaClaus
422	FantasyPad 1
423	FantasyPad 2
424	FantasyPad 3
425	Legend Pad
426	D-50 Stack
427	Digi Crystal
428	PipeChatter1
429	PipeChatter2

No.	Wave Name
430	PipeChatter3
431	JP Hollow L
432	JP Hollow R
433	VoiceHeavenL
434	VoiceHeavenR
435	Atmospheric
436	Air Pad 1
437	Air Pad 2
438	Air Pad 3
439	ChrdOfCnadaL
440	ChrdOfCnadaR
441	Fireflies
442	NewJupiter 1
443	NewJupiter 2
444	NewJupiter 3
445	NewJupiter 4
446	NewJupiter 5
447	Pulsatron
448	JazzyBubbles
449	SynthFx 1
450	SynthFx 2