

INTEGRA-7

SuperNATURAL SOUND MODULE

Parameter Guide

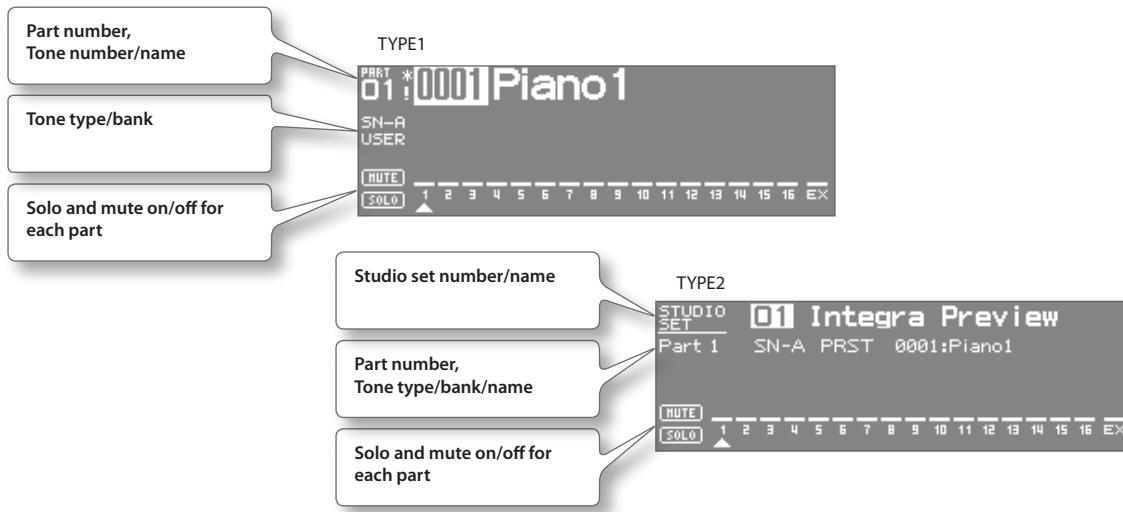
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Studio Set

Top Screen

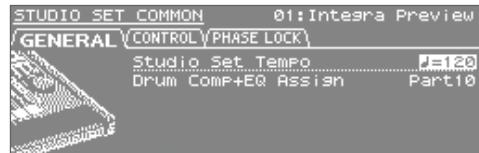


* There are two types of top screen: TYPE 1 and TYPE 2. Use [SHIFT] + [ENTER] to switch between them.

Parameter	Value	Explanation
Studio Set Number	1–64	Selects the number of the studio set. The studio set will be switched when you change the number and press [ENTER]. (This is shown if the system setting “Top Screen” is TYPE 2.)
Tone Type		
Tone Bank		For details, refer to “ TONE tab ” (p. 6) of the PART VIEW screen.
Tone Number		
MUTE	OFF, ON	Mutes (ON) or un-mutes (OFF) each part. Use this setting when, for example, you want to use the instrument for karaoke by muting the part playing the melody, or when you want to play something using a separate sound module. * The bar (—) above the part number is erased for parts whose mute setting is on. * The Mute Switch parameter does not turn the part off, but sets the volume to minimum so that no sound is heard. Therefore, MIDI messages are still received.
SOLO	OFF, 1–16	Only the sound of the part set to Solo will be heard. * You can't set the Ext part to Solo.

STUDIO SET COMMON

- In the top screen, press the [MENU] button.
- Choose “STUDIO SET COMMON,” and press the [ENTER] button.



Parameter	Value	Explanation
GENERAL tab		
Studio Set Tempo	20–250	<p>Tempo for the studio set</p> <p>MEMO If the system setting “Tempo Assign Source” is set to STUDIO SET, the tempo setting of the studio set will be used as the tempo. If “Tempo Assign Source” is set to SYSTEM, the system’s tempo setting will be used as the tempo.</p>
Drum Comp+EQ Assign	Part1–Part16	<p>Specifies the part that will use the six sets of compressor + equalizer that are provided for use with a drum kit.</p> <p>* If a tone (not a drum kit) is assigned to the part specified by Drum Comp+EQ Assign, the Comp+EQ will not be available.</p>

CONTROL tab

Tone Control 1 Src	OFF, CC01–CC31, CC33–CC95, BEND, AFT	Specify the MIDI messages that will be used for Tone Control of the studio set. MEMO If you want to use the Tone Control 1–4 Src settings of each studio set to control the tone, set the system setting “Control Source Select” to STUDIO SET. If you want to use the system settings System Control 1–4 Src to control the tone, set the system setting “Control Source Select” to “SYSTEM.”
Tone Control 2 Src	OFF, CC01–CC31, CC33–CC95, BEND, AFT	
Tone Control 3 Src	OFF, CC01–CC31, CC33–CC95, BEND, AFT	
Tone Control 4 Src	OFF, CC01–CC31, CC33–CC95, BEND, AFT	

PHASE LOCK tab

CH 1–CH 16	OFF, ON	<p>Set Phase Lock to “ON” when you want to suppress discrepancies in timing of parts played on the same MIDI channel.</p> <p>When the Phase Lock parameter is set to “ON,” parts on the same MIDI channel are put in a condition in which their timing is matched, enabling them to be played at the same time. Accordingly, a certain amount of time may elapse between reception of the Note messages and playing of the sounds. Turn this setting to “ON” only as needed.</p> <p>* Phase Lock is not available for SuperNATURAL acoustic organ-type instruments.</p>
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PART VIEW

1. In the top screen, press the [PART VIEW] button.

The PART VIEW -ALL- screen appears.

- * Some of the part parameters are not shown in the PARTVIEW -ALL- screen.

PART VIEW -ALL- Part 1 0001:Full Grand 1	
/TONE\LEVEL\CH\EQ\KBD\PITCH\OFFSET\SCALE ▶ 1/8	
Type	Bank Number
01	SN-A PRST 0001:Full Grand 1 (PNO)
02	SN-A PRST 0203:StringsSect1 (STR)
03	SN-A PRST 0010:'76 Pure (EP)
04	SN-A PRST 0050:B3 Jazz 1 (ORG)
05	SN-S PRST 0091:Awakening (Syn.PAD)

2. Press the [PART VIEW] button again.

The PART VIEW screen appears.

PART VIEW Part 1 0001:Full Grand 1		
/TONE\LEVEL\CH\EQ\KBD\PITCH\OFFSET\SCALE ▶ 1/8		
TYPE	BANK	CATEGORY
SN-A	PRST	(PNO:Ac.Piano)
0001 Full Grand 1		
(MSB: 89 LSB: 64 PC: 1)		

Parameter	Value	Explanation
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TONE tab

Tone Type	SN-A, SN-S, SN-D PCMS, PCMD	SN-A : SuperNATURAL Acoustic Tones SN-S : SuperNATURAL Synth Tones SN-D : SuperNATURAL Drum Kits PCMS : PCM Synth Tones PCMD : PCM Drum Kits Specifies the type of tone/drum kit assigned to each part.
Tone Bank	PRST, USER, GM2 (GM2#), ExSN1–ExSN6, SRX01–SRX12, ExPCM	Selects the group of the tone/drum kit assigned to each part. <ul style="list-style-type: none"> • ExSN1–5 can be selected as SN-A if that expansion is loaded • ExSN6 can be selected as SN-D if that expansion is loaded • SRX01–12 and ExPCM can be selected as PCMS and PCMD if that expansion is loaded
Tone Number	001–	Selects the number of the tone/drum kit assigned to each part.

LEVEL/CH tab

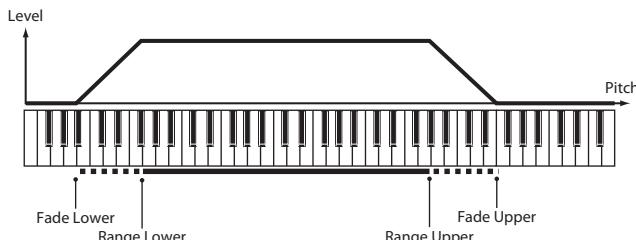
Level (Also valid for the Ext part)	0–127	Adjust the volume of each part. This setting's main purpose is to adjust the volume balance between parts.														
Pan	L64–63R	Adjust the pan of each part. “ L64 ” is far left, “ 0 ” is center, and “ 63R ” is far right. * If motion surround is on, surround output will be enabled and this setting will be ignored.														
Cho Send Level (Also valid for the Ext part)	0–127	Adjusts the amount of Chorus for each Part. If you don't want to add the Chorus effect, set it to 0. * This has no effect if motion surround is on.														
Rev Send Level (Also valid for the Ext part)	0–127	Adjusts the amount of Reverb for each Part. If you don't want to add the Reverb effect, set it to 0. * This has no effect if motion surround is on.														
Output Assign	A, B, C, D, 1–8	Specifies for each part how the sound will be output. A, B, C, D: The sound will be output in stereo to the OUTPUT A (MIX) jacks or from the OUTPUT B, C, D jacks. 1–8: The sound will be output in monaural to the INDIVIDUAL 1–8 jacks.														
Rx Switch	OFF, ON	For each part, specify whether MIDI messages will be received (ON), or not (OFF). If this is “ OFF ,” the part will not respond. Normally, you should leave this “ ON ,” but you can turn it “ OFF ” when you do not want a specific part to be playing during song playback.														
Rx Channel	1–16	Specifies the MIDI receive channel for each part.														
Mono/Poly	MONO, POLY, TONE	Set this parameter to “ MONO ” when the tone assigned to the part is to be played monophonically, or to “ POLY ” when the tone is to be played polyphonically. If you want to use the Mono/Poly setting of the tone assigned to the part (p. **), set this to “ TONE .” * This is not shown in PARTVIEW -ALL-.														
		<table border="1"> <tr> <td>SN-A (Ac.Piano)</td> <td>SN-A (Organ)</td> <td>SN-A (Other)</td> <td>SN-S</td> <td>SN-D</td> <td>PCMS</td> <td>PCMD</td> </tr> <tr> <td>✓</td> <td>–</td> <td>✓</td> <td>✓</td> <td>–</td> <td>✓</td> <td>–</td> </tr> </table>	SN-A (Ac.Piano)	SN-A (Organ)	SN-A (Other)	SN-S	SN-D	PCMS	PCMD	✓	–	✓	✓	–	✓	–
SN-A (Ac.Piano)	SN-A (Organ)	SN-A (Other)	SN-S	SN-D	PCMS	PCMD										
✓	–	✓	✓	–	✓	–										

Parameter	Value	Explanation														
Legato Switch	OFF, ON, TONE	<p>You can add legato when performing monophonically. 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.</p> <p>Turn this parameter “ON” when you want to use the Legato feature and “OFF” when you don’t. If you want to use the Legato Switch setting of the tone assigned to the part, set this to “TONE.”</p> <p>* This is not shown in PART VIEW -ALL-.</p> <table border="1" style="margin-left: auto; margin-right: auto;"> <tr> <td>SN-A (Ac.Piano)</td> <td>SN-A (Organ)</td> <td>SN-A (Other)</td> <td>SN-S</td> <td>SN-D</td> <td>PCMS</td> <td>PCMD</td> </tr> <tr> <td>✓</td> <td>–</td> <td>–</td> <td>✓</td> <td>–</td> <td>✓</td> <td>–</td> </tr> </table>	SN-A (Ac.Piano)	SN-A (Organ)	SN-A (Other)	SN-S	SN-D	PCMS	PCMD	✓	–	–	✓	–	✓	–
SN-A (Ac.Piano)	SN-A (Organ)	SN-A (Other)	SN-S	SN-D	PCMS	PCMD										
✓	–	–	✓	–	✓	–										
Voice Reserve	0–63, FULL	<p>This setting specifies the number of voices that will be reserved for each part when more than 128 voices are played simultaneously.</p> <p>It is not possible for the settings of all parts to total an amount greater than 64.</p> <p>* This is not shown in PART VIEW -ALL-.</p>														

EQ tab

EQ Switch	OFF, ON	EQ for each part on/off setting
EQ Low Freq	200, 400 [Hz]	Frequency of the low range * This is not shown in PART VIEW -ALL-.
EQ Low Gain	-15–+15 [dB]	Gain of the low frequency range
EQ Mid Freq	200, 250, 315, 400, 500, 630, 800, 1000, 1250, 1600, 2000, 2500, 3150, 4000, 5000, 6300, 8000 [Hz]	Frequency of the middle range * This is not shown in PART VIEW -ALL-.
EQ Mid Gain	-15–+15 [dB]	Gain of the middle frequency range
EQ 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. * This is not shown in PART VIEW -ALL-.
EQ High Freq	2000, 4000, 8000 [Hz]	Frequency of the high range * This is not shown in PART VIEW -ALL-.
EQ High Gain	-15–+15 [dB]	Gain of the high frequency range

KBD tab



Key Fade Upper	0–127	Determines what will happen to the Part’s level when a note that’s higher than its specified keyboard range is played. Higher settings produce a more gradual change in volume. If you don’t want the Tone to sound at all when a note above the keyboard range is played, set this parameter to 0.
Key Range Upper	LOWER–G9	Specifies the highest note that the tone will sound for each part. * It is not possible to set Lower to a value greater than the Upper value, or Upper to a value less than the Lower value.
Key Range Lower	C–1–UPPER	Specifies the lowest note that the tone will sound for each part.
Key Fade Lower	0–127	Determines what will happen to the Part’s level when a note that’s lower than its specified keyboard range is played. Higher settings produce a more gradual change in volume. If you don’t want the Tone to sound at all when a note below the keyboard range is played, set this parameter to 0.

Studio Set — PITCH tab

Parameter	Value	Explanation														
Velo Fade Upper	0–127	<p>Determines what will happen to the tone's level when the tone is played at a velocity greater than Velo Range Upper. If you don't want the tone to sound at all, set this parameter to "0".</p> <p>* This is not shown in PART VIEW -ALL-.</p> <table border="1" style="margin-left: auto; margin-right: auto;"> <tr> <th>SN-A (Ac.Piano)</th> <th>SN-A (Organ)</th> <th>SN-A (Other)</th> <th>SN-S</th> <th>SN-D</th> <th>PCMS</th> <th>PCMD</th> </tr> <tr> <td>✓</td> <td>—</td> <td>✓</td> <td>✓</td> <td>✓</td> <td>✓</td> <td>✓</td> </tr> </table>	SN-A (Ac.Piano)	SN-A (Organ)	SN-A (Other)	SN-S	SN-D	PCMS	PCMD	✓	—	✓	✓	✓	✓	✓
SN-A (Ac.Piano)	SN-A (Organ)	SN-A (Other)	SN-S	SN-D	PCMS	PCMD										
✓	—	✓	✓	✓	✓	✓										
Velo Range Upper	LOWER–127	<p>Specifies the highest velocity at which the part will sound.</p> <p>* This is not shown in PART VIEW -ALL-.</p>														
Velo Range Lower	1–UPPER	<p>Specifies the lowest velocity at which the part will sound.</p> <p>* This is not shown in PART VIEW -ALL-.</p>														
Velo Fade Lower	0–127	<p>Determines what will happen to the tone's level when the tone is played at a velocity lower than Velo Range Lower. If you don't want the tone to sound at all, set this parameter to "0".</p> <p>* This is not shown in PART VIEW -ALL-.</p> <table border="1" style="margin-left: auto; margin-right: auto;"> <tr> <th>SN-A (Ac.Piano)</th> <th>SN-A (Organ)</th> <th>SN-A (Other)</th> <th>SN-S</th> <th>SN-D</th> <th>PCMS</th> <th>PCMD</th> </tr> <tr> <td>✓</td> <td>—</td> <td>✓</td> <td>✓</td> <td>✓</td> <td>✓</td> <td>✓</td> </tr> </table>	SN-A (Ac.Piano)	SN-A (Organ)	SN-A (Other)	SN-S	SN-D	PCMS	PCMD	✓	—	✓	✓	✓	✓	✓
SN-A (Ac.Piano)	SN-A (Organ)	SN-A (Other)	SN-S	SN-D	PCMS	PCMD										
✓	—	✓	✓	✓	✓	✓										
Velo Sens Offset	-63–+63	<p>Adjusts the velocity sensitivity. The higher the value, the greater the sensitivity.</p> <p>* This is not shown in PART VIEW -ALL-.</p> <table border="1" style="margin-left: auto; margin-right: auto;"> <tr> <th>SN-A (Ac.Piano)</th> <th>SN-A (Organ)</th> <th>SN-A (Other)</th> <th>SN-S</th> <th>SN-D</th> <th>PCMS</th> <th>PCMD</th> </tr> <tr> <td>✓</td> <td>—</td> <td>—</td> <td>✓</td> <td>✓</td> <td>✓</td> <td>✓</td> </tr> </table>	SN-A (Ac.Piano)	SN-A (Organ)	SN-A (Other)	SN-S	SN-D	PCMS	PCMD	✓	—	—	✓	✓	✓	✓
SN-A (Ac.Piano)	SN-A (Organ)	SN-A (Other)	SN-S	SN-D	PCMS	PCMD										
✓	—	—	✓	✓	✓	✓										

PITCH tab

Octave Shift	-3–+3	Adjusts the pitch of the part's sound up or down in units of an octave (+/-3 octaves).														
		<table border="1" style="margin-left: auto; margin-right: auto;"> <tr> <th>SN-A (Ac.Piano)</th> <th>SN-A (Organ)</th> <th>SN-A (Other)</th> <th>SN-S</th> <th>SN-D</th> <th>PCMS</th> <th>PCMD</th> </tr> <tr> <td>✓</td> <td>✓</td> <td>✓</td> <td>✓</td> <td>—</td> <td>✓</td> <td>—</td> </tr> </table>	SN-A (Ac.Piano)	SN-A (Organ)	SN-A (Other)	SN-S	SN-D	PCMS	PCMD	✓	✓	✓	✓	—	✓	—
SN-A (Ac.Piano)	SN-A (Organ)	SN-A (Other)	SN-S	SN-D	PCMS	PCMD										
✓	✓	✓	✓	—	✓	—										
Coarse Tune	-48–+48	Adjusts the pitch of the part's sound up or down in semitone steps (+/-4 octaves).														
Fine Tune	-50–+50	<p>Adjusts the pitch of the part's sound up or down in 1-cent steps (+/- 50 cents).</p> <p>MEMO One cent is 1/100th of a semitone.</p>														
Bend Range	0–24, TONE	<p>Specifies the amount of pitch change in semitones (2 octaves) that will occur when the Pitch Bend Lever is moved. The amount of change when the lever is tilted is set to the same value for both left and right sides. If you want to use the Pitch Bend Range setting of the tone assigned to the part, set this to "TONE".</p> <table border="1" style="margin-left: auto; margin-right: auto;"> <tr> <th>SN-A (Ac.Piano)</th> <th>SN-A (Organ)</th> <th>SN-A (Other)</th> <th>SN-S</th> <th>SN-D</th> <th>PCMS</th> <th>PCMD</th> </tr> <tr> <td>✓</td> <td>✓</td> <td>✓</td> <td>✓</td> <td>—</td> <td>✓</td> <td>✓</td> </tr> </table>	SN-A (Ac.Piano)	SN-A (Organ)	SN-A (Other)	SN-S	SN-D	PCMS	PCMD	✓	✓	✓	✓	—	✓	✓
SN-A (Ac.Piano)	SN-A (Organ)	SN-A (Other)	SN-S	SN-D	PCMS	PCMD										
✓	✓	✓	✓	—	✓	✓										
Porta Switch	OFF, ON, TONE	<p>Specify whether portamento will be applied. Turn this parameter "ON" when you want to apply Portamento and "OFF" when you don't. If you want to use the Portamento Switch setting of the tone assigned to the part, set this to "TONE".</p> <p>* This is not shown in PART VIEW -ALL-.</p> <table border="1" style="margin-left: auto; margin-right: auto;"> <tr> <th>SN-A (Ac.Piano)</th> <th>SN-A (Organ)</th> <th>SN-A (Other)</th> <th>SN-S</th> <th>SN-D</th> <th>PCMS</th> <th>PCMD</th> </tr> <tr> <td>✓</td> <td>—</td> <td>✓</td> <td>✓</td> <td>—</td> <td>✓</td> <td>—</td> </tr> </table>	SN-A (Ac.Piano)	SN-A (Organ)	SN-A (Other)	SN-S	SN-D	PCMS	PCMD	✓	—	✓	✓	—	✓	—
SN-A (Ac.Piano)	SN-A (Organ)	SN-A (Other)	SN-S	SN-D	PCMS	PCMD										
✓	—	✓	✓	—	✓	—										

Parameter	Value	Explanation					
Porta Time	0–127, TONE	<p>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. If you want to use the Portamento Time setting of the tone assigned to the part, set this to “TONE.”</p> <p>* This is not shown in PART VIEW -ALL-.</p>					

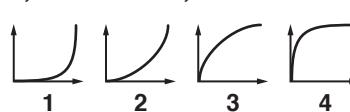
OFFSET tab

		Adjusts the cutoff frequency for the tone/drum kit assigned to a part.																			
Cutoff Offset	-64–+63	<table border="1" style="margin-left: auto; margin-right: auto;"> <tr> <td>SN-A (Ac.Piano)</td><td>SN-A (Organ)</td><td>SN-A (Other)</td><td>SN-S</td><td>SN-D</td><td>PCMS</td><td>PCMD</td></tr> <tr> <td>–</td><td>–</td><td>✓*</td><td>✓</td><td>–</td><td>✓</td><td>✓</td></tr> </table>						SN-A (Ac.Piano)	SN-A (Organ)	SN-A (Other)	SN-S	SN-D	PCMS	PCMD	–	–	✓*	✓	–	✓	✓
SN-A (Ac.Piano)	SN-A (Organ)	SN-A (Other)	SN-S	SN-D	PCMS	PCMD															
–	–	✓*	✓	–	✓	✓															
		* For some tones, the effect may be difficult to notice.																			
Reso Offset	-64–+63	Adjusts the Resonance for the tone/drum kit assigned to a part.																			
		<table border="1" style="margin-left: auto; margin-right: auto;"> <tr> <td>SN-A (Ac.Piano)</td><td>SN-A (Organ)</td><td>SN-A (Other)</td><td>SN-S</td><td>SN-D</td><td>PCMS</td><td>PCMD</td></tr> <tr> <td>–</td><td>–</td><td>✓*</td><td>✓</td><td>–</td><td>✓</td><td>✓</td></tr> </table>						SN-A (Ac.Piano)	SN-A (Organ)	SN-A (Other)	SN-S	SN-D	PCMS	PCMD	–	–	✓*	✓	–	✓	✓
SN-A (Ac.Piano)	SN-A (Organ)	SN-A (Other)	SN-S	SN-D	PCMS	PCMD															
–	–	✓*	✓	–	✓	✓															
		* For some tones, the effect may be difficult to notice.																			
Attack Offset	-64–+63	Adjusts the Attack Time for the tone/drum kit assigned to a part.																			
		<table border="1" style="margin-left: auto; margin-right: auto;"> <tr> <td>SN-A (Ac.Piano)</td><td>SN-A (Organ)</td><td>SN-A (Other)</td><td>SN-S</td><td>SN-D</td><td>PCMS</td><td>PCMD</td></tr> <tr> <td>–</td><td>–</td><td>✓</td><td>✓</td><td>–</td><td>✓</td><td>✓</td></tr> </table>						SN-A (Ac.Piano)	SN-A (Organ)	SN-A (Other)	SN-S	SN-D	PCMS	PCMD	–	–	✓	✓	–	✓	✓
SN-A (Ac.Piano)	SN-A (Organ)	SN-A (Other)	SN-S	SN-D	PCMS	PCMD															
–	–	✓	✓	–	✓	✓															
		* For some tones, the effect may be difficult to notice.																			
Decay Offset	-64–+63	Adjusts the Decay Time for the tone/drum kit assigned to a part.																			
		<table border="1" style="margin-left: auto; margin-right: auto;"> <tr> <td>SN-A (Ac.Piano)</td><td>SN-A (Organ)</td><td>SN-A (Other)</td><td>SN-S</td><td>SN-D</td><td>PCMS</td><td>PCMD</td></tr> <tr> <td>–</td><td>–</td><td>–</td><td>✓</td><td>✓</td><td>✓</td><td>✓</td></tr> </table>						SN-A (Ac.Piano)	SN-A (Organ)	SN-A (Other)	SN-S	SN-D	PCMS	PCMD	–	–	–	✓	✓	✓	✓
SN-A (Ac.Piano)	SN-A (Organ)	SN-A (Other)	SN-S	SN-D	PCMS	PCMD															
–	–	–	✓	✓	✓	✓															
		* For some tones, the effect may be difficult to notice.																			
Release Offset	-64–+63	Adjusts the Release Time for the tone/drum kit assigned to a part.																			
		<table border="1" style="margin-left: auto; margin-right: auto;"> <tr> <td>SN-A (Ac.Piano)</td><td>SN-A (Organ)</td><td>SN-A (Other)</td><td>SN-S</td><td>SN-D</td><td>PCMS</td><td>PCMD</td></tr> <tr> <td>–</td><td>–</td><td>✓</td><td>✓</td><td>✓</td><td>✓</td><td>✓</td></tr> </table>						SN-A (Ac.Piano)	SN-A (Organ)	SN-A (Other)	SN-S	SN-D	PCMS	PCMD	–	–	✓	✓	✓	✓	✓
SN-A (Ac.Piano)	SN-A (Organ)	SN-A (Other)	SN-S	SN-D	PCMS	PCMD															
–	–	✓	✓	✓	✓	✓															
		* For some tones, the effect may be difficult to notice.																			
Vibrato Rate	-64–+63	<p>For each part, adjust the vibrato speed (the rate at which the pitch is modulated). The pitch will be modulated more rapidly for higher settings, and more slowly with lower settings.</p> <p>* This is not shown in PART VIEW -ALL-.</p>																			
		<table border="1" style="margin-left: auto; margin-right: auto;"> <tr> <td>SN-A (Ac.Piano)</td><td>SN-A (Organ)</td><td>SN-A (Other)</td><td>SN-S</td><td>SN-D</td><td>PCMS</td><td>PCMD</td></tr> <tr> <td>✓</td><td>–</td><td>✓*</td><td>✓</td><td>–</td><td>✓</td><td>✓</td></tr> </table>						SN-A (Ac.Piano)	SN-A (Organ)	SN-A (Other)	SN-S	SN-D	PCMS	PCMD	✓	–	✓*	✓	–	✓	✓
SN-A (Ac.Piano)	SN-A (Organ)	SN-A (Other)	SN-S	SN-D	PCMS	PCMD															
✓	–	✓*	✓	–	✓	✓															
		* This effect does not apply to instruments of the Bell/Mallet and Percussion categories.																			
Vibrato Depth	-64–+63	<p>For each part, this adjusts the depth of the vibrato effect (the depth at which the pitch is modulated). The pitch will be modulated more greatly for higher settings, and less with lower settings.</p> <p>* This is not shown in PART VIEW -ALL-.</p>																			
		<table border="1" style="margin-left: auto; margin-right: auto;"> <tr> <td>SN-A (Ac.Piano)</td><td>SN-A (Organ)</td><td>SN-A (Other)</td><td>SN-S</td><td>SN-D</td><td>PCMS</td><td>PCMD</td></tr> <tr> <td>✓</td><td>–</td><td>✓*</td><td>✓</td><td>–</td><td>✓</td><td>✓</td></tr> </table>						SN-A (Ac.Piano)	SN-A (Organ)	SN-A (Other)	SN-S	SN-D	PCMS	PCMD	✓	–	✓*	✓	–	✓	✓
SN-A (Ac.Piano)	SN-A (Organ)	SN-A (Other)	SN-S	SN-D	PCMS	PCMD															
✓	–	✓*	✓	–	✓	✓															
		* This effect does not apply to instruments of the Bell/Mallet and Percussion categories.																			
Vibrato Delay	-64–+63	<p>For each part, this adjusts the time delay until the vibrato (pitch modulation) effect begins. Higher settings will produce a longer delay time before vibrato begins, while lower settings produce a shorter time.</p> <p>* This is not shown in PART VIEW -ALL-.</p>																			
		<table border="1" style="margin-left: auto; margin-right: auto;"> <tr> <td>SN-A (Ac.Piano)</td><td>SN-A (Organ)</td><td>SN-A (Other)</td><td>SN-S</td><td>SN-D</td><td>PCMS</td><td>PCMD</td></tr> <tr> <td>✓</td><td>–</td><td>✓*</td><td>✓</td><td>–</td><td>✓</td><td>✓</td></tr> </table>						SN-A (Ac.Piano)	SN-A (Organ)	SN-A (Other)	SN-S	SN-D	PCMS	PCMD	✓	–	✓*	✓	–	✓	✓
SN-A (Ac.Piano)	SN-A (Organ)	SN-A (Other)	SN-S	SN-D	PCMS	PCMD															
✓	–	✓*	✓	–	✓	✓															
		* This effect does not apply to instruments of the Bell/Mallet and Percussion categories.																			

Studio Set – SCALE tab

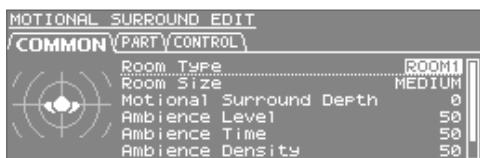
Parameter	Value	Explanation														
SCALE tab																
Scale Tune Type	CUSTOM, EQUAL, JUST-MAJ, JUST-MIN, PYTHAGORE, KIRNBERGE, MEANTONE, WERCKMEIS, ARABIC	<p>These are templates that set all of the Scale Tune C-B settings.</p> <p>CUSTOM: Specify the tuning individually for Scale Tune C-B.</p> <p>EQUAL: Equal temperament</p> <p>JUST-MAJ: Just intonation (major)</p> <p>JUST-MIN: Just intonation (minor)</p> <p>PYTHAGORE: Pythagorean tuning</p> <p>KIRNBERGE: Kirnberger (type 3)</p> <p>MEANTONE: Meantone temperament</p> <p>WERCKMEIS: Werckmeister (type 1, number 3)</p> <p>ARABIC: Arabic scale</p>														
		<table border="1"> <thead> <tr> <th>SN-A (Ac.Piano)</th> <th>SN-A (Organ)</th> <th>SN-A (Other)</th> <th>SN-S</th> <th>SN-D</th> <th>PCMS</th> <th>PCMD</th> </tr> </thead> <tbody> <tr> <td>✓</td> <td>–</td> <td>✓</td> <td>✓</td> <td>–</td> <td>✓</td> <td>✓</td> </tr> </tbody> </table>	SN-A (Ac.Piano)	SN-A (Organ)	SN-A (Other)	SN-S	SN-D	PCMS	PCMD	✓	–	✓	✓	–	✓	✓
SN-A (Ac.Piano)	SN-A (Organ)	SN-A (Other)	SN-S	SN-D	PCMS	PCMD										
✓	–	✓	✓	–	✓	✓										
Scale Tune Key	C, C#, D, D#, E, F, F#, G, G#, A, A#, B	Specifies the tonic note for the scale tune template.														
		<table border="1"> <thead> <tr> <th>SN-A (Ac.Piano)</th> <th>SN-A (Organ)</th> <th>SN-A (Other)</th> <th>SN-S</th> <th>SN-D</th> <th>PCMS</th> <th>PCMD</th> </tr> </thead> <tbody> <tr> <td>✓</td> <td>–</td> <td>✓</td> <td>✓</td> <td>–</td> <td>✓</td> <td>✓</td> </tr> </tbody> </table>	SN-A (Ac.Piano)	SN-A (Organ)	SN-A (Other)	SN-S	SN-D	PCMS	PCMD	✓	–	✓	✓	–	✓	✓
SN-A (Ac.Piano)	SN-A (Organ)	SN-A (Other)	SN-S	SN-D	PCMS	PCMD										
✓	–	✓	✓	–	✓	✓										
Scale Tune for C-B	-64→+63	<p>Specifies the scale tuning.</p> <p>* This is not shown in PART VIEW -ALL-.</p> <table border="1"> <thead> <tr> <th>SN-A (Ac.Piano)</th> <th>SN-A (Organ)</th> <th>SN-A (Other)</th> <th>SN-S</th> <th>SN-D</th> <th>PCMS</th> <th>PCMD</th> </tr> </thead> <tbody> <tr> <td>✓</td> <td>–</td> <td>✓</td> <td>✓</td> <td>–</td> <td>✓</td> <td>✓</td> </tr> </tbody> </table>	SN-A (Ac.Piano)	SN-A (Organ)	SN-A (Other)	SN-S	SN-D	PCMS	PCMD	✓	–	✓	✓	–	✓	✓
SN-A (Ac.Piano)	SN-A (Organ)	SN-A (Other)	SN-S	SN-D	PCMS	PCMD										
✓	–	✓	✓	–	✓	✓										

MIDI tab

PC (Rx Program Change)	OFF, ON	For each MIDI channel, specify whether MIDI Program Change messages will be received “ON”, or not “OFF”.														
BS (Rx Bank Select)	OFF, ON	For each MIDI channel, specify whether MIDI Bank Select messages will be received “ON”, or not “OFF”.														
PB (Rx Pitch Bend)	OFF, ON	For each MIDI channel, specify whether MIDI Pitch Bend messages will be received “ON”, or not “OFF”.														
PA (Rx Poly Key Press)	OFF, ON	For each MIDI channel, specify whether MIDI polyphonic key pressure messages will be received “ON”, or not “OFF”.														
CA (Rx Ch Press)	OFF, ON	For each MIDI channel, specify whether MIDI Channel Pressure messages will be received “ON”, or not “OFF”.														
MD (Rx Modulation)	OFF, ON	For each MIDI channel, specify whether MIDI Modulation messages will be received “ON”, or not “OFF”.														
VO (Rx Volume)	OFF, ON	For each MIDI channel, specify whether MIDI Volume messages will be received “ON”, or not “OFF”.														
PN (Rx Pan)	OFF, ON	For each MIDI channel, specify whether MIDI Pan messages will be received “ON”, or not “OFF”.														
EX (Rx Expression)	OFF, ON	For each MIDI channel, specify whether MIDI Expression messages will be received “ON”, or not “OFF”.														
HD (Rx Hold-1)	OFF, ON	For each MIDI channel, specify whether MIDI Hold 1 messages will be received “ON”, or not “OFF”.														
VC (Velo Crv Type)	OFF, 1–4	<p>Velocity Curve selects for each part one of the four following Velocity Curve types that best matches the touch of the connected MIDI keyboard. Set this to “OFF” if you are using the MIDI keyboard’s own velocity curve.</p>  <table border="1"> <thead> <tr> <th>SN-A (Ac.Piano)</th> <th>SN-A (Organ)</th> <th>SN-A (Other)</th> <th>SN-S</th> <th>SN-D</th> <th>PCMS</th> <th>PCMD</th> </tr> </thead> <tbody> <tr> <td>✓</td> <td>–</td> <td>✓</td> <td>✓</td> <td>✓</td> <td>✓</td> <td>✓</td> </tr> </tbody> </table>	SN-A (Ac.Piano)	SN-A (Organ)	SN-A (Other)	SN-S	SN-D	PCMS	PCMD	✓	–	✓	✓	✓	✓	✓
SN-A (Ac.Piano)	SN-A (Organ)	SN-A (Other)	SN-S	SN-D	PCMS	PCMD										
✓	–	✓	✓	✓	✓	✓										

MOTIONAL SURROUND

1. Press the [MOTIONAL SURROUND] button.
2. Press the [ENTER] button.



Parameter	Value	Explanation
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COMMON tab

Room Type	ROOM1, ROOM2, HALL1, HALL2	Specifies the room type.
Room Size	SMALL, MEDIUM, LARGE	Specifies the room size.
Motional Surround Depth	0–100	Specifies the depth of the Motional Surround effect.
Ambience Level	0–127	Specifies the volume of ambience.
Ambience Time	0–100	Specifies the duration of ambience.
Ambience Density	0–100	Specifies the density of ambience.
Ambience HF Damp	0–100	Specifies the frequency at which the high range of the ambience will be cut.

PART tab

Part L-R	-64–+63	Specifies the left/right position. Control change number <ul style="list-style-type: none">• 1–16 Part : CC12• Ext Part : CC28
Part F-B	-64–+63	Specifies the front/rear (back) position. Control change number <ul style="list-style-type: none">• 1–16 Part : CC13• Ext Part : CC29
Part Width	0–32	Specifies the width of the positioned sound.
Part Ambience Send Level	0–127	Specifies the send level to ambience Control change number <ul style="list-style-type: none">• 1–16 Part : CC14• Ext Part : CC30

CONTROL tab

Ext Part Control Ch	1–16, OFF	Specifies the MIDI channel used when controlling the front/back/left/right position and ambience send level of an Ext part via MIDI.
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EFFECTS ROUTING

1. In the top screen, press the [EFFECTS] button.

Motional surround : OFF



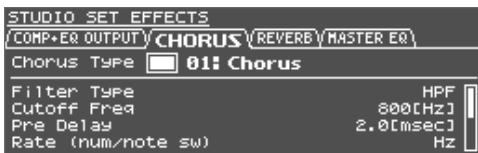
Motional surround : ON



Parameter	Value	Explanation
MFX Switch	OFF, ON	Specifies whether Multi-Effect will be used (ON) or not used (OFF). * You can also set this in the tone MFX tab for each type.
Cho Send Level (Also valid for the Ext part)	OFF, ON	Adjusts the amount of Chorus for each Part. If you don't want to add the Chorus effect, set it to 0. * You can also set this in the LEVEL/CH tab of PART VIEW (p. 6). * This is ignored if motional surround is on.
Rev Send Level (Also valid for the Ext part)	OFF, ON	Adjusts the amount of Reverb for each Part. If you don't want to add the Reverb effect, set it to 0. * You can also set this in the LEVEL/CH tab of PART VIEW (p. 6). * This is ignored if motional surround is on.
Chorus Switch	OFF, ON	Specifies whether chorus will be used (ON) or not used (OFF). * This is ignored if motional surround is on.
Reverb Switch	OFF, ON	Specifies whether Reverb will be used (ON) or not used (OFF). * This is ignored if motional surround is on.
Master EQ Switch	OFF, ON	Switches the Master EQ on/off.
Comp+EQ Switch	OFF, ON	Turns the six drum kit compressor + equalizer units on/off together. * This is shown only if you've selected the part specified by Drum Comp+EQ Assign.

STUDIO SET EFFECTS

1. In the EFFECTS ROUTING screen, move the cursor to the effect that you want to edit, and press the [ENTER] button.



* MFX and COMP+EQ can be set individually for each tone.

Parameter	Value	Explanation
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COMP+EQ OUTPUT tab

Comp+EQ 1 Output Assign	PART, A, B, C, D, 1–8	Specify the output destination for each the six drum kit compressor + equalizer units. PART: Input to the MFX of the part. A, B, C, D: Output in stereo to the OUTPUT A (MIX) jacks or the OUTPUT B, C, D jacks. 1–8: Output in monaural to the INDIVIDUAL 1–8 jacks.
Comp+EQ 2 Output Assign		
Comp+EQ 3 Output Assign		
Comp+EQ 4 Output Assign		
Comp+EQ 5 Output Assign		
Comp+EQ 6 Output Assign		* If motion surround is on, the output from each compressor + equalizer will always be the MFX of the part, regardless of the COMP+EQ Output Assign setting.

CHORUS tab

* This is ignored if motional surround is on.

Chorus Switch	OFF, ON	Switches the chorus on/off. * This is ignored if motional surround is on.
Chorus Type	00: OFF 01: Chorus 02: Delay 03: GM2 Chorus	Selects the types of chorus. Choose “00: OFF” if you don’t want to apply a chorus.
Chorus Parameter	-	Edit the parameters for the selected chorus type. Refer to “ Chorus Parameters ” (p. 98).
Chorus Level	0–127	Adjusts the volume of the sound that has passed through chorus.
Chorus Output Assign	A, B, C, D	Selects the pair of OUTPUT jacks to which the chorus sound is routed when Chorus Output Select is set to “ MAIN ” or “ MAIN+REV ”
Chorus Output Select	MAIN, REV, MAIN+REV	Specifies how the sound routed through chorus will be output. MAIN: Output in stereo to the OUTPUT jacks. REV: Output in monaural to the reverb. MAIN+REV: Output in stereo to the OUTPUT jacks, and in monaural to the reverb.

REVERB tab

* This is ignored if motional surround is on.

Reverb Switch	OFF, ON	Switches the reverb on/off. * This is ignored if motional surround is on.
Reverb Type	00: OFF 01: Room 1 02: Room 2 03: Hall 1 04: Hall 2 05: Plate 06: GM2 Reverb	Selects the types of reverb. Choose “00: OFF” if you don’t want to apply a reverb.
Reverb Parameter	-	Edit the parameters for the selected reverb type. Refer to “ Reverb Parameters ” (p. 98).
Reverb Level	0–127	Adjusts the volume of the sound that has passed through reverb.
Reverb Output Assign	A, B, C, D	Specifies how the sound routed through reverb will be output. A, B, C, D: Output in stereo to the OUTPUT A (MIX) jacks or the OUTPUT B, C, D jacks.

Studio Set – MASTER EQ tab

Parameter	Value	Explanation
MASTER EQ tab		
Master EQ Switch	OFF, ON	Master EQ on/off setting
EQ Low Freq	200, 400 [Hz]	Frequency of the low range
EQ Low Gain	-15–+15 [dB]	Gain of the low frequency range
EQ Mid Freq	200, 250, 315, 400, 500, 630, 800, 1000, 1250, 1600, 2000, 2500, 3150, 4000, 5000, 6300, 8000 [Hz]	Frequency of the middle range
EQ Mid Gain	-15–+15 [dB]	Gain of the middle frequency range
EQ 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.
EQ High Freq	2000, 4000, 8000 [Hz]	Frequency of the high range
EQ High Gain	-15–+15 [dB]	Gain of the high frequency range

SuperNATURAL Acoustic Tone (SN-A)

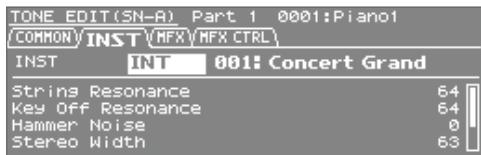
TONE EDIT (SN-A)

For each tone, there are instrument settings (INST) and multi-effect settings (MFX).

The instrument settings let you make settings for the tone and its parameters.



1. In the top screen, press the [EDIT] button.



Parameter	Value	Explanation
COMMON tab		
Category	No assign, Ac.Piano, E.Piano, Organ, Other Keyboards, Accordion/Harmonica, Bell/Mallet, Ac.Guitar, E.Guitar, Dist.Guitar, Ac.Bass, E.Bass, Synth Bass, Plucked/Stroke, Strings, Brass, Wind, Flute, Sax, Recorder, Vox/Choir, Synth Lead, Synth Brass, Synth Pad/Strings, Synth Bellpad, Synth PolyKey, FX, Synth Seq/Pop, Phrase, Pulsating, Beat&Groove, Hit, Sound FX, Drums, Percussion, Combination	Selects the category of the tone.
Phrase Number	0–87	Number of the phrase that plays when you press the [VOLUME] knob (PREVIEW).
Phrase Octave Shift	-3–+3	Pitch (in one-octave units) of the preview phrase.
Tone Level	0–127	Adjusts the volume of the tone.
Mono/Poly	MONO, POLY	Specifies whether the patch will play polyphonically (POLY) or monophonically (MONO). MONO: Only the last-played note will sound. POLY: Two or more notes can be played simultaneously. * This parameter will not appear when INT 029: TW Organ is selected.
Octave Shift	-3–+3	Adjusts the pitch of the patch's sound up or down in units of an octave (+/-3 octaves).
Cutoff Offset	-64–+63	Adjusts the cutoff frequency Offset for the instrument assigned to a tone. * This parameter will not appear when any of INT 001: Concert Grand, INT 009: Honky-tonk, or INT 029: TW Organ is selected.
Resonance Offset	-64–+63	Adjusts the Resonance Offset for the instrument assigned to a tone. * This parameter will not appear when any of INT 001: Concert Grand, INT 009: Honky-tonk, or INT 029: TW Organ is selected.
Attack Time Offset	-64–+63	Adjusts the TVA Envelope Attack Time Offset for the instrument assigned to a tone. * This parameter will not appear when any of INT 001: Concert Grand, INT 009: Honky-tonk, or INT 029: TW Organ is selected.
Release Time Offset	-64–+63	Adjusts the TVA Envelope Release Time Offset for the instrument assigned to a tone. * This parameter will not appear when any of INT 001: Concert Grand, INT 009: Honky-tonk, or INT 029: TW Organ is selected.
Portamento Time Offset	-64–+63	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. * This parameter will not appear when INT 029: TW Organ is selected.
Vibrato Rate	-64–+63	Adjust the vibrato speed (the rate at which the pitch is modulated). The pitch will be modulated more rapidly for higher settings, and more slowly with lower settings. * This effect does not apply to instruments of the Organ, Bell/Mallet, or Percussion categories.
Vibrato Depth	-64–+63	This adjusts the depth of the vibrato effect (the depth at which the pitch is modulated). The pitch will be modulated more greatly for higher settings, and less with lower settings. * This effect does not apply to instruments of the Organ, Bell/Mallet, or Percussion categories.

SuperNATURAL Acoustic Tone (SN-A) – INST tab

Parameter	Value	Explanation
Vibrato Delay	-64–+63	This adjusts the time delay until the vibrato (pitch modulation) effect begins. Higher settings will produce a longer delay time before vibrato begins, while lower settings produce a shorter time. * This effect does not apply to instruments of the Organ, Bell/Mallet, or Percussion categories.

INST tab

INST BANK	INT, ExSN1–ExSN5 (only if an expansion is loaded)	Select the instrument bank of the tone. INT: Internal sound bank ExSN1–ExSN5: Expanded sound bank
INST NUMBER	001–	Select the instrument number of the tone.
Parameters for the each inst	Make parameter settings for the selected instrument. Refer to “ SuperNATURAL INST Parameters ” (p. 18).	

Instrument List

INST			
BANK	NUM	NAME	Category
INT	1	ConcertGrand	Ac.Piano
INT	2	Grand Piano1	Ac.Piano
INT	3	Grand Piano2	Ac.Piano
INT	4	Grand Piano3	Ac.Piano
INT	5	Mellow Piano	Ac.Piano
INT	6	Bright Piano	Ac.Piano
INT	7	UprightPiano	Ac.Piano
INT	8	Concert Mono	Ac.Piano
INT	9	Honky-tonk	Ac.Piano
INT	10	Pure Vintage EP1	E.Piano
INT	11	Pure Vintage EP2	E.Piano
INT	12	Pure Wurly	E.Piano
INT	13	Pure Vintage EP3	E.Piano
INT	14	Old Hammer EP	E.Piano
INT	15	Dyno Piano	E.Piano
INT	16	Clav CB Flat	Other Keyboards
INT	17	Clav CA Flat	Other Keyboards
INT	18	Clav CB Medium	Other Keyboards
INT	19	Clav CA Medium	Other Keyboards
INT	20	Clav CB Brillia	Other Keyboards
INT	21	Clav CA Brillia	Other Keyboards
INT	22	Clav CB Combo	Other Keyboards
INT	23	Clav CA Combo	Other Keyboards
INT	24	Glockenspiel	Bell/Mallet
INT	25	Vibraphone	Bell/Mallet
INT	26	Marimba	Bell/Mallet
INT	27	Xylophone	Bell/Mallet
INT	28	Tubular Bells	Bell/Mallet
INT	29	TW Organ	Organ
INT	30	French Accordion	Accordion/Harmonica
INT	31	Italian Accordion	Accordion/Harmonica
INT	32	Harmonica	Accordion/Harmonica
INT	33	Bandoneon	Accordion/Harmonica
INT	34	Nylon Guitar	Ac.Guitar
INT	35	Flamenco Guitar	Ac.Guitar
INT	36	SteelStr Guitar	Ac.Guitar
INT	37	Jazz Guitar	E.Guitar
INT	38	ST Guitar Half	E.Guitar
INT	39	ST Guitar Front	E.Guitar
INT	40	TC Guitar Rear	E.Guitar

INST			
BANK	NUM	NAME	Category
INT	41	Acoustic Bass	Ac.Bass
INT	42	Fingered Bass	E.Bass
INT	43	Picked Bass	E.Bass
INT	44	Fretless Bass	E.Bass
INT	45	Violin	Strings
INT	46	Violin 2	Strings
INT	47	Viola	Strings
INT	48	Cello	Strings
INT	49	Cello 2	Strings
INT	50	Contrabass	Strings
INT	51	Harp	Plucked/Stroke
INT	52	Timpani	Percussion
INT	53	Strings	Strings
INT	54	Marcato Strings	Strings
INT	55	London Choir	Vox/Choir
INT	56	Boys Choir	Vox/Choir
INT	57	Trumpet	Brass
INT	58	Trombone	Brass
INT	59	Tb2 CupMute	Brass
INT	60	Mute Trumpet	Brass
INT	61	French Horn	Brass
INT	62	Soprano Sax 2	Sax
INT	63	Alto Sax 2	Sax
INT	64	Tenor Sax 2	Sax
INT	65	Baritone Sax 2	Sax
INT	66	Oboe	Wind
INT	67	Bassoon	Wind
INT	68	Clarinet	Wind
INT	69	Piccolo	Flute
INT	70	Flute	Flute
INT	71	Pan Flute	Flute
INT	72	Shakuhachi	Flute
INT	73	Sitar	Plucked/Stroke
INT	74	Uilleann Pipes	Wind
INT	75	Bag Pipes	Wind
INT	76	Erhu	Strings
INT	77	Steel Drums	Percussion
ExSN1	1	Santoor	Bell/Mallet
ExSN1	2	Yang Chin	Bell/Mallet
ExSN1	3	Tin Whistle	Flute

SuperNATURAL Acoustic Tone (SN-A) – INST tab

INST			
BANK	NUM	NAME	Category
ExSN1	4	Ryuteki	Flute
ExSN1	5	Tsugaru	Plucked/Stroke
ExSN1	6	Sansin	Plucked/Stroke
ExSN1	7	Koto	Plucked/Stroke
ExSN1	8	Taishou Koto	Plucked/Stroke
ExSN1	9	Kalimba	Plucked/Stroke
ExSN1	10	Sarangi	Strings
ExSN2	1	Soprano Sax	Sax
ExSN2	2	Alto Sax	Sax
ExSN2	3	Tenor Sax	Sax
ExSN2	4	Baritone Sax	Sax
ExSN2	5	English Horn	Wind
ExSN2	6	Bass Clarinet	Wind
ExSN2	7	Flute2	Flute
ExSN2	8	Soprano Recorder	Recorder
ExSN2	9	Alto Recorder	Recorder
ExSN2	10	Tenor Recorder	Recorder
ExSN2	11	Bass Recorder	Recorder
ExSN2	12	Ocarina SopC	Recorder
ExSN2	13	Ocarina SopF	Recorder
ExSN2	14	Ocarina Alto	Recorder
ExSN2	15	Ocarina Bass	Recorder
ExSN3	1	TC Guitar w/Fing	Ac.Guitar
ExSN3	2	335Guitar w/Fing	Ac.Guitar

INST			
BANK	NUM	NAME	Category
ExSN3	3	LP Guitar Rear	E.Guitar
ExSN3	4	LP Guitar Front	E.Guitar
ExSN3	5	335 Guitar Half	E.Guitar
ExSN3	6	Acoustic Bass 2	Ac.Bass
ExSN3	7	Fingered Bass 2	E.Bass
ExSN3	8	Picked Bass 2	E.Bass
ExSN4	1	Ukulele	Ac.Guitar
ExSN4	2	Nylon Guitar 2	Ac.Guitar
ExSN4	3	12th Steel Gtr	Ac.Guitar
ExSN4	4	Mandolin	Ac.Guitar
ExSN4	5	SteelFing Guitar	Ac.Guitar
ExSN4	6	SteelStr Guitar2	Ac.Guitar
ExSN5	1	Classical Trumpet	Brass
ExSN5	2	Frugal Horn	Brass
ExSN5	3	Trumpet 2	Brass
ExSN5	4	Mariachi Tp	Brass
ExSN5	5	Trombone 2	Brass
ExSN5	6	Bass Trombone	Brass
ExSN5	7	Tuba	Brass
ExSN5	8	Straight Mute Tp	Brass
ExSN5	9	Cup Mute Trumpet	Brass
ExSN5	10	French Horn 2	Brass
ExSN5	11	Mute French Horn	Brass

SuperNATURAL INST Parameters

Ac.Piano

INT 001: Concert Grand

INT 002: Grand Piano1

INT 003: Grand Piano2

INT 004: Grand Piano3

INT 005: Mellow Piano

INT 006: Bright Piano

INT 007: Upright Piano

INT 008: Concert Mono

INT 009: Honky-tonk

- Differences in your playing strength will smoothly change the tone character in a natural way.

Parameter	Value	Explanation
String Resonance	0–127	When the keys are pressed on an acoustic piano, the strings for keys that are already pressed also vibrate sympathetically. The function used to reproduce is called “ String Resonance .” Increasing the value will increase the amount of effect.
Key Off Resonance	0–127	This adjusts resonances such as the key-off sound of an acoustic piano (subtle sounds that are heard when you release a key). Higher values will increase the volume of the resonances.
Hammer Noise	-2, -1, 0, +1, +2	This adjusts the sound of the hammer striking the string of an acoustic piano. Higher values will increase the sound of the hammer striking the string.
StereoWidth	0–63	The higher the value set, the wider the sound is spread out.
Nuance	Type1, Type2, Type3	This changes the Tone’s subtle nuances by altering the phase of the left and right sounds. This effect is difficult to hear when headphones are used. * This has no effect for 008:Concert Mono.
Tone Character	-5, -4, -3, -2, -1, 0, +1, +2, +3, +4, +5	Higher values produce a harder sound; lower values produce a more mellow sound.

E.Piano

INT: 010 Pure Vintage EP1

INT: 011 Pure Vintage EP2

INT: 012 Pure Wurly

INT: 013 Pure Vintage EP3

INT: 014 Old Hammer EP

INT: 015 Dyno Piano

- Differences in your playing strength will smoothly change the tone character in a natural way.
- A key-off noise typical of that instrument will be heard when you release the key (PureWurly is excepted).

Parameter	Value	Explanation
Noise Level (CC16)	-64–+63	Adjusts the amount of hum noise and key-off noise. Higher settings will raise the volume.

Other Keyboards

INT: 016 Clav CB Flat

INT: 017 Clav CA Flat

INT: 018 Clav CB Medium

INT: 019 Clav CA Medium

INT: 020 Clav CB Brillia

INT: 021 Clav CA Brillia

INT: 022 Clav CB Combo

INT: 023 Clav CA Combo

- Differences in your playing strength will smoothly change the tone character in a natural way.
- A key-off noise typical of that instrument will be heard when you release the key.

Parameter	Value	Explanation
Noise Level (CC16)	-64–+63	Adjusts the amount of hum noise and key-off noise. Higher settings will raise the volume.

Bell/Mallet

INT: 024 Glockenspiel

INT: 025 Vibraphone

INT: 026 Marimba

INT: 027 Xylophone

INT: 028 Tubular Bells

ExSN1: 001 Santoor

ExSN1: 002 Yang Chin

- You can play a roll by operating the Modulation controller (CC01) while playing a note.
- You can produce a glissando effect by operating the pitch bend lever while holding down a note, or by playing legato with the Portamento SW (CC65) turned on.
- If Bend Range is set to Tone, you can produce a glissando effect by operating the pitch bend lever.
- If Bend Range is set to anything other than Tone, this effect will be obtained if Bend Mode (CC19) is turned on. Use this when you want to switch between glissando playing and conventional pitch change.
- By using CC18, you can simulate the following technique.
INT: 024–028: the technique of using your hand or mallet to mute the vibration (sound).
ExSN1: 001–002: the technique of playing a rapid and delicate roll (Slide Roll)

Parameter	Value	Explanation
Mallet Hardness (CC16)	-64–+63	Adjusts the hardness of the mallet. Higher settings produce the sound of a harder mallet.
Roll Speed (CC17)	-64–+63	Adjusts the speed of the roll effect.
Variation	Refer to p. 28.	Performance variation sounds

Organ

INT: 029 TW Organ

- The sound will be unaffected by the strength with which you play the keyboard.
- This allows you to use the nine harmonic bars to create your sound just as on a tone wheel organ.

Parameter	Value	Explanation
Harmonic Bar 16'	0–8	
Harmonic Bar 5-1/3'	0–8	
Harmonic Bar 8'	0–8	Adjust the level of each footage.
Harmonic Bar 4'	0–8	A different harmonic component is assigned to each footage; the sound of the organ is created by mixing these components.
Harmonic Bar 2-2/3'	0–8	The 8' footage is the core of the sound; this is the basic pitch around which the sound is created.
Harmonic Bar 2'	0–8	* Harmonic Bar 1' is unavailable if Percussion Switch is on.
Harmonic Bar 1-3/5'	0–8	
Harmonic Bar 1-1/3'	0–8	
Harmonic Bar 1'	0–8	
Leakage Level	0–127	Noise Level at which the signal of tone wheels unrelated to the pressed keys is mixed into the input
Percussion Switch	OFF, ON	If this is on, a crisp attack will be added to the beginning of the notes.
Percussion Soft	NORM, SOFT	NORM: The percussion sound will be at the normal volume, and the sound of the harmonic bars will be reduced. SOFT: The percussion sound will be reduced, and the harmonic bars will be at the normal volume.
Percussion Soft Level	0–15	Volume of the percussion sound when Percussion Soft is set to SOFT
Percussion Normal Level	0–15	Volume of the percussion sound when Percussion Soft is set to NORM

SuperNATURAL Acoustic Tone (SN-A) – INST tab

Parameter	Value	Explanation
Percussion Slow	FAST, SLOW	FAST: The percussion sound will disappear immediately, producing a sharp attack. SLOW: The percussion sound will disappear slowly, producing a more gentle attack.
Percussion Slow Time	0–127	Decay time of the percussion sound when Percussion Slow is set to SLOW
Percussion Fast Time	0–127	Decay time of the percussion sound when Percussion Slow is set to FAST
Percussion Harmonic	2ND, 3RD	2ND: The percussion sound will be the same pitch as the 4' harmonic bar. 3RD: The percussion sound will be the same pitch as the 2-2/3' harmonic bar.
Percussion Recharge Time	0–15	Normally, the percussion sound will be added only to the first note of successive notes played legato. This reproduces the characteristics of the analog circuitry that produced the percussion sound in tone wheel organs, which caused the percussion sound to be softer when keys were pressed in quick succession. This specifies the characteristics of this analog circuit.
Percussion Harmonic Bar Level	0–127	The volume of the organ will be reduced if Percussion Soft is set to NORM. This specifies how much the volume will be reduced.
Key On Click Level	0–31	Level of the key-click when a key is pressed
Key Off Click Level	0–31	Level of the key-click when a key is released

Accordion/Harmonica

INT: 030 French Accordion

INT: 031 Italian Accordion

INT: 033 Bandoneon

- Varying your keyboard playing dynamics will create volume changes as if you were using the bellows.
- If Bend Range is set to Tone, moving the pitch bend lever upward will produce a tremolo effect, as if you were moving the bellows in small steps.
- If Bend Range is set to anything other than Tone, this effect will be produced if Bend Mode (CC19) is turned on.
Use this when you want to switch between the tremolo effect and conventional pitch change.

Parameter	Value	Explanation
Noise Level (CC16)	-64–+63	Adjusts the amount of key noise heard when you press or release a key.

INT: 032 Harmonica

- If Bend Range is set to Tone, moving the pitch bend lever upward will produce a wah effect as if you were using your hands to enclose the harmonica.
- If Bend Range is set to anything other than Tone, this effect will be produced if Bend Mode (CC19) is turned on.
Use this when you want to switch between the wah effect and conventional pitch change.

Parameter	Value	Explanation
Noise Level (CC16)	-64–+63	Adjusts the amount of breath noise.
Growl Sens (CC18)	0–127	Adjusts the distinctive nuance (growl) of the breath noise.

Ac.Guitar

INT: 034 Nylon Guitar

INT: 035 Flamenco Guitar

INT: 036 SteelStr Guitar

ExSN3: 001 TC Guitar w/Fing

ExSN3: 002 335Guitar w/Fing

ExSN4: 001 Ukulele

ExSN4: 002 Nylon Guitar 2

ExSN4: 003 12th Steel Gtr

ExSN4: 005 SteelFing Guitar

ExSN4: 006 SteelStr Guitar2

- Rapid legato playing in an interval of two semitones or less will produce either a slide or a hammering-on effect, depending on how fast you play.
- If Strum Mode is off, playing an arpeggio with the Hold pedal held down will produce an arpeggio effect typical of a guitar.
- If Strum Mode is on, playing a chord with the Hold pedal held down will produce a guitar-like chordal performance.
- Note numbers 34 and lower will produce ghost notes as played on a guitar.

Parameter	Value	Explanation
Noise Level (CC16)	-64—+63	Adjusts the volume of the string grazing or picking noise. * This has no effect on the ExSN4 001: Ukulele.
Strum Speed (CC17)	-64—+63	Adjusts the deviation in the timing of sound production by the strings when strumming with Strum Mode turned on. Higher values produce a greater time deviation. The effect will be more significant for lower velocities.
Strum Mode (CC19)	OFF, ON	If Strum Mode is turned on, strumming will be produced when you play multiple keys simultaneously. This also reproduces the difference in time at which each string of a guitar is sounded. The guitar's up strokes and down strokes will alternately be produced when chords are played in succession. It is effective to play while holding down the Hold pedal.
Sub String Tune	-64—+63	Adjusts the pitch of the sympathetic strings. * This is valid only for ExSN4 003: 12th Steel Gtr.
Variation	Refer to p. 28.	Performance variation sounds

ExSN4: 004 Mandolin

- If Strum Mode is off, playing an arpeggio with the Hold pedal held down will produce a distinctively mandolin-like arpeggio effect.
- If Strum Mode is on, playing a chord with the Hold pedal held down will produce a distinctively mandolin-like chordal performance.
- Note numbers 46 and lower will produce ghost notes as played on a mandolin.

Parameter	Value	Explanation
Noise Level (CC16)	-64—+63	Adjusts the volume of the string grazing or picking noise.
Tremolo Speed (CC17)	-64—+63	Adjusts the speed of the tremolo effect.
Strum Mode (CC19)	OFF, ON	If Strum Mode is turned on, strumming will be produced when you play multiple keys simultaneously. This also reproduces the difference in time at which each string of a mandolin is sounded. The mandolin's up strokes and down strokes will alternately be produced when chords are played in succession. It is effective to play while holding down the Hold pedal.
Variation	Refer to p. 28.	Performance variation sounds

E.Guitar**INT: 037 Jazz Guitar****INT: 038 ST Guitar Half****INT: 039 ST Guitar Front****INT: 040 TC Guitar Rear****ExSN3: 003 LP Guitar Rear****ExSN3: 004 LP Guitar Front****ExSN3: 005 335 Guitar Half**

- Rapid legato playing in an interval of two semitones or less will produce either a slide or a hammering-on effect, depending on how fast you play.
- If Strum Mode is off, playing an arpeggio with the Hold pedal held down will produce an arpeggio effect typical of a guitar.
- If Strum Mode is on, playing a chord with the Hold pedal held down will produce a guitar-like chordal performance.
- Note numbers 34 and lower will produce ghost notes as played on a guitar.

Parameter	Value	Explanation
Noise Level (CC16)	-64—+63	Adjusts the volume of the string grazing or picking noise.
Strum Speed (CC17)	-64—+63	Adjusts the deviation in the timing of sound production by the strings when strumming with Strum Mode turned on. Higher values produce a greater time deviation. The effect will be more significant for lower velocities.
Strum Mode (CC19)	OFF, ON	If Strum Mode is turned on, strumming will be produced when you play multiple keys simultaneously. This also reproduces the difference in time at which each string of a guitar is sounded. The guitar's up strokes and down strokes will alternately be produced when chords are played in succession. It is effective to play while holding down the Hold pedal.
Picking Harmonics	OFF, ON	If this is on, strongly played notes will have a picking harmonic effect added to them. * This has no effect on the INT 037: Jazz Guitar.
Variation	Refer to p. 28.	Performance variation sounds

Ac.Bass

INT: 041 Acoustic Bass

ExSN3: 006 Acoustic Bass 2

- Rapid legato playing in an interval of two semitones or less will produce either a slide or a hammering-on effect, depending on how fast you play.

Parameter	Value	Explanation
Noise Level (CC16)	-64–+63	Adjusts the volume of the string grazing or picking noise.
Variation	Refer to p. 28.	Performance variation sounds

E.Bass

INT: 042 Fingered Bass

INT: 043 Picked Bass

INT: 044 Fretless Bass

ExSN3: 007 Fingered Bass 2

ExSN3: 008 Picked Bass 2

- Rapid legato playing in an interval of two semitones or less will produce either a slide or a hammering-on effect, depending on how fast you play.

Parameter	Value	Explanation
Noise Level (CC16)	-64–+63	Adjusts the volume of the string grazing or picking noise.
Variation	Refer to p. 28.	Performance variation sounds

Plucked/Stroke

INT: 051 Harp

- By turning Glissando mode (CC19) on, you can cause only the notes included in a specific scale to be sounded. This lets you easily produce an idiomatic harp glissando simply by playing a glissando on the white keys.
* It is effective to play this while holding down the HOLD pedal.
- By using CC18 you can simulate the technique of using your hand to stop the vibration of the strings.

Parameter	Value	Explanation
Glissando Mode (CC19)	OFF, ON	If this is on, you can produce the effect of sweeping across the harp strings by playing a glissando on the keyboard.
Play Scale	7th, Major, Minor, Hrm-Mi (Harmonic Minor), Dim (Diminish), Whole (Whole Tone)	Specifies the scale used when Glissando Mode is on.
Scale Key	C, D♭, D, E♭, E, F, G♭, G, A♭, A, B♭, B	Specifies the key of the scale produced when you play a glissando with Glissando Mode turned on.
Variation	Refer to p. 28.	Performance variation sounds

INT: 073 Sitar

- Strongly playing legato from a higher to a lower note will produce a distinctive ornamental effect.
- Rapid legato playing in an interval of two semitones or less will produce a slide effect.
- Note numbers 47 and below will produce a sitar sound effect.
- CC80 values in the range of 64–127 will play a tambura phrase, and values in the range 0–63 will silence it.

Parameter	Value	Explanation
Resonance Level (CC16)	-64–+63	Adjusts the sympathetic resonance. Higher settings will increase the sympathetic resonance.
Tambura Level	-64–+63	Adjusts the volume of the tambura sound effect sounded by CC80.
Tambura Pitch	-12–+12	Adjusts the pitch of the tambura sound effect sounded by CC80.

ExSN1: 005 Tsugaru**ExSN1: 006 Sansin**

- Play strongly to produce a bend-up effect that is distinctive of the shamisen.
- Rapid legato playing in an interval of two semitones or less will produce a slide effect.
- If you turn CC81 on, a ghost note will be heard on the upstroke when you release the key. This simulates the return of the plectrum.

Parameter	Value	Explanation
Resonance Level (CC16)	-64–+63	Adjusts the sympathetic resonance. Higher settings will increase the sympathetic resonance.
Bend Depth (CC17)	-64–+63	Adjusts the amount of pitch change that occurs at the attack when you play strongly.
Buzz Key Switch	OFF, ON	If this is on, keys of note number 42 and lower will sound vocal interjections or other sound effects.
Variation	Refer to p. 28.	Performance variation sounds

ExSN1: 007 Koto

- If glissando mode (CC19) is on, only the notes within the specified scale will sound. This means that you can easily reproduce the distinctive glissando of the koto simply by playing the white keys.
- * It is effective to set Play Scale to Hira (Hirajyoshi) and play while holding down the Hold pedal.
- By using CC18 you can simulate the technique of using your hand to stop the vibration of the strings.

Parameter	Value	Explanation
Tremolo Speed (CC17)	-64–+63	Adjusts the speed of the tremolo effect which is controlled by CC80.
Glissando Mode (CC19)	OFF, ON	If you turn this on, the selected scale for the “ Play Scale ” will apply to the glissando.
Play Scale	Chroma (Chromatic), Hira (Hirajyoshi)	Specifies the scale used when Glissando Mode is on.
Scale Key	C, D ♭, D, E ♭, E, F, G ♭, G, A ♭, A, B ♭, B	Specifies the key of the scale you specify for Play Scale.
Buzz Key Switch	OFF, ON	If this is on, keys of note number 42 and lower will sound vocal interjections or other sound effects.
Variation	Refer to p. 28.	Performance variation sounds

ExSN1: 008 Taishou Koto

- Operating the Modulation controller (CC01) while playing the keyboard will produce a tremolo performance effect.

Parameter	Value	Explanation
Noise Level (CC16)	-64–+63	Adjusts the level of the key-on noise.
Tremolo Speed (CC17)	-64–+63	Adjusts the speed of the tremolo effect.

ExSN1: 009 Kalimba

- Differences in your playing strength will smoothly change the tone character in a natural way.

Parameter	Value	Explanation
Resonance Level (CC16)	-64–+63	Adjusts the sympathetic resonance. Higher settings will increase the sympathetic resonance.
Variation	Refer to p. 28.	Performance variation sounds

Strings

INT: 045 Violin

INT: 046 Violin 2

INT: 047 Viola

INT: 048 Cello

INT: 049 Cello 2

INT: 050 Contrabass

- When you play multiple keys simultaneously, the vibrato will automatically be limited so that chords will sound natural.
 - Note ranges corresponding to open strings will produce an open-string sound without vibrato.
- * However, this is valid only if the Part View parameter Vibrato Depth is set to 0 for the note range of the open string (upper limit Violin: note no. 55, Viola: note no. 48, Cello: note no. 36, Contrabass: note no. 28).

Parameter	Value	Explanation
Noise Level (CC16)	-64–+63	Adjusts the amount of string grazing noise.
Variation	Refer to p. 28.	Performance variation sounds

INT: 053 Strings

INT: 054 Marcato Strings

- The attack and release will be adjusted appropriately for the speed at which you play the phrase.
For example, notes will sound more crisply for rapidly played passages.

Parameter	Value	Explanation
Hold Legato Mode (CC19)	OFF, ON	Specifies how notes are sounded when Hold (CC64) is on. If Hold Legato Mode is on, notes that were being held will go silent when you play a key. For example if you play and release C major with Hold (CC64) on, the C major notes will be held. When you then play E major, the C major notes will go silent, and the E major notes will be heard.
Variation	Refer to p. 28.	Performance variation sounds

INT: 076 Erhu

- While playing legato, a distinctive ornamental sound will be produced when you play strongly.
 - If Portamento SW is turned on, a portamento effect typical of a erhu will be produced.
 - Note ranges corresponding to open strings will produce an open-string sound without vibrato.
- * However, this is valid only if the Part View parameter Vibrato Depth is set to 0 for the note range of the open string (upper limit : note no. 62).

Parameter	Value	Explanation
Noise Level (CC16)	-64–+63	Adjusts the amount of string grazing noise.
Variation	Refer to p. 28.	Performance variation sounds

ExSN1: 010 Sarangi

- While playing legato, a distinctive ornamental sound will be produced when you play strongly.
- If Porta SW is turned on, a portamento effect typical of a sarangi will be produced.
- CC80 values in the range of 64–127 will play a tambura phrase, and values in the range 0–63 will silence it.

Parameter	Value	Explanation
Resonance Level (CC16)	-64–+63	Adjusts the sympathetic resonance. Higher settings will increase the sympathetic resonance.
Tambura Level	-64–+63	Adjusts the volume of the tambura sound effect sounded by CC80.
Tambura Pitch	-12–+12	Adjusts the pitch of the tambura sound effect sounded by CC80.

Brass

INT: 057 Trumpet
INT: 058 Trombone
INT: 059 Tb2 CupMute
INT: 060 Mute Trumpet
INT: 061 French Horn
ExSN5: 001 Classical Trumpet
ExSN5: 002 Frugal Horn
ExSN5: 003 Trumpet 2
ExSN5: 004 Mariachi Tp
ExSN5: 005 Trombone 2
ExSN5: 006 Bass Trombone
ExSN5: 007 Tuba
ExSN5: 008 StraightMute Tp
ExSN5: 009 Cup Mute Trumpet
ExSN5: 0010 French Horn 2
ExSN5: 0011 Mute French Horn

- By setting Bend Range to Tone, you can use the pitch bend lever to create discontinuous pitch changes or falls that are typical of a brass instrument.
 - * Moving the pitch bend lever in the upward direction will create a discontinuous pitch change typical of brass instruments.
 - * Moving the pitch bend lever in the downward direction will produce a fall effect.
- If Bend Range is set to anything other than Tone, this effect will be produced if Bend Mode (CC19) is turned on. Use this when you want to switch between discontinuous pitch changes or falls, and conventional pitch change.
- By playing legato with the Portamento SW turned on, you can create the effect of glissando performance on a trombone.

Parameter	Value	Explanation
Noise Level (CC16)	-64–+63	Adjusts the amount of breath noise for the brass instrument.
Crescendo Depth (CC17)	-64–+63	Adjusts the amount of automatically produced crescendo. The effect is most noticeable when you play softly. * This applies only for ExSN5 004: Mariachi Tp.
Growl Sens (CC18)	0–127	Adjusts the distinctive nuance (growl) that occurs when a brass instrument is blown.
Variation	Refer to p. 28.	Performance variation sounds

Wind

INT: 066 Oboe
INT: 067 Bassoon
INT: 068 Clarinet
ExSN2: 005 English Horn
ExSN2: 006 Bass Clarinet

- If Bend Range is set to Tone, you can use the pitch bend lever to create glissando or fall effects.
 - * Moving the pitch bend lever in the upward direction will produce a glissando effect.
 - * Moving the pitch bend lever in the downward direction will produce a fall effect.
- If Bend Range is set to anything other than Tone, this effect will be produced if Bend Mode (CC19) is turned on. Use this when you want to switch between glissando/fall effects and conventional pitch change.

Parameter	Value	Explanation
Noise Level (CC16)	-64–+63	Adjusts the amount of breath noise for the woodwind instrument.
Growl Sens (CC18)	0–127	Adjusts the distinctive nuance (growl) that occurs when a woodwind instrument is blown.
Play Scale	Chroma (Chromatic), Major, Minor, 7th, Dim (Diminish), Whole (Whole Tone)	Produces discontinuous pitch changes according to the specified scale.
Scale Key	C, D♭, E♭, F, G♭, G, A♭, A, B♭, B	Specifies the key of the scale you specify for Play Scale.
Variation	Refer to p. 28.	Performance variation sounds

SuperNATURAL Acoustic Tone (SN-A) – INST tab

INT: 074 Uilleann Pipes

INT: 075 Bag Pipes

- While playing legato, a distinctive ornamental sound will be produced when you play strongly.
- CC80 values in the range of 64–127 will sound a drone. Values in the range of 0–63 will silence the drone.

Parameter	Value	Explanation
Drone Level	-64–+63	Adjusts the volume of the drone sound effect sounded by CC80.
Drone Pitch	-12–+12	Adjusts the pitch of the drone sound effect sounded by CC80.
Variation	Refer to p. 28.	Performance variation sounds

Flute

INT: 069 Piccolo

INT: 070 Flute

INT: 071 Pan Flute

ExSN2: 007 Flute2

- If Bend Range is set to Tone, you can use the pitch bend lever to create glissando or fall effects.
 - * Moving the pitch bend lever in the upward direction will produce a glissando effect.
 - * Moving the pitch bend lever in the downward direction will produce a fall effect.
- If Bend Range is set to anything other than Tone, this effect will be produced if Bend Mode (CC19) is turned on. Use this when you want to switch between glissando/fall effects and conventional pitch change.
- While playing legato, a distinctive ornamental sound will be produced when you play strongly.

Parameter	Value	Explanation
Noise Level (CC16)	-64–+63	Adjusts the amount of breath noise for the woodwind instrument.
Growl Sens (CC18)	0–127	Adjusts the distinctive nuance (growl) that occurs when a woodwind instrument is blown.
Play Scale	Chroma (Chromatic), Major, Minor, 7th, Dim (Diminish), Whole (Whole Tone)	Produces discontinuous pitch changes according to the specified scale. * This has no effect on INT: 071 Pan Flute.
Scale Key	C, D♭, E♭, F, G♭, G, A♭, A, B♭, B	Specifies the key of the scale you specify for Play Scale. * This has no effect on INT: 071 Pan Flute.
Variation	Refer to p. 28.	Performance variation sounds

INT: 072 Shakuhachi

ExSN1: 003 Tin Whistle

ExSN1: 004 Ryuteki

- Legato playing will produce notes that are connected as if they were played in a single breath.
- While playing legato, a distinctive ornamental sound will be produced when you play strongly.

Parameter	Value	Explanation
Noise Level (CC16)	-64–+63	Adjusts the amount of breath noise for the woodwind instrument.
Growl Sens (CC18)	0–127	Adjusts the distinctive nuance (growl) that occurs when a woodwind instrument is blown.
Variation	Refer to p. 28.	Performance variation sounds

Sax

INT: 062 Soprano Sax 2

INT: 063 Alto Sax 2

INT: 064 Tenor Sax 2

INT: 065 Baritone Sax 2

ExSN2: 001 Soprano Sax

ExSN2: 002 Alto Sax

ExSN2: 003 Tenor Sax

ExSN2: 004 Baritone Sax

- If Bend Range is set to Tone, you can use the pitch bend lever to create glissando or fall effects.
 - Moving the pitch bend lever in the upward direction will produce a glissando effect.
 - Moving the pitch bend lever in the downward direction will produce a fall effect.
- If Bend Range is set to anything other than Tone, this effect will be produced if Bend Mode (CC19) is turned on. Use this when you want to switch between glissando/fall effects and conventional pitch change.

Parameter	Value	Explanation
Noise Level (CC16)	-64–+63	Adjusts the amount of the woodwind instrument's breath noise or key noise.
Growl Sens (CC18)	0–127	Adjusts the distinctive nuance (growl) that occurs when a woodwind instrument is blown.
Play Scale	Chroma (Chromatic), Major, Minor, 7th, Dim (Diminish), Whole (Whole Tone)	Produces discontinuous pitch changes according to the specified scale.
Scale Key	C, D♭, D, E♭, E, F, G♭, G, A♭, A, B♭, B	Specifies the key of the scale you specify for Play Scale.
Glide	Porta, Gliss	Specifies whether portamento or glissando will be applied when the portamento switch is on.
Variation	Refer to p. 28.	Performance variation sounds

Recorder

ExSN2: 008 Soprano Recorder

ExSN2: 009 Alto Recorder

ExSN2: 0010 Tenor Recorder

ExSN2: 0011 Bass Recorder

- Legato playing will produce notes that are smoothly connected as if they were played with a single breath.

Parameter	Value	Explanation
Noise Level (CC16)	-64–+63	Adjusts the amount of breath noise for the woodwind instrument.
Growl Sens (CC18)	0–127	Adjusts the distinctive nuance (growl) that occurs when a woodwind instrument is blown.
Variation	Refer to p. 28.	Performance variation sounds

ExSN2: 012 Ocarina SopC

ExSN2: 013 Ocarina SopF

ExSN2: 014 Ocarina Alto

ExSN2: 015 Ocarina Bass

- Legato playing will produce notes that are connected as if they were played in a single breath.
- While playing legato, a distinctive ornamental sound will be produced when you play strongly.

Parameter	Value	Explanation
Noise Level (CC16)	-64–+63	Adjusts the amount of breath noise.
Growl Sens (CC18)	0–127	Adjusts the distinctive nuance (growl) that occurs when an instrument is blown.
Variation	Refer to p. 28.	Performance variation sounds

Vox/Choir

INT: 055 London Choir

INT: 056 Boys Choir

- You can obtain a wide range of expression by combining volume change produced by dynamics with the different variation sounds.

Parameter	Value	Explanation
Hold Legato Mode (CC19)	OFF, ON	Specifies how notes are sounded when Hold (CC64) is on. If Hold Legato Mode is on, notes that were being held will go silent when you play a key. For example if you play and release C major with Hold (CC64) on, the C major notes will be held. When you then play E major, the C major notes will go silent, and the E major notes will be heard.
Variation	Refer to p. 28.	Performance variation sounds

Percussion

INT: 052 Timpani

- You can play a roll by operating the Modulation controller (CC01) while playing a note.
- You can use CC18 to simulate the muting technique of using your hand to press down on the timpani.

Parameter	Value	Explanation
Roll Speed (CC17)	-64–+63	Adjusts the speed of the roll effect.
Variation	Refer to p. 28.	Performance variation sounds

INT: 077 Steel Drums

- You can play a roll by operating the Modulation controller (CC01) while playing a note.
- You can produce a glissando effect by employing pitch bend while playing the keyboard, or by playing legato with the Portamento SW (CC65) turned on.
 - * If Bend Range is set to Tone, you can use the pitch bend lever to produce a glissando effect.
 - * If Bend Range is set to anything other than Tone, this effect will be produced if Bend Mode (CC19) is turned on. Use this when you want to switch between glissando/fall effects and conventional pitch change.
- By using CC18 you can simulate the technique of using your hand or mallet to mute the vibration (sound).

Parameter	Value	Explanation
Resonance Level (CC16)	-64–+63	Adjusts the sympathetic resonance. Higher settings will increase the sympathetic resonance.
Roll Speed (CC17)	-64–+63	Adjusts the speed of the roll effect.
Variation	Refer to p. 28.	Performance variation sounds

Performance Variation Sounds

INST			Variation			
BANK	NUM	NAME	1	2	3	4
INT	1	ConcertGrand	-	-	-	-
INT	2	Grand Piano1	-	-	-	-
INT	3	Grand Piano2	-	-	-	-
INT	4	Grand Piano3	-	-	-	-
INT	5	Mellow Piano	-	-	-	-
INT	6	Bright Piano	-	-	-	-
INT	7	UprightPiano	-	-	-	-
INT	8	Concert Mono	-	-	-	-
INT	9	Honky-tonk	-	-	-	-
INT	10	Pure Vintage EP1	-	-	-	-
INT	11	Pure Vintage EP2	-	-	-	-
INT	12	Pure Wurly	-	-	-	-
INT	13	Pure Vintage EP3	-	-	-	-
INT	14	Old Hammer EP	-	-	-	-
INT	15	Dyno Piano	-	-	-	-
INT	16	Clav CB Flat	-	-	-	-
INT	17	Clav CA Flat	-	-	-	-
INT	18	Clav CB Medium	-	-	-	-
INT	19	Clav CA Medium	-	-	-	-
INT	20	Clav CB Brillia	-	-	-	-
INT	21	Clav CA Brillia	-	-	-	-
INT	22	Clav CB Combo	-	-	-	-

INST			Variation			
BANK	NUM	NAME	1	2	3	4
INT	23	Clav CA Combo	-	-	-	-
INT	24	Glockenspiel	Dead Stroke	-	-	-
INT	25	Vibraphone	Dead Stroke	Tremolo Sw	-	-
INT	26	Marimba	Dead Stroke	-	-	-
INT	27	Xylophone	Dead Stroke	-	-	-
INT	28	Tubular Bells	Dead Stroke	-	-	-
INT	29	TW Organ	-	-	-	-
INT	30	French Accordion	-	-	-	-
INT	31	Italian Accordion	-	-	-	-
INT	32	Harmonica	-	-	-	-
INT	33	Bandoneon	-	-	-	-
INT	34	Nylon Guitar	Mute	Harmonics	-	-
INT	35	Flamenco Guitar	Rasgueado	Harmonics	-	-
INT	36	SteelStr Guitar	Mute	Harmonics	-	-
INT	37	Jazz Guitar	FingerPicking	Octave Tone	-	-
INT	38	ST Guitar Half	Mute	Harmonics	-	-
INT	39	ST Guitar Front	Mute	Harmonics	-	-
INT	40	TC Guitar Rear	Mute	Harmonics	-	-
INT	41	Acoustic Bass	Staccato	Harmonics	-	-
INT	42	Fingered Bass	Slap	Harmonics	-	-
INT	43	Picked Bass	Bridge Mute	Harmonics	-	-
INT	44	Fretless Bass	Staccato	Harmonics	-	-
INT	45	Violin	Staccato	Pizzicato	Tremolo	-
INT	46	Violin 2	Staccato	Pizzicato	Tremolo	-
INT	47	Viola	Staccato	Pizzicato	Tremolo	-
INT	48	Cello	Staccato	Pizzicato	Tremolo	-
INT	49	Cello 2	Staccato	Pizzicato	Tremolo	-
INT	50	Contrabass	Staccato	Pizzicato	Tremolo	-
INT	51	Harp	Nail	-	-	-
INT	52	Timpani	Flam	Accent Roll	-	-
INT	53	Strings	Staccato	Pizzicato	Tremolo	-
INT	54	Marcato Strings	Staccato	Pizzicato	Tremolo	-
INT	55	London Choir	Voice Woo	-	-	-
INT	56	Boys Choir	Voice Woo	-	-	-
INT	57	Trumpet	Staccato	Fall	-	-
INT	58	Trombone	Staccato	Fall	-	-
INT	59	Tb2 CupMute	Staccato	Fall	-	-
INT	60	Mute Trumpet	Staccato	Fall	-	-
INT	61	French Horn	Staccato	-	-	-
INT	62	Soprano Sax 2	Staccato	Fall	SubTone	-
INT	63	Alto Sax 2	Staccato	Fall	SubTone	-
INT	64	Tenor Sax 2	Staccato	Fall	SubTone	-
INT	65	Baritone Sax 2	Staccato	Fall	SubTone	-
INT	66	Oboe	Staccato	-	-	-
INT	67	Bassoon	Staccato	-	-	-
INT	68	Clarinet	Staccato	-	-	-
INT	69	Piccolo	Staccato	-	-	-
INT	70	Flute	Staccato	-	-	-
INT	71	Pan Flute	Staccato	Flutter	-	-
INT	72	Shakuhachi	Staccato	Ornament	-	-
INT	73	Sitar	-	-	-	-
INT	74	Uilleann Pipes	-	Ornament	-	-
INT	75	Bag Pipes	-	Ornament	-	-
INT	76	Erhu	Staccato	Ornament	-	-
INT	77	Steel Drums	Mute	-	-	-

SuperNATURAL Acoustic Tone (SN-A) – INST tab

INST			Variation			
BANK	NUM	NAME	1	2	3	4
ExSN1	1	Santoor	Mute	Tremolo	-	-
ExSN1	2	Yang Chin	Mute	Tremolo	-	-
ExSN1	3	Tin Whistle	Cut	Ornament	-	-
ExSN1	4	Ryuteki	Staccato	Ornament	-	-
ExSN1	5	Tsugaru	Strum	Up Picking	Auto Bend	-
ExSN1	6	Sansin	Strum	Up Picking	Auto Bend	-
ExSN1	7	Koto	Tremolo	Ornament	-	-
ExSN1	8	Taishou Koto	-	-	-	-
ExSN1	9	Kalimba	Buzz	-	-	-
ExSN1	10	Sarangi	-	-	-	-
ExSN2	1	Soprano Sax	Staccato	Fall	SubTone	-
ExSN2	2	Alto Sax	Staccato	Fall	SubTone	-
ExSN2	3	Tenor Sax	Staccato	Fall	SubTone	-
ExSN2	4	Baritone Sax	Staccato	Fall	SubTone	-
ExSN2	5	English Horn	Staccato	-	-	-
ExSN2	6	Bass Clarinet	Staccato	-	-	-
ExSN2	7	Flute2	Staccato	-	-	-
ExSN2	8	Soprano Recorder	Staccato	-	-	-
ExSN2	9	Alto Recorder	Staccato	-	-	-
ExSN2	10	Tenor Recorder	Staccato	-	-	-
ExSN2	11	Bass Recorder	Staccato	-	-	-
ExSN2	12	Ocarina SopC	Staccato	Ornament	-	-
ExSN2	13	Ocarina SopF	Staccato	Ornament	-	-
ExSN2	14	Ocarina Alto	Staccato	Ornament	-	-
ExSN2	15	Ocarina Bass	Staccato	Ornament	-	-
ExSN3	1	TC Guitar w/Fing	FingerPicking	Octave Tone	-	-
ExSN3	2	335Guitar w/Fing	FingerPicking	Octave Tone	-	-
ExSN3	3	LP Guitar Rear	Mute	Harmonics	-	-
ExSN3	4	LP Guitar Front	Mute	Harmonics	-	-
ExSN3	5	335 Guitar Half	Mute	Harmonics	-	-
ExSN3	6	Acoustic Bass 2	Staccato	Harmonics	-	-
ExSN3	7	Fingered Bass 2	Slap	Harmonics	-	-
ExSN3	8	Picked Bass 2	Bridge Mute	Harmonics	-	-
ExSN4	1	Ukulele	-	-	-	-
ExSN4	2	Nylon Guitar 2	Mute	Harmonics	-	-
ExSN4	3	12th Steel Gtr	Mute	Harmonics	-	-
ExSN4	4	Mandolin	Mute	Harmonics	-	-
ExSN4	5	SteelFing Guitar	FingerPicking	Octave Tone	-	-
ExSN4	6	SteelStr Guitar2	Mute	Harmonics	-	-
ExSN5	1	Classical Trumpet	Staccato	Fall	-	-
ExSN5	2	Frugal Horn	Staccato	Fall	-	-
ExSN5	3	Trumpet 2	Staccato	Fall	-	-
ExSN5	4	Mariachi Tp	Staccato	Fall	-	-
ExSN5	5	Trombone 2	Staccato	Fall	-	-
ExSN5	6	Bass Trombone	Staccato	Fall	-	-
ExSN5	7	Tuba	Staccato	-	-	-
ExSN5	8	Straight Mute Tp	Staccato	Fall	-	-
ExSN5	9	Cup Mute Trumpet	Staccato	Fall	-	-
ExSN5	10	French Horn 2	Staccato	-	-	-
ExSN5	11	Mute French Horn	Staccato	-	-	-

Parameter	Value	Explanation
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MFX tab

MFX Switch	OFF, ON	Switches the multi-effect (MFX) on/off.
MFX Type	0–67	Use this parameter to select from among the 67 available MFXs. For details on MFX parameters, refer to " MFX Parameters " (p. 73).
Parameters for each MFX type	Edit the parameters for the selected MFX type.	
MFX Chorus Send Level	0–127	Adjusts the amount of chorus for the sound that passes through multi-effects. If you don't want to add the Chorus effect, set it to " 0 ". * This has no effect if motional surround is on.
MFX Reverb Send Level	0–127	Adjusts the amount of reverb for the sound that passes through multi-effects. If you don't want to add the Reverb effect, set it to " 0 ". * This has no effect if motional surround is on.

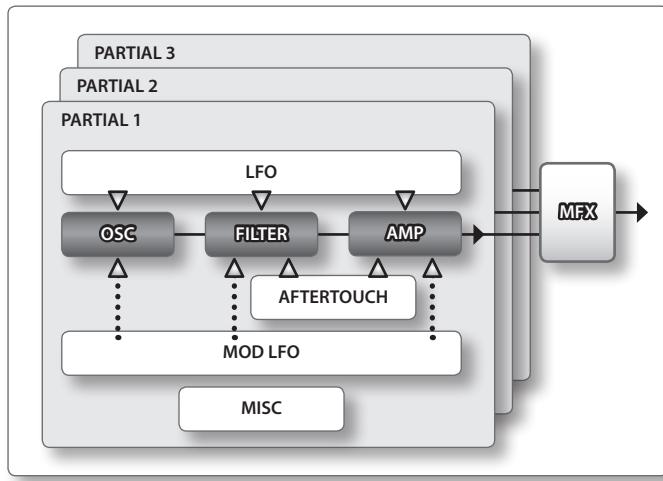
MFX CTRL tab

Source (1–4)	OFF, CC01–31, 33–95, PITCH BEND, AFTERTOUCH, SYS CTRL1–SYS CTRL4	Sets the MIDI message used to change the multi-effects parameter with the multi-effects control. OFF: Multi-effects control will not be used. CC01–31, 33–95: Control Change PITCH BEND: Pitch Bend AFTERTOUCH: Aftertouch SYS CTRL1–SYS CTRL4: MIDI messages used as common multi-effects controls.
Destination (1–4)		Sets the multi-effects parameters to be controlled with the multi-effects control. The multi-effects parameters available for control will depend on the multi-effects type. For details, refer to " MFX Parameters " (p. 73).
Sens (1–4)	-63–+63	Sets the amount of the multi-effects control's effect that is applied. 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.

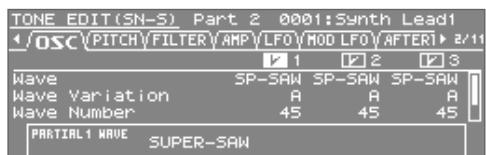
SuperNATURAL Synth Tone (SN-S)

TONE EDIT (SN-S)

Each tone has three sets (Partial 1–3) of OSC, FILTER, AMP, and LFO settings, in addition to multi-effect (MFX) settings.



1. In the top screen, press the [EDIT] button.



Parameter	Value	Explanation
COMMON tab		
Tone Category	No assign, Ac.Piano, E.Piano, Organ, Other Keyboards, Accordion/Harmonica, Bell/Mallet, Ac.Guitar, E.Guitar, Dist.Guitar, Ac.Bass, E.Bass, Synth Bass, Plucked/Stroke, Strings, Brass, Wind, Flute, Sax, Recorder, Vox/Choir, Synth Lead, Synth Brass, Synth Pad/Strings, Synth Bellpad, Synth PolyKey, FX, Synth Seq/Pop, Phrase, Pulsating, Beat&Groove, Hit, Sound FX, Drums, Percussion, Combination	Selects the tone's category.
Phrase Number	0–243	Number of the phrase that plays when you press the [VOLUME] knob (PREVIEW).
Phrase Octave Shift	-3–+3	Pitch (in octave units) of the preview phrase.
Tone Level	0–127	Adjusts the overall volume of the tone.

Parameter	Value	Explanation										
RING Switch	OFF, ON	<p>Turns ring modulator on/off.</p> <p>By multiplying partial 1's OSC and partial 2's OSC, this creates a complex, metallic-sounding waveform like that of a bell.</p> <p>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.</p> <p>Setting the partial 1 OSC and the partial 2 OSC to different pitches will make the ring modulator effect more apparent.</p> <p>If Ring Switch is turned on, the OSC Pulse Width Mod Depth, OSC Pulse Width, and SUPER SAW Detune of partial 1 and partial 2 cannot be used.</p> <p>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.</p>										
Wave Shape	0–127	<p>Partial 1 will be modulated by the pitch of partial 2. Higher values produce a greater effect.</p> <p>This has no effect if the partial 1 waveform is PW-SQR or SP-SAW.</p>										
Analog Feel	0–127	<p>Use this to apply “1/f fluctuation,” a type of randomness or instability that is present in many natural systems (such as a babbling brook or whispering breeze) and is perceived as pleasant by many people.</p> <p>By applying “1/f fluctuation” you can create the natural-sounding instability that is characteristic of an analog synthesizer.</p>										
Unison Switch	OFF, ON	<p>This layers a single sound.</p> <p>If the Unison Switch is on, the number of notes layered on one key will change according to the number of keys you play.</p>										
Unison Size	2, 4, 6, 8	<p>Number of notes assigned to each key when the Unison Switch is on</p> <p>Example: If Unison Size is 8</p> <table border="1"> <thead> <tr> <th>Number of keys pressed</th> <th>Number of notes sounded</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>8</td> </tr> <tr> <td>2</td> <td>4 each</td> </tr> <tr> <td>3–4</td> <td>2 each</td> </tr> <tr> <td>5–8</td> <td>1 each</td> </tr> </tbody> </table>	Number of keys pressed	Number of notes sounded	1	8	2	4 each	3–4	2 each	5–8	1 each
Number of keys pressed	Number of notes sounded											
1	8											
2	4 each											
3–4	2 each											
5–8	1 each											
Mono/Poly	POLY, MONO	Specifies whether notes will sound polyphonically (POLY) or monophonically (MONO).										
Legato Switch	OFF, ON	<p>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.</p> <p>This produces an effect similar to hammering-on or pulling-off when playing a guitar.</p>										
Portamento Switch	OFF, ON	Specifies whether the portamento effect will be applied (ON) or not applied (OFF).										
Portamento Time	0–127	Specifies the time taken for the pitch to change when playing portamento.										
Portamento Mode	NORMAL, LEGATO	<p>NORMAL: Portamento will always be applied.</p> <p>LEGATO: Portamento will be applied only when you play legato (i.e., when you press the next key before releasing the previous key).</p>										

SuperNATURAL Synth Tone (SN-S) – OSC tab

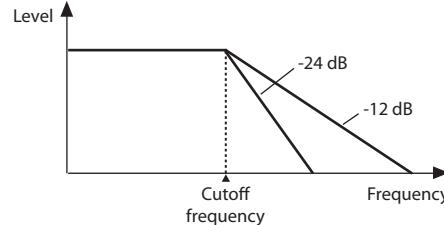
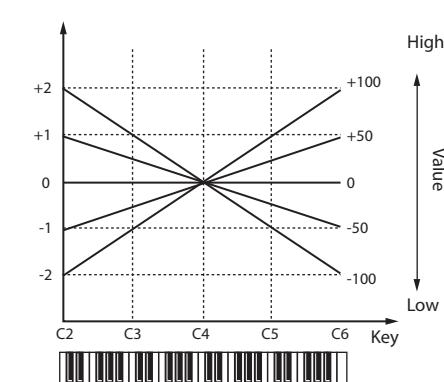
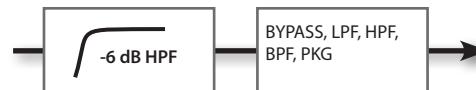
Parameter	Value	Explanation
OSC tab		
Partial Switch	OFF, ON	Use these buttons to turn on the partial that you want to be heard.
Wave	SAW 	This waveform contains a sine wave fundamental plus a fixed proportion of sine wave harmonics at all integer multiples of that fundamental.
	SQR 	This waveform contains a sine wave fundamental plus a fixed proportion of sine wave harmonics at odd-numbered multiples of that fundamental.
	PW-SQR 	The overtone structure of this waveform will vary significantly depending on the width of the upper portion of the waveform (Pulse Width).
	TRI 	This waveform contains a sine wave fundamental plus a fixed proportion of sine wave harmonics at even-numbered multiples of that fundamental.
	SINE 	This is a sine wave. This is a waveform that produces just a single frequency; it is the basis of all sound.
	NOISE	This waveform contains all frequencies. It is suitable for percussion instrument sounds or sound effects.
	SUPER SAW (SP-SAW)	This produces a tone similar to seven sawtooth waves heard simultaneously. Pitch-shifted sounds are added to the center sound. It is suitable for strings sounds, and for creating thick sounds.
	PCM	This is a PCM waveform.
Wave Variation	A, B, C	You can select variations of the currently selected WAVE. * This has no effect for SP-SAW or PCM.
Wave Number	1–450	Selects the PCM waveform. * This is valid only if PCM is selected for OSC Wave.
Wave Gain	-6, 0, +6, +12 [dB]	Specifies the gain (amplitude) of the waveform. The value will change in 6 dB (decibel) steps. Each 6 dB increase doubles the gain. * This is valid only if PCM is selected for OSC Wave.
Pulse Width Mod Depth	0–127	Specifies the amount (depth) of LFO applied to PW (Pulse Width). If the OSC Wave 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.
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) as a percentage of the entire cycle. 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.
Pulse Width Shift	0–127	Shifts the range of change. Normally, you can leave this at 127. * If the Ring Switch is on, this has no effect on partials 1 and 2.
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 SP-SAW is selected for OSC Wave.

PITCH tab

OSC Pitch	-24–+24	Adjusts the pitch in semitone steps.
OSC Detune	-50–+50	Adjusts the pitch in steps of one cent.
Pitch Env 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.
Pitch Env 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.
Pitch Env Depth	-63–+63	This specifies how much the pitch envelope will affect the pitch.
Octave Shift	-3–+3	Specifies the octave of the tone.
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.
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.

FILTER tab

FILTER Mode	BYPASS, LPF1, LPF2, LPF3, LPF4, HPF, BPF, PKG	Selects the type of filter.
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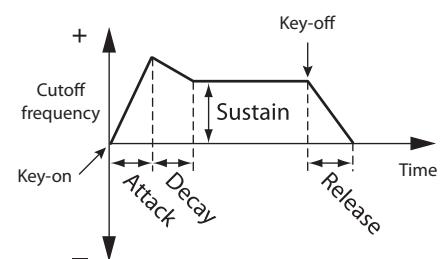
Parameter	Value	Explanation
FILTER Slope	-12, -24 [dB]	This button selects the slope (steepness) of the filter. For the LPF 
FILTER Cutoff	0-127	Specifies the cutoff frequency.
FILTER Cutoff KF	-100-+100	Here's how you can make the filter cutoff frequency to vary according to the key you play. Cutoff frequency (octave) 
FILTER Env V-Sens	-63-+63	Here's how you can make the filter envelope depth vary according to the strength with which you play the key.
FILTER Resonance	0-127	Resonance emphasizes the sound in the region of the filter cutoff frequency.
FILTER Env Attack	0-127	This specifies the time from the moment you press the key until the cutoff frequency reaches its highest (or lowest) point.
FILTER Env Decay	0-127	This specifies the time from when the cutoff frequency reaches its highest (or lowest) point, until it decays to the sustain level.
FILTER Env Sustain	0-127	This specifies the cutoff frequency that will be maintained from when the decay time has elapsed until you release the key.
FILTER Env Release	0-127	This specifies the time from when you release the key until the cutoff frequency reaches its minimum value.
FILTER Env Depth	-63-+63	This specifies the direction and depth to which the cutoff frequency will change.
HPF Cutoff	0-127	Specifies the cutoff frequency of an independent -6 dB high-pass filter. 

AMP tab

AMP Level	0-127	Partial volume.
AMP Level V-Sens	-63-+63	Here's how you can make the volume vary according to the strength with which you play the keyboard.
AMP Pan	L64-63R	Here's how to change the stereo position of the partial.

SuperNATURAL Synth Tone (SN-S) – LFO tab

Parameter	Value	Explanation
AMP Level Keyfollow	-100, -90, -80, -70, -60, -50, -40, -30, -20, -10, 0, +10, +20, +30, +40, +50, +60, +70, +80, +90, +100	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 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.
AMP Env 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.
AMP Env 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.
AMP Env 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.



LFO tab

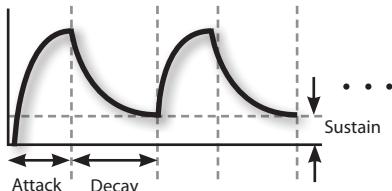
LFO Shape	Selects the LFO waveform.	
	TRI	Triangle wave
	SIN	Sine wave
	SAW	Sawtooth wave
	SQR	Square wave
	S&H	Sample and Hold (The LFO value will change once each cycle.)
LFO Rate	0–127	Specifies the LFO rate when Modulation LFO Tempo Sync Switch is OFF.
	OFF, ON	If this is ON, the LFO rate can be specified as a note value relative to the tempo.
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.
LFO Fade Time	0–127	This specifies the time from when the partial sounds until the LFO reaches its maximum amplitude.
LFO Key Trigger	OFF, ON	If this is on, the LFO cycle will be restarted when you press a key.
LFO Pitch Depth	-63–+63	This allows the LFO to modulate the pitch, producing a vibrato effect.
LFO FILTER Depth	-63–+63	This allows the LFO to modulate the FILTER CUTOFF (cutoff frequency), producing a wah effect.
LFO AMP Depth	-63–+63	This allows the LFO to modulate the AMP LEVEL (volume), producing a tremolo effect.
LFO Pan Depth	-63–+63	Here's how to make the PAN (stereo position) vary (Auto Panning).

Parameter	Value	Explanation
MOD LFO tab		
ModLFO Shape	TRI 	Selects the MODULATION LFO waveform. There is an LFO that is always applied to the partial, and a MODULATION LFO for applying modulation when the pitch bend/modulation lever is moved away from yourself.
	SIN 	Triangle wave
	SAW 	Sine wave
	SQR 	Sawtooth wave
	S&H	Square wave
	RND	Sample and Hold (The LFO value will change once each cycle.)
ModLFO Rate	0-127	Random wave
ModLFO TempoSyncSw	OFF, ON	Specifies the LFO rate when Modulation LFO Tempo Sync Switch is OFF.
ModLFO TempoSyncNote	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	If this is ON, the LFO rate can be specified as a note value relative to the tempo.
ModLFO Pitch Depth	-63-+63	Specifies the LFO rate when Modulation LFO Tempo Sync Switch is ON.
ModLFO FILTER Depth	-63-+63	This allows the LFO to modulate the pitch, producing a vibrato effect.
ModLFO AMP Depth	-63-+63	This allows the LFO to modulate the FILTER CUTOFF (cutoff frequency), producing a wah effect.
ModLFO Pan Depth	-63-+63	This allows the LFO to modulate the AMP LEVEL (volume), producing a tremolo effect.
ModLFO Rate Control	-63-+63	Here's how to make the PAN (stereo position) vary (Auto Panning).
		Make these settings if you want to change the Modulation LFO Rate when the modulation lever is operated.
		Specify a positive "+" value if you want the Modulation LFO Rate to speed up when you move the modulation lever; specify a negative "-" value if you want it to slow down.

AFTERTOUCH tab

Cutoff Aftertouch Sens	-63-+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 Aftertouch Sens	-63-+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.

MISC tab

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 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.
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 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).
	Note (p. 96)	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.
Envelope Loop Sync Note	OFF, ON	If this is turned on, portamento will operate in semitone steps.
Chromatic Portamento		

SuperNATURAL Synth Tone (SN-S) – MFX tab

Parameter	Value	Explanation
MFX tab		
MFX Switch	OFF, ON	Specifies whether MFX will be used (ON) or not used (OFF).
MFX Type	0–67	Use this parameter to select from among the 67 available multi-effects. For details on multi-effects parameters, refer to “ MFX Parameters ” (p. 73).
Parameters for each MFX type	Edit the parameters for the selected MFX type.	
MFX Chorus Send Level	0–127	Adjusts the amount of chorus for the sound that passes through multi-effects. If you don't want to add the Chorus effect, set it to “ 0 .” * This has no effect if motion surround is on.
MFX Reverb Send Level	0–127	Adjusts the amount of reverb for the sound that passes through multi-effects. If you don't want to add the Reverb effect, set it to “ 0 .” * This has no effect if motion surround is on.

MFX CTRL tab

Source (1–4)	OFF, CC01–31, 33–95, PITCH BEND, AFTERTOUCH, SYS CTRL1–SYS CTRL4	Sets the MIDI message used to change the multi-effects parameter with the multi-effects control. OFF: Multi-effects control will not be used. CC01–31, 33–95: Control Change PITCH BEND: Pitch Bend AFTERTOUCH: Aftertouch SYS CTRL1–SYS CTRL4: MIDI messages used as common multi-effects controls.
Destination (1–4)		Sets the multi-effects parameters to be controlled with the multi-effects control. The multi-effects parameters available for control will depend on the multi-effects type. For details, refer to “ MFX Parameters ” (p. 97).
Sens (1–4)	-63–+63	Sets the amount of the multi-effects control's effect that is applied. 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.

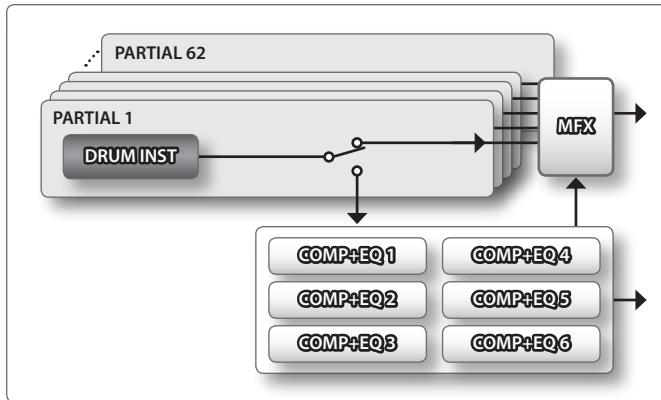
SuperNATURAL Drum Kit (SN-D)

TONE EDIT (SN-D)

Each kit has settings for 62 drum instruments, in addition to multi-effect (MFX) settings.

You can assign a different note number that will sound each of the 62 partials.

For the one part specified by the Drum Comp+EQ Assign setting, you'll be able to use six sets of compressor + equalizer units to make the sound more consistent or to adjust the tonal character.



1. In the top screen, press the [EDIT] button.



Parameter	Value	Explanation
COMMON tab		
Phrase Number	0–16	Number of the phrase that plays when you press the [VOLUME] knob (PREVIEW).
Drum Kit Level	0–127	Sets the volume of the entire drum kit.
Ambience Level	0–127	Specifies the volume of the drum kit resonances and the resonances of the room. This applies only for sounds whose type is Kick, Snare, Tom, and Hi-Hat. * For some drum instruments, this will have no effect. Refer to "SuperNATURAL Drum Inst List" (p. 41).

DRUM INST tab

Inst Bank	INT, ExSN6 (only if an expansion is loaded)	Selects the drum inst bank assigned to partial. INT: Internal inst bank ExSN6: Expanded inst bank
Inst Number	000: OFF, 001–	Selects the drum inst number assigned to partial.
Level	0–127	Sets the volume of the drum inst.
Pan	L64–63R	Sets the pan of the drum inst.
Chorus Send Level	0–127	Specifies the level of the signal sent to the chorus for each drum inst. * This has no effect if motionless surround is on.
Reverb Send Level	0–127	Specifies the level of the signal sent to the reverb for each drum inst. * This has no effect if motionless surround is on.
Tune	-120–+120	Adjusts the pitch of the drum inst.
Attack	0–100 [%]	Adjusts the level and time of the attack. A setting of 100% produces the fastest attack.
Decay	-63–0	Adjusts the decay time. Negative “-” settings will produce a muting effect.
Brilliance	-15–+12	Adjusts the brilliance of the sound. Positive “+” settings make the sound brighter, and negative “-” settings make the sound darker.
Variation	OFF, FLAM1, FLAM2, FLAM3, BUZZ1, BUZZ2, BUZZ3, ROLL	Specifies performance variations such as flam, buzz, or roll. * The parameters available for editing will depend on the drum instrument. Refer to "SuperNATURAL Drum Inst List" (p. 41).
Dynamic Range	0–63	Specifies the curve by which velocity will affect the volume. With a setting of 0, any velocity will produce the maximum volume.
Stereo Width	0–127	Adjusts the stereo width of the sound. A setting of 0 is monaural. * For some drum instruments, this will have no effect. Refer to "SuperNATURAL Drum Inst List" (p. 41).

SuperNATURAL Drum Kit (SN-D) – COMP tab

Parameter	Value	Explanation
Output Assign	PART, COMP+EQ1–6	Specifies for each drum inst how the sound will be output.

COMP tab

* COMP + EQ can be used only for the part specified by the Drum Comp+EQ Assign setting.

Comp 1–6 Switch	OFF, ON	Compressor on/off setting
Comp 1–6 Attack Time	0.05–50.0ms	Time from when the input exceeds the threshold until compression begins
Comp 1–6 Release Time	0.05–2000ms	Time from when the input falls below the threshold until compression is turned off
Comp 1–6 Threshold	0–127	Level above which compression is applied
Comp 1–6 Ratio	1:1–inf:1	Compression ratio
Comp 1–6 Output Gain	0–+24[dB]	Level of the output sound

EQ tab

* COMP + EQ can be used only for the part specified by the Drum Comp+EQ Assign setting.

EQ 1–6 Switch	OFF, ON	Equalizer on/off setting
EQ1–6 Low Freq	200, 400 [Hz]	Frequency of the low range
EQ1–6 Low Gain	-15–+15 [dB]	Gain of the low frequency range
EQ1–6 Mid Freq	200, 250, 315, 400, 500, 630, 800, 1000, 1250, 1600, 2000, 2500, 3150, 4000, 5000, 6300, 8000 [Hz]	Frequency of the middle range
EQ1–6 Mid Gain	-15–+15 [dB]	Gain of the middle frequency range
EQ1–6 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.
EQ1–6 High Freq	2000, 4000, 8000 [Hz]	Frequency of the high range
EQ1–6 High Gain	-15–+15 [dB]	Gain of the high frequency range

MFX tab

MFX Switch	OFF, ON	Switches the multi-effect (MFX) on/off.
MFX Type	0–67	Use this parameter to select from among the 67 available MFXs. For details on MFX parameters, refer to “ MFX Parameters ” (p. 73).
Parameters for each MFX type	Make parameter settings for the selected MFX type.	
MFX Chorus Send Level	0–127	Adjusts the amount of chorus for the sound that passes through multi-effects. If you don't want to add the Chorus effect, set it to “ 0 .” * This has no effect if motion surround is on.
MFX Reverb Send Level	0–127	Adjusts the amount of reverb for the sound that passes through multi-effects. If you don't want to add the Reverb effect, set it to “ 0 .” * This has no effect if motion surround is on.

MFX CTRL tab

Source (1–4)	OFF, CC01–31, 33–95, PITCH BEND, AFTERTOUCH, SYS CTRL1–SYS CTRL4	Sets the MIDI message used to change the multi-effects parameter with the multi-effects control. OFF: Multi-effects control will not be used. CC01–31, 33–95: Control Change PITCH BEND: Pitch Bend AFTERTOUCH: Aftertouch SYS CTRL1–SYS CTRL4: MIDI messages used as common multi-effects controls.
Destination (1–4)	Sets the multi-effects parameters to be controlled with the multi-effects control. The multi-effects parameters available for control will depend on the multi-effects type. For details, refer to “ MFX Parameter ” (p. 97).	
Sens (1–4)	-63–+63	Sets the amount of the multi-effects control's effect that is applied. 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.

SuperNATURAL Drum Inst List

The following table shows support for the Ambience Level parameter of the COMMON tab and the Stereo Width parameter of the DRUM INST tab.

Variation indicates support for the performance variation in the DRUM INST tab.

Bank	No.	Inst Name	Type	Stereo Width	Ambience Level	Variation
INT	1	Studio Kick	Kick	✓	✓	Flam/Buzz
INT	2	Pop Kick	Kick	✓	✓	Flam/Buzz
INT	3	Jazz Kick	Kick	✓	✓	Flam/Buzz
INT	4	Rock Kick	Kick	✓	✓	Flam/Buzz
INT	5	Studio Kick 2	Kick	✓	✓	Flam/Buzz
INT	6	Rock Kick 2	Kick	✓	✓	Flam/Buzz
INT	7	Orch Bass Drum	Kick	✓	✓	Flam/Buzz
INT	8	Studio Sn	Snare	✓	✓	Flam/Buzz/Roll
INT	9	Studio Sn Rim	Snare	✓	✓	Flam/Buzz/Roll
INT	10	Studio Sn XStk	Snare	✓	✓	Flam/Buzz
INT	11	Pop Sn	Snare	✓	✓	Flam/Buzz/Roll
INT	12	Pop Sn Rim	Snare	✓	✓	Flam/Buzz/Roll
INT	13	Pop Sn XStk	Snare	✓	✓	Flam/Buzz
INT	14	Jazz Sn	Snare	✓	✓	Flam/Buzz/Roll
INT	15	Jazz Sn Rim	Snare	✓	✓	Flam/Buzz/Roll
INT	16	Jazz Sn XStk	Snare	✓	✓	Flam/Buzz
INT	17	Rock Sn	Snare	✓	✓	Flam/Buzz/Roll
INT	18	Rock Sn Rim	Snare	✓	✓	Flam/Buzz/Roll
INT	19	Rock Sn XStk	Snare	✓	✓	Flam/Buzz
INT	20	Tight Sn	Snare	✓	✓	Flam/Buzz/Roll
INT	21	Tight Sn Rim	Snare	✓	✓	Flam/Buzz/Roll
INT	22	Tight Sn XStk	Snare	✓	✓	Flam/Buzz
INT	23	Studio Sn 2	Snare	✓	✓	Flam/Buzz/Roll
INT	24	Studio Sn 2 Rim	Snare	✓	✓	Flam/Buzz/Roll
INT	25	Studio Sn 2 XStk	Snare	✓	✓	Flam/Buzz
INT	26	Rock Sn 2	Snare	✓	✓	Flam/Buzz/Roll
INT	27	Rock Sn 2 Rim	Snare	✓	✓	Flam/Buzz/Roll
INT	28	Rock Sn 2 XStk	Snare	✓	✓	Flam/Buzz
INT	29	Brush Sn Slap	Snare	✓	✓	Flam/Buzz/Roll
INT	30	Brush Sn Tap	Snare	✓	✓	Flam/Buzz/Roll
INT	31	Brush Sn Slide	Snare	✓	✓	Flam/Buzz
INT	32	Brush Sn Swirl 1	Snare	✓	✓	-
INT	33	Brush Sn Swirl 2	Snare	✓	✓	-
INT	34	Snare CrossStk	Snare	✓	✓	Flam/Buzz
INT	35	Orch Snare	Snare	✓	✓	Flam/Buzz/Roll
INT	36	Orch Snare XStk	Snare	✓	✓	Flam/Buzz
INT	37	Pop Tom Hi	Tom	✓	✓	Flam/Buzz
INT	38	Pop Tom Mid	Tom	✓	✓	Flam/Buzz
INT	39	Pop Tom Flr	Tom	✓	✓	Flam/Buzz
INT	40	Rock Tom Hi	Tom	✓	✓	Flam/Buzz
INT	41	Rock Tom Mid	Tom	✓	✓	Flam/Buzz
INT	42	Rock Tom Floor	Tom	✓	✓	Flam/Buzz
INT	43	Jazz Tom Hi	Tom	✓	✓	Flam/Buzz
INT	44	Jazz Tom Mid	Tom	✓	✓	Flam/Buzz
INT	45	Jazz Tom Floor	Tom	✓	✓	Flam/Buzz
INT	46	Brush Tom Hi	Tom	✓	✓	Flam/Buzz
INT	47	Brush Tom Mid	Tom	✓	✓	Flam/Buzz
INT	48	Brush Tom Floor	Tom	✓	✓	Flam/Buzz
INT	49	Med HH Close	Hi-Hat	✓	✓	Flam/Buzz
INT	50	Med HH Open	Hi-Hat	✓	✓	Flam/Buzz

SuperNATURAL Drum Kit (SN-D) – MFX CTRL tab

Bank	No.	Inst Name	Type	Stereo Width	Ambience Level	Variation
INT	51	Med HH Pedal	Hi-Hat	✓	✓	Flam/Buzz
INT	52	Standard HH Cl	Hi-Hat	✓	✓	Flam/Buzz
INT	53	Standard HH Op	Hi-Hat	✓	✓	Flam/Buzz
INT	54	Standard HH Pdl	Hi-Hat	✓	✓	Flam/Buzz
INT	55	Jazz HH Close	Hi-Hat	✓	✓	Flam/Buzz
INT	56	Jazz HH Open	Hi-Hat	✓	✓	Flam/Buzz
INT	57	Jazz HH Pedal	Hi-Hat	✓	✓	Flam/Buzz
INT	58	Brush HH Close	Hi-Hat	✓	✓	Flam/Buzz
INT	59	Brush HH Open	Hi-Hat	✓	✓	Flam/Buzz
INT	60	Standard Rd Edge	Ride	✓	-	Flam/Buzz
INT	61	Standard Rd Bell	Ride	✓	-	Flam/Buzz
INT	62	Std Rd Edge/Bell	Ride	✓	-	Flam/Buzz
INT	63	Medium Ride Edge	Ride	✓	-	Flam/Buzz
INT	64	Medium Ride Bell	Ride	✓	-	Flam/Buzz
INT	65	Med Rd Edge/Bell	Ride	✓	-	Flam/Buzz
INT	66	Flat 18"Ride	Ride	✓	-	Flam/Buzz
INT	67	Brush 18"Ride	Ride	✓	-	Flam/Buzz
INT	68	Brush 20"Ride	Ride	✓	-	Flam/Buzz
INT	69	Standard 16"Cr R	Crash	✓	-	Flam/Buzz/Roll
INT	70	Standard 16"Cr L	Crash	✓	-	Flam/Buzz/Roll
INT	71	Standard 18"Cr R	Crash	✓	-	Flam/Buzz/Roll
INT	72	Standard 18"Cr L	Crash	✓	-	Flam/Buzz/Roll
INT	73	Jazz 16"Cr R	Crash	✓	-	Flam/Buzz/Roll
INT	74	Jazz 16"Cr L	Crash	✓	-	Flam/Buzz/Roll
INT	75	Heavy 18"Cr R	Crash	✓	-	Flam/Buzz/Roll
INT	76	Heavy 18"Cr L	Crash	✓	-	Flam/Buzz/Roll
INT	77	Brush 16"Cr R	Crash	✓	-	Flam/Buzz
INT	78	Brush 16"Cr L	Crash	✓	-	Flam/Buzz
INT	79	Brush 18"Cr R	Crash	✓	-	Flam/Buzz
INT	80	Brush 18"Cr L	Crash	✓	-	Flam/Buzz
INT	81	Splash Cymbal 1	Crash	✓	-	Flam/Buzz
INT	82	Splash Cymbal 2	Crash	✓	-	Flam/Buzz
INT	83	Brush Splash Cym	Crash	✓	-	Flam/Buzz
INT	84	China Cymbal	Crash	✓	-	Flam/Buzz
INT	85	Orch Cymbal	Crash	✓	-	Flam/Buzz
INT	86	Orch Mallet Cym	Crash	✓	-	Flam/Buzz/Roll
INT	87	Gong	Crash	✓	-	Flam/Buzz
INT	88	Timpani F2	Percussion	✓	-	Flam/Buzz
INT	89	Timpani F#2	Percussion	✓	-	Flam/Buzz
INT	90	Timpani G2	Percussion	✓	-	Flam/Buzz
INT	91	Timpani G#2	Percussion	✓	-	Flam/Buzz
INT	92	Timpani A2	Percussion	✓	-	Flam/Buzz
INT	93	Timpani A#2	Percussion	✓	-	Flam/Buzz
INT	94	Timpani B2	Percussion	✓	-	Flam/Buzz
INT	95	Timpani C3	Percussion	✓	-	Flam/Buzz
INT	96	Timpani C#3	Percussion	✓	-	Flam/Buzz
INT	97	Timpani D3	Percussion	✓	-	Flam/Buzz
INT	98	Timpani D#3	Percussion	✓	-	Flam/Buzz
INT	99	Timpani E3	Percussion	✓	-	Flam/Buzz
INT	100	Timpani F3	Percussion	✓	-	Flam/Buzz
INT	101	Tambourine 1	Percussion	✓	-	Flam/Buzz/Roll
INT	102	Tambourine 2	Percussion	-	-	Flam/Buzz
INT	103	Cowbell 1	Percussion	✓	-	Flam/Buzz
INT	104	Cowbell 2	Percussion	-	-	Flam/Buzz

Bank	No.	Inst Name	Type	Stereo Width	Ambience Level	Variation
INT	105	Vibra-slap	Percussion	-	-	Flam/Buzz
INT	106	High Bongo 1	Percussion	✓	-	Flam/Buzz/Roll
INT	107	Low Bongo 1	Percussion	✓	-	Flam/Buzz
INT	108	High Bongo 2	Percussion	-	-	Flam/Buzz
INT	109	Low Bongo 2	Percussion	-	-	Flam/Buzz
INT	110	MuteHi Conga 1	Percussion	✓	-	Flam/Buzz
INT	111	OpenHi Conga 1	Percussion	✓	-	Flam/Buzz/Roll
INT	112	Low Conga 1	Percussion	✓	-	Flam/Buzz/Roll
INT	113	MuteHi Conga 2	Percussion	-	-	Flam/Buzz
INT	114	OpenHi Conga 2	Percussion	-	-	Flam/Buzz
INT	115	Low Conga 2	Percussion	-	-	Flam/Buzz
INT	116	High Timbale	Percussion	✓	-	Flam/Buzz
INT	117	Low Timbale	Percussion	✓	-	Flam/Buzz
INT	118	High Agogo 1	Percussion	✓	-	Flam/Buzz
INT	119	Low Agogo 1	Percussion	✓	-	Flam/Buzz
INT	120	High Agogo 2	Percussion	-	-	Flam/Buzz
INT	121	Low Agogo 2	Percussion	-	-	Flam/Buzz
INT	122	Cabasa 1	Percussion	✓	-	Flam/Buzz
INT	123	Cabasa 2	Percussion	-	-	Flam/Buzz
INT	124	Maracas 1	Percussion	✓	-	Flam/Buzz
INT	125	Maracas 2	Percussion	-	-	Flam/Buzz
INT	126	Short Whistle	Percussion	-	-	Flam/Buzz
INT	127	Long Whistle	Percussion	-	-	Flam/Buzz
INT	128	Short Guiro	Percussion	-	-	Flam/Buzz
INT	129	Long Guiro	Percussion	-	-	Flam/Buzz
INT	130	Claves 1	Percussion	✓	-	Flam/Buzz
INT	131	Claves 2	Percussion	-	-	Flam/Buzz
INT	132	Hi WoodBlock 1	Percussion	✓	-	Flam/Buzz
INT	133	Low WoodBlock 1	Percussion	✓	-	Flam/Buzz
INT	134	Hi WoodBlock 2	Percussion	-	-	Flam/Buzz
INT	135	Low WoodBlock 2	Percussion	-	-	Flam/Buzz
INT	136	Mute Cuica 1	Percussion	✓	-	Flam/Buzz
INT	137	Open Cuica 1	Percussion	✓	-	Flam/Buzz
INT	138	Mute Cuica 2	Percussion	-	-	Flam/Buzz
INT	139	Open Cuica 2	Percussion	-	-	Flam/Buzz
INT	140	Mute Triangle 1	Percussion	-	-	Flam/Buzz/Roll
INT	141	Open Triangle 1	Percussion	-	-	Flam/Buzz/Roll
INT	142	Mute Triangle 2	Percussion	-	-	Flam/Buzz
INT	143	Open Triangle 2	Percussion	-	-	Flam/Buzz
INT	144	Shaker	Percussion	-	-	Flam/Buzz
INT	145	Sleigh Bell 1	Percussion	✓	-	Flam/Buzz
INT	146	Sleigh Bell 2	Percussion	-	-	Flam/Buzz
INT	147	Wind Chimes	Percussion	✓	-	Flam/Buzz
INT	148	Castanets 1	Percussion	✓	-	Flam/Buzz/Roll
INT	149	Castanets 2	Percussion	-	-	Flam/Buzz
INT	150	Mute Surdo 1	Percussion	✓	-	Flam/Buzz
INT	151	Open Surdo 1	Percussion	✓	-	Flam/Buzz
INT	152	Mute Surdo 2	Percussion	-	-	Flam/Buzz
INT	153	Open Surdo 2	Percussion	-	-	Flam/Buzz
INT	154	Sticks	Other	-	-	Flam/Buzz
INT	155	Square Click	Other	-	-	Flam/Buzz
INT	156	Metro Click	Other	-	-	Flam/Buzz
INT	157	Metro Bell	Other	-	-	Flam/Buzz
INT	158	Hand Clap	Other	-	-	Flam/Buzz
INT	159	High Q	SFX	-	-	Flam/Buzz

SuperNATURAL Drum Kit (SN-D) – MFX CTRL tab

Bank	No.	Inst Name	Type	Stereo Width	Ambience Level	Variation
INT	160	Slap	SFX	-	-	Flam/Buzz
INT	161	Scratch Push	SFX	-	-	Flam/Buzz
INT	162	Scratch Pull	SFX	-	-	Flam/Buzz
INT	163	Gt Fret Noise	SFX	-	-	Flam/Buzz
INT	164	Gt Cutting Up Nz	SFX	-	-	Flam/Buzz
INT	165	Gt Cutting Dw Nz	SFX	-	-	Flam/Buzz
INT	166	AcBass Noise	SFX	-	-	Flam/Buzz
INT	167	Flute Key Click	SFX	-	-	Flam/Buzz
INT	168	Applause	SFX	✓	-	-
ExSN6	1	Laughing 1	SFX	✓	-	-
ExSN6	2	Laughing 2	SFX	✓	-	-
ExSN6	3	Laughing 3	SFX	✓	-	-
ExSN6	4	Scream 1	SFX	✓	-	-
ExSN6	5	Scream 2	SFX	✓	-	-
ExSN6	6	Scream 3	SFX	✓	-	-
ExSN6	7	Punch 1	SFX	✓	-	-
ExSN6	8	Punch 2	SFX	✓	-	-
ExSN6	9	Punch 3	SFX	✓	-	-
ExSN6	10	Heart Beat 1	SFX	✓	-	-
ExSN6	11	Heart Beat 2	SFX	✓	-	-
ExSN6	12	Heart Beat 3	SFX	✓	-	-
ExSN6	13	Foot Steps 1	SFX	✓	-	-
ExSN6	14	Foot Steps 2	SFX	✓	-	-
ExSN6	15	Foot Steps 3	SFX	✓	-	-
ExSN6	16	Foot Step 1 A	SFX	✓	-	-
ExSN6	17	Foot Step 1 B	SFX	✓	-	-
ExSN6	18	Foot Step 2 A	SFX	✓	-	-
ExSN6	19	Foot Step 2 B	SFX	✓	-	-
ExSN6	20	Foot Step 3 A	SFX	✓	-	-
ExSN6	21	Foot Step 3 B	SFX	✓	-	-
ExSN6	22	Door Creaking 1	SFX	✓	-	-
ExSN6	23	Door Creaking 2	SFX	✓	-	-
ExSN6	24	Door Creaking 3	SFX	✓	-	-
ExSN6	25	Door Slam 1	SFX	✓	-	-
ExSN6	26	Door Slam 2	SFX	✓	-	-
ExSN6	27	Door Slam 3	SFX	✓	-	-
ExSN6	28	Scratch	SFX	✓	-	-
ExSN6	29	MetalScratch	SFX	✓	-	-
ExSN6	30	Matches	SFX	✓	-	-
ExSN6	31	Car Engine 1	SFX	✓	-	-
ExSN6	32	Car Engine 2	SFX	✓	-	-
ExSN6	33	Car Engine 3	SFX	✓	-	-
ExSN6	34	Car Stop 1 L>R	SFX	✓	-	-
ExSN6	35	Car Stop 1 R>L	SFX	✓	-	-
ExSN6	36	Car Stop 2 L>R	SFX	✓	-	-
ExSN6	37	Car Stop 2 R>L	SFX	✓	-	-
ExSN6	38	Car Stop 3 L>R	SFX	✓	-	-
ExSN6	39	Car Stop 3 R>L	SFX	✓	-	-
ExSN6	40	CarPassing 1 L>R	SFX	✓	-	-
ExSN6	41	CarPassing 1 R>L	SFX	✓	-	-
ExSN6	42	CarPassing 2 L>R	SFX	✓	-	-
ExSN6	43	CarPassing 2 R>L	SFX	✓	-	-
ExSN6	44	CarPassing 3 L>R	SFX	✓	-	-
ExSN6	45	CarPassing 3 R>L	SFX	✓	-	-
ExSN6	46	CarPassing 4	SFX	-	-	-

Bank	No.	Inst Name	Type	Stereo Width	Ambience Level	Variation
ExSN6	47	CarPassing 5	SFX	-	-	-
ExSN6	48	CarPassing 6	SFX	-	-	-
ExSN6	49	Car Crash 1 L>R	SFX	✓	-	-
ExSN6	50	Car Crash 1 R>L	SFX	✓	-	-
ExSN6	51	Car Crash 2 L>R	SFX	✓	-	-
ExSN6	52	Car Crash 2 R>L	SFX	✓	-	-
ExSN6	53	Car Crash 3 L>R	SFX	✓	-	-
ExSN6	54	Car Crash 3 R>L	SFX	✓	-	-
ExSN6	55	Crash 1	SFX	✓	-	-
ExSN6	56	Crash 2	SFX	✓	-	-
ExSN6	57	Crash 3	SFX	✓	-	-
ExSN6	58	Siren 1	SFX	✓	-	-
ExSN6	59	Siren 2 L>R	SFX	✓	-	-
ExSN6	60	Siren 2 R>L	SFX	✓	-	-
ExSN6	61	Siren 3	SFX	✓	-	-
ExSN6	62	Train 1	SFX	✓	-	-
ExSN6	63	Train 2	SFX	✓	-	-
ExSN6	64	Jetplane 1 L>R	SFX	✓	-	-
ExSN6	65	Jetplane 1 R>L	SFX	✓	-	-
ExSN6	66	Jetplane 2 L>R	SFX	✓	-	-
ExSN6	67	Jetplane 2 R>L	SFX	✓	-	-
ExSN6	68	Jetplane 3 L>R	SFX	✓	-	-
ExSN6	69	Jetplane 3 R>L	SFX	✓	-	-
ExSN6	70	Helicopter 1 L	SFX	✓	-	-
ExSN6	71	Helicopter 1 R	SFX	✓	-	-
ExSN6	72	Helicopter 2 L	SFX	✓	-	-
ExSN6	73	Helicopter 2 R	SFX	✓	-	-
ExSN6	74	Helicopter 3 L	SFX	✓	-	-
ExSN6	75	Helicopter 3 R	SFX	✓	-	-
ExSN6	76	Starship 1 L>R	SFX	✓	-	-
ExSN6	77	Starship 1 R>L	SFX	✓	-	-
ExSN6	78	Starship 2 L>R	SFX	✓	-	-
ExSN6	79	Starship 2 R>L	SFX	✓	-	-
ExSN6	80	Starship 3 L>R	SFX	✓	-	-
ExSN6	81	Starship 3 R>L	SFX	✓	-	-
ExSN6	82	Gun Shot 1	SFX	✓	-	-
ExSN6	83	Gun Shot 2	SFX	✓	-	-
ExSN6	84	Gun Shot 3	SFX	✓	-	-
ExSN6	85	Machine Gun 1	SFX	✓	-	-
ExSN6	86	Machine Gun 2	SFX	✓	-	-
ExSN6	87	Machine Gun 3	SFX	✓	-	-
ExSN6	88	Laser Gun 1	SFX	✓	-	-
ExSN6	89	Laser Gun 2	SFX	✓	-	-
ExSN6	90	Laser Gun 3	SFX	✓	-	-
ExSN6	91	Explosion 1	SFX	✓	-	-
ExSN6	92	Explosion 2	SFX	✓	-	-
ExSN6	93	Explosion 3	SFX	✓	-	-
ExSN6	94	Dog 1	SFX	✓	-	-
ExSN6	95	Dog 2	SFX	✓	-	-
ExSN6	96	Dog 3	SFX	✓	-	-
ExSN6	97	Dog 4	SFX	✓	-	-
ExSN6	98	Horse 1 L>R	SFX	✓	-	-
ExSN6	99	Horse 1 R>L	SFX	✓	-	-
ExSN6	100	Horse 2 L>R	SFX	✓	-	-

SuperNATURAL Drum Kit (SN-D) – MFX CTRL tab

Bank	No.	Inst Name	Type	Stereo Width	Ambience Level	Variation
ExSN6	101	Horse 2 R>L	SFX	✓	-	-
ExSN6	102	Horse 3 L>R	SFX	✓	-	-
ExSN6	103	Horse 3 R>L	SFX	✓	-	-
ExSN6	104	Birds 1	SFX	✓	-	-
ExSN6	105	Birds 2	SFX	✓	-	-
ExSN6	106	Rain 1	SFX	✓	-	-
ExSN6	107	Rain 2	SFX	✓	-	-
ExSN6	108	Thunder 1	SFX	✓	-	-
ExSN6	109	Thunder 2	SFX	✓	-	-
ExSN6	110	Thunder 3	SFX	✓	-	-
ExSN6	111	Wind	SFX	✓	-	-
ExSN6	112	Seashore	SFX	✓	-	-
ExSN6	113	Stream 1	SFX	✓	-	-
ExSN6	114	Stream 2	SFX	✓	-	-
ExSN6	115	Bubbles 1	SFX	✓	-	-
ExSN6	116	Bubbles 2	SFX	✓	-	-
ExSN6	117	Burst 1	SFX	✓	-	-
ExSN6	118	Burst 2	SFX	✓	-	-
ExSN6	119	Burst 3	SFX	✓	-	-
ExSN6	120	Burst 4	SFX	-	-	-
ExSN6	121	Glass Burst 1	SFX	✓	-	-
ExSN6	122	Glass Burst 2	SFX	✓	-	-
ExSN6	123	Glass Burst 3	SFX	✓	-	-
ExSN6	124	Telephone 1	SFX	✓	-	-
ExSN6	125	Telephone 2	SFX	✓	-	-
ExSN6	126	Telephone 3	SFX	✓	-	-

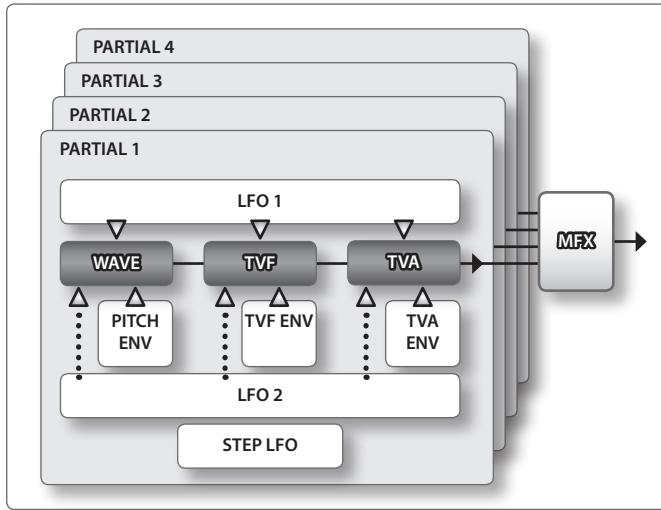
PCM Synth Tone (PCMS)

TONE EDIT (PCMS)

Each tone has settings for four sets (Partial 1–4) of WAVE, TVF, TVA, and LFO×2, in addition to multi-effect (MFX) settings.

You can create sounds by combining four partials.

Each partial can be turned on/off, allowing you to specify which partial (s) will be heard.



1. In the top screen, press the [EDIT] button.



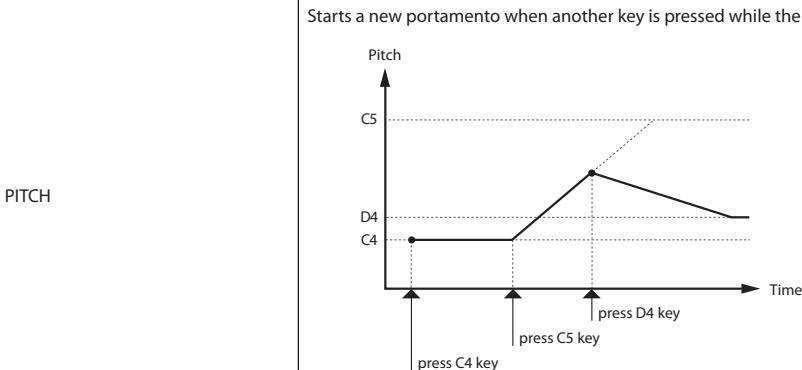
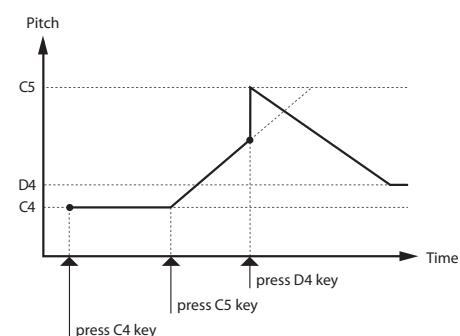
MEMO

In this manual, Parameters that can be controlled using the Matrix Control (p.63) are marked with a ★.

Parameter	Value	Explanation
COMMON tab		
Tone Category	No assign, Ac.Piano, E.Piano, Organ, Other Keyboards, Accordion/Harmonica, Bell/Mallet, Ac.Guitar, E.Guitar, Dist.Guitar, Ac.Bass, E.Bass, Synth Bass, Plucked/Stroke, Strings, Brass, Wind, Flute, Sax, Recorder, Vox/Choir, Synth Lead, Synth Brass, Synth Pad/Strings, Synth Bellpad, Synth PolyKey, FX, Synth Seq/Pop, Phrase, Pulsating, Beat&Groove, Hit, Sound FX, Drums, Percussion, Combination	Selects the tone's category.
Phrase Number	0–243	Number of the phrase that plays when you press the [VOLUME] knob (PREVIEW).
Phrase Octave Shift	-3–+3	Pitch (in octave units) of the preview phrase.
Tone Level	0–127	Adjusts the overall volume of the tone.
Tone Pan	L64–63R	Specifies the pan of the tone. “L64” is far left, “0” is center, and “63R” is far right.
Tone Priority	LAST, LOUDEST	This determines how notes will be managed when the maximum polyphony is exceeded (128 voices). LAST: The last-played voices will be given priority, and currently sounding notes will be turned off in order, beginning with the first-played note. LOUDEST: The voices with the loudest volume will be given priority, and currently sounding notes will be turned off, beginning with the lowest-volume voice.
Octave Shift	-3–+3	Adjusts the pitch of the tone's sound up or down in units of an octave (+/-3 octaves).
Tone Coarse Tune	-48–+48	Adjusts the pitch of the patch's sound up or down in semitone steps (+/-4 octaves).
Tone Fine Tune	-50–+50	Adjusts the tone of the patch's sound up or down in 1-cent steps (+/-50 cents). * One cent is 1/100th of a semitone.

PCM Synth Tone (PCMS) – COMMON tab

Parameter	Value	Explanation
Stretch Tune Depth	OFF, 1–3	<p>This setting allows you to apply “stretched tuning” to the patch. (Stretched tuning is a system by which acoustic pianos are normally tuned, causing the lower range to be lower and the higher range to be higher than the mathematical tuning ratios would otherwise dictate.) With a setting of “OFF,” the patch’s tuning will be equal temperament. A setting of “3” will produce the greatest difference in the pitch of the low and high ranges.</p> <p>The diagram shows the pitch change relative to equal temperament that will occur in the low and high ranges. This setting will have a subtle effect on the way in which chords resonate.</p>
Analog Feel	0–127	<p>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.</p>
Cutoff Offset	-63–+63	<p>Cutoff Frequency Offset alters the cutoff frequency of the overall tone, while preserving the relative differences between the cutoff frequency values set for each partial in the Cutoff Frequency parameters (p. 56).</p> <p>NOTE This value is added to the cutoff frequency value of a partial, so if the cutoff frequency value of any partial is already set to “127” (maximum), positive “+” settings here will not produce any change.</p>
Resonance Offset	-63–+63	<p>Resonance Offset alters the resonance of the overall tone, while preserving the relative differences between the resonance values set for each partial in the Resonance parameter (p. 56).</p> <p>* Resonance: emphasizes the overtones in the region of the cutoff frequency, adding character to the sound.</p> <p>NOTE This value is added to the resonance value of a partial, so if the resonance value of any partial is already set to “127” (maximum), positive “+” settings here will not produce any change.</p>
Attack Time Offset	-63–+63	<p>Attack Time Offset alters the attack time of the overall tone, while preserving the relative differences between the attack time values set for each partial in the TVA Env Time 1 parameters (p. 59), TVF Env Time 1 parameters (p. 58).</p> <p>* Attack Time: The time it takes for a sound to reach maximum volume after the key is pressed and sound begun.</p> <p>NOTE This value is added to the attack time value of a partial, so if the attack time value of any partial is already set to “127” (maximum), positive “+” settings here will not produce any change.</p>
Release Time Offset	-63–+63	<p>Release Time Offset alters the release time of the overall tone, while preserving the relative differences between the release time values set for each partial in the TVA Env Time 4 parameters (p. 59), TVF Env Time 4 parameters (p. 58).</p> <p>* Release Time: The time from when you take your finger off the key until the sound disappears.</p> <p>NOTE This value is added to the release time value of a partial, so if the release time value of any partial is already set to “127” (maximum), positive “+” settings here will not produce any change.</p>
Velocity Sens Offset	-63–+63	<p>Velocity Sensitivity Offset alters the Velocity Sensitivity of the overall tone while preserving the relative differences between the Velocity Sensitivity values set for each partial in the parameters below.</p> <p>Cutoff Velocity Sens parameter (p. 57) Level Velocity Sens parameter (p. 58)</p> <p>* Velocity: Pressure with which the key is pressed.</p> <p>NOTE This value is added to the velocity sensitivity value of a partial, so if the velocity sensitivity value of any partial is already set to “+63” (maximum), positive “+” settings here will not produce any change.</p>
Mono/Poly	MONO, POLY	<p>Specifies whether the tone will play polyphonically (POLY) or monophonically (MONO). The “MONO” setting is effective when playing a solo instrument patch such as sax or flute.</p> <p>MONO: Only the last-played note will sound.</p> <p>POLY: Two or more notes can be played simultaneously.</p>

Parameter	Value	Explanation
Legato Switch	OFF, ON	<p>This setting specifies whether the Legato Switch will be used (ON) or not (OFF). Legato Switch is valid when the Mono/Poly parameter is set to “MONO.” With the Legato Switch “ON,” pressing a key while continuing to press a previous key causes the note to change pitch to the pitch of the most recently pressed key, sounding all the while.</p> <p>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.</p>
Legato Retrigger	OFF, ON	<p>The setting determines whether sounds are replayed (ON) or not (OFF) when performing legato. The Legato Retrigger is valid when the Mono/Poly is set to “MONO” and the Legato Switch is set to “ON.” Normally you will leave this parameter “ON.”</p> <p>When “OFF,” when one key is held down and another key is then pressed, only the pitch changes, without the attack of the latter key being played. Set this to “OFF” when performing wind and string phrases or when using modulation with the mono synth keyboard sound.</p> <p>NOTE</p> <p>Let's say you have the Legato Switch set to “ON,” and the Legato Retrigger set to “OFF.”</p> <p>When you try to sound a legato (by pressing a higher key while a lower key is held down), the pitch may sometimes not be able to rise all the way to the intended pitch (stopping instead at an intermediate pitch). This can occur because the limit of pitch rise, as determined at the wave level, has been exceeded.</p> <p>Additionally, if differing upper pitch limits are used for the waves of a tone that uses multiple partials, it may stop being heard in MONO.</p> <p>When making large pitch changes, set the Legato Retrigger to “ON.”</p>
Portamento Switch	OFF, ON	<p>Specifies whether the portamento effect will be applied (ON) or not (OFF).</p> <p>Portamento</p> <p>Portamento is an effect which smoothly changes the pitch from the first-played key to the next-played key. By applying portamento when the Mono/Poly parameter is “MONO,” you can simulate slide performance techniques on a violin or similar instrument.</p>
Portamento Mode	NORMAL, LEGATO	<p>Specifies the performance conditions for which portamento will be applied.</p> <p>NORMAL: Portamento will always be applied.</p> <p>LEGATO: Portamento will be applied only when you play legato (i.e., when you press the next key before releasing the previous key).</p>
Portamento Type	RATE, TIME	<p>Specifies the type of portamento effect.</p> <p>RATE: The time it takes will depend on the distance between the two pitches.</p> <p>TIME: The time it takes will be constant</p>
Portamento Start	PITCH	<p>When another key is pressed during a pitch change produced by portamento, a new pitch change will begin. This setting specifies the pitch at which the change will begin.</p> 
	NOTE	<p>Starts a new portamento when another key is pressed while the pitch is changing.</p> 

PCM Synth Tone (PCMS) – WAVE tab

Parameter	Value	Explanation
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.

WAVE tab

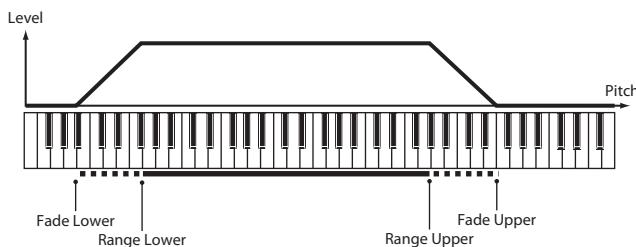
Partial Switch	OFF, ON	Used to specify whether partial 1–4 will be used (ON) or not used (OFF).
Wave Group	INT, SRX01–SRX12 (only if an expansion is loaded)	Selects the group for the waveform that is to be the basis of the partial. INT: Waveforms stored in internal SRX01–SRX12: Expansion sound banks
Wave No.L (Mono)	OFF, 1–	Selects the basic waveform for a tone. Along with the Wave number, the Wave name appears at the lower part of the display. When in monaural mode, only the left side (L) is specified. When in stereo, the right side (R) is also specified.
Wave No.R		NOTE If you specify only the right side (R), there will be no sound.
Wave Gain	-6, 0, +6, +12 [dB]	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. If you intend to use the Booster to distort the waveform's sound, set this parameter to its maximum value (p. 53).
Wave Tempo Sync	OFF, ON	When you wish to synchronize a Phrase Loop to the clock (tempo), set this to " ON ." This is valid only when an SRX waveform which indicates a tempo (BPM) is selected. (Example: SRX05 3:080:BladeBtL, SRX08 5:75:BoomRvBel, etc.) If a waveform from an SRX is selected for the partial, turning the Wave Tempo Sync parameter " ON " will cause pitch-related settings and FXM-related settings to be ignored. When the Wave Tempo Sync is set to " ON ," set the Partial Delay Time (p. 51) to " 0 ." With other settings, a delay effect will be applied, and you will be not be able to play as you expect. Phrase Loop " Phrase " loop refers to the repeated playback of a phrase that's been pulled out of a song (e.g., by using a sampler). One technique involving the use of Phrase Loops is the excerpting of a Phrase from a pre-existing song in a certain genre, for example dance music, and then creating a new song with that Phrase used as the basic motif. This is referred to as " Break Beats ."
FXM Switch	OFF, ON	This sets whether FXM will be used (ON) or not (OFF). FXM FXM (Frequency Cross Modulation) uses a specified waveform to apply frequency modulation to the currently selected waveform, creating complex overtones. This is useful for creating dramatic sounds or sound effects.
FXM Color	1–4	Specifies how FXM will perform frequency modulation. Higher settings result in a grainier sound, while lower settings result in a more metallic sound.
FXM Depth★	0–16	Specifies the depth of the modulation produced by FXM. * You can use matrix control to modify this.

Parameter	Value	Explanation								
	Partial Delay	<p>This produces a time delay between the moment a key is pressed (or released), and the moment the partial actually begins to sound. You can also make settings that shift the timing at which each partial is sounded.</p> <p>This differs from the Delay in the internal effects, in that by changing the sound qualities of the delayed partials and changing the pitch for each partial, you can also perform arpeggio-like passages just by pressing one key.</p> <p>You can also synchronize the partial delay time to the tempo of the external MIDI sequencer.</p>								
Partial Delay Mode	NORM	<p>The partial begins to play after the time specified in the Partial Delay Time parameter has elapsed.</p>								
	HOLD	<p>Although the partial begins to play after the time specified in the Partial Delay Time parameter has elapsed, if the key is released before the time specified in the Partial Delay Time parameter has elapsed, the partial is not played.</p>								
	OFF-N	<p>Rather than being played while the key is pressed, the partial begins to play once the period of time specified in the Partial Delay Time parameter has elapsed after release of the key. This is effective in situations such as when simulating noises from guitars and other instruments.</p>								
	OFF-D	<p>Rather than being played while the key is pressed, the partial begins to play once the period of time specified in the Partial Delay Time parameter has elapsed after release of the key. Here, however, changes in the TVA Envelope begin while the key is pressed, which in many cases means that only the sound from the release portion of the envelope is heard.</p>								
Partial Delay Time	0–127, Note	<p>Specifies the time from when the key is pressed (or if the Partial Delay Mode parameter is set to “OFF-N” or “OFF-D,” the time from when the key is released) until when the partial will sound. If you want the time until the partial sounds to be synchronized with the tempo, specify the time as a note value relative to the synchronization tempo.</p> <p>(Example) For a tempo of 120 (120 quarter notes occur in 1 minute (60 seconds))</p> <table border="1"> <thead> <tr> <th>Value</th><th>Partial Delay time</th></tr> </thead> <tbody> <tr> <td>♩ (half note)</td><td>1 second ($60/60 = 1$ [second])</td></tr> <tr> <td>♩ (quarter note)</td><td>0.5 seconds ($60/120 = 0.5$ [second])</td></tr> <tr> <td>♩ (eighth note)</td><td>0.25 seconds ($60/240 = 0.25$ [second])</td></tr> </tbody> </table>	Value	Partial Delay time	♩ (half note)	1 second ($60/60 = 1$ [second])	♩ (quarter note)	0.5 seconds ($60/120 = 0.5$ [second])	♩ (eighth note)	0.25 seconds ($60/240 = 0.25$ [second])
Value	Partial Delay time									
♩ (half note)	1 second ($60/60 = 1$ [second])									
♩ (quarter note)	0.5 seconds ($60/120 = 0.5$ [second])									
♩ (eighth note)	0.25 seconds ($60/240 = 0.25$ [second])									

PCM Synth Tone (PCMS) – PMT tab

Parameter	Value	Explanation																														
		<h3>PMT tab</h3>																														
Structure Type 1 & 2 Structure Type 3 & 4	1–10	<p>Determines how partial 1 and 2, or partial 3 and 4 are connected.</p> <p>The following 10 different types of combination are available.</p> <table border="1"> <tr> <td>TYPE 1</td> <td> </td> <td>With this type, partial 1 and 2 (or 3 and 4) are independent. Use this type when you want to preserve PCM sounds or create and combine sounds for each partial.</td> </tr> <tr> <td>TYPE 2</td> <td> </td> <td>This type stacks the two filters together to intensify the characteristics of the filters. The TVA for partial 1 (or 3) controls the volume balance between the two partials.</td> </tr> <tr> <td>TYPE 3 B: Booster</td> <td> </td> <td>This type mixes the sound of partial 1 (3) and partial 2 (4), applies a filter, and then applies a booster to distort the waveform.</td> </tr> <tr> <td>TYPE 4 B: Booster</td> <td> </td> <td>This type applies a booster to distort the waveform, and then combines the two filters. The TVA for partial 1 (or 3) controls the volume balance between the two partials and adjusts booster level.</td> </tr> <tr> <td>TYPE 5 R: Ring Modulator</td> <td> </td> <td>This type uses a ring modulator to create new overtones, and combines the two filters. The partial 1 (3) TVA will control the volume balance of the two partials, adjusting the depth of ring modulator.</td> </tr> <tr> <td>TYPE 6 R: Ring Modulator</td> <td> </td> <td>This type uses a ring modulator to create new overtones, and in addition mixes in the sound of partial 2 (4) and stacks the two filters. Since the ring-modulated sound can be mixed with partial 2 (4), partial 1 (3) TVA can adjust the amount of the ring-modulated sound.</td> </tr> <tr> <td>TYPE 7 R: Ring Modulator</td> <td> </td> <td>This type applies a filter to partial 1 (3) and ring-modulates it with partial 2 (4) to create new overtones.</td> </tr> <tr> <td>TYPE 8 R: Ring Modulator</td> <td> </td> <td>This type sends the filtered partial 1 (3) and partial 2 (4) through a ring modulator, and then mixes in the sound of partial 2 (4) and applies a filter to the result.</td> </tr> <tr> <td>TYPE 9 R: Ring Modulator</td> <td> </td> <td>This type passes the filtered sound of each partial through a ring modulator to create new overtones. The partial 1 (3) TVA will control the volume balance of the two partials, adjusting the depth of ring modulator.</td> </tr> <tr> <td>TYPE 10 R: Ring Modulator</td> <td> </td> <td>This type passes the filtered sound of each partial through a ring modulator to create new overtones, and also mixes in the sound of partial 2 (4). Since the ring-modulated sound can be mixed with partial 2 (4), partial 1 (3) TVA can adjust the amount of the ring-modulated sound.</td> </tr> </table>	TYPE 1		With this type, partial 1 and 2 (or 3 and 4) are independent. Use this type when you want to preserve PCM sounds or create and combine sounds for each partial.	TYPE 2		This type stacks the two filters together to intensify the characteristics of the filters. The TVA for partial 1 (or 3) controls the volume balance between the two partials.	TYPE 3 B: Booster		This type mixes the sound of partial 1 (3) and partial 2 (4), applies a filter, and then applies a booster to distort the waveform.	TYPE 4 B: Booster		This type applies a booster to distort the waveform, and then combines the two filters. The TVA for partial 1 (or 3) controls the volume balance between the two partials and adjusts booster level.	TYPE 5 R: Ring Modulator		This type uses a ring modulator to create new overtones, and combines the two filters. The partial 1 (3) TVA will control the volume balance of the two partials, adjusting the depth of ring modulator.	TYPE 6 R: Ring Modulator		This type uses a ring modulator to create new overtones, and in addition mixes in the sound of partial 2 (4) and stacks the two filters. Since the ring-modulated sound can be mixed with partial 2 (4), partial 1 (3) TVA can adjust the amount of the ring-modulated sound.	TYPE 7 R: Ring Modulator		This type applies a filter to partial 1 (3) and ring-modulates it with partial 2 (4) to create new overtones.	TYPE 8 R: Ring Modulator		This type sends the filtered partial 1 (3) and partial 2 (4) through a ring modulator, and then mixes in the sound of partial 2 (4) and applies a filter to the result.	TYPE 9 R: Ring Modulator		This type passes the filtered sound of each partial through a ring modulator to create new overtones. The partial 1 (3) TVA will control the volume balance of the two partials, adjusting the depth of ring modulator.	TYPE 10 R: Ring Modulator		This type passes the filtered sound of each partial through a ring modulator to create new overtones, and also mixes in the sound of partial 2 (4). Since the ring-modulated sound can be mixed with partial 2 (4), partial 1 (3) TVA can adjust the amount of the ring-modulated sound.
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Parameter	Value	Explanation
Booster 1 & 2 Booster 3 & 4	0, +6, +12, +18 [dB]	<p>When a Structure Type of TYPE 3 or TYPE 4 is selected, you can adjust the depth of the booster. The booster increases the input signal in order to distort the sound. This creates the distortion effect frequently used with electric guitars. Higher settings will produce more distortion.</p> <p>Booster</p> <p>The Booster is used to distort the incoming signal. In addition to using this to create distortion, you can use the waveform (WG1) of one of the partials as an LFO which shifts the other waveform (WG2) upward or downward to create modulation similar to PWM (pulse width modulation). This parameter works best when you use it in conjunction with the Wave Gain parameter (p. 50).</p>



Key Fade Upper	0–127	<p>This determines what will happen to the tone's level when a note that's higher than the partial's specified keyboard range is played. Higher settings produce a more gradual change in volume. If you don't want the tone to sound at all when a note above the keyboard range is played, set this parameter to "0."</p>
Key Range Upper	LOWER–G9	Specifies the highest note that the tone will sound for each partial.
Key Range Lower	C–1–UPPER	<p>Specifies the lowest note that the tone will sound for each partial.</p> <p>NOTE If you attempt to raise the lower key higher than the upper key, or to lower the upper key below the lower key, the other value will be automatically modified to the same setting.</p>
Key Fade Lower	0–127	<p>This determines what will happen to the tone's level when a note that's lower than the partial's specified keyboard range is played. Higher settings produce a more gradual change in volume. If you don't want the tone to sound at all when a note below the keyboard range is played, set this parameter to "0."</p>
PMT Velocity Control	OFF, ON, RANDOM, CYCLE	<p>PMT Velocity Control determines whether a different partial is played (ON) or not (OFF) depending on the force with which the key is played (velocity).</p> <p>When set to "RANDOM," the tone's constituent partials will sound randomly, regardless of any Velocity messages.</p> <p>When set to "CYCLE," the tone's constituent partials will sound consecutively, regardless of any Velocity messages.</p> <p>MEMO Use "Velo Range Lower" (p. 54) and "Velo Range Upper" (p. 54) to specify the range of keyboard dynamics.</p> <p>NOTE</p> <ul style="list-style-type: none"> If Velocity Range Lower and Velocity Range Upper are set to the same values, you won't be able to obtain any effect by setting PMT Velocity Control to "RANDOM" or "CYCLE." * Instead of using Velocity, you can also have partials substituted using the Matrix Control (p. 63). However, the keyboard velocity and the Matrix Control cannot be used simultaneously to make different partials to sound. When using the Matrix Control to switch partials, set the Velocity Control parameter to "OFF."

PCM Synth Tone (PCMS) – PITCH tab

Parameter	Value	Explanation
Velo Fade Upper	0–127	<p>This determines what will happen to the tone's level when the tone is played at a velocity greater than its specified velocity range.</p> <p>Higher settings produce a more gradual change in volume.</p> <p>If you want notes played outside the specified key velocity range to not be sounded at all, set this to “0.”</p>
Velo Range Upper	LOWER–127	<p>This sets the highest velocity at which the partial will sound. Make these settings when you want different partials to sound in response to notes played at different strengths.</p>
Velo Range Lower	1–UPPER	<p>This sets the lowest velocity at which the partial will sound. Make these settings when you want different partial to sound in response to notes played at different strengths.</p> <p>NOTE If you attempt to set the Lower velocity limit above the Upper, or the Upper below the Lower, the other value will automatically be adjusted to the same setting. When using the Matrix Control (p. 63) to have different partials played, set the lowest value (Lower) and highest value (Upper) of the value of the MIDI message used.</p>
Velo Fade Lower	0–127	<p>This determines what will happen to the tone's level when the tone is played at a velocity lower than its specified velocity range.</p> <p>Higher settings produce a more gradual change in volume.</p> <p>If you want notes played outside the specified key velocity range to not be sounded at all, set this to “0.”</p>
PMT Control Switch	OFF, ON	<p>Use the Matrix Control (p. 63) to enable (ON), or disable (OFF) sounding of different partials.</p> <p>NOTE You can also cause different partials to sound in response to notes played at different strengths (velocity) on the keyboard (p. 53). However, the Matrix Control and the keyboard velocity cannot be used simultaneously to make different partials to sound. When using the Matrix Control to have different partials to sound, set the Velocity Control parameter (p. 53) to “OFF.”</p>

PITCH tab

Partial Coarse Tune★	-48–+48	<p>Adjusts the pitch of the partial's sound up or down in semitone steps (+/-4 octaves).</p> <p>* You can control this parameter using the Matrix Control.</p>
Partial Fine Tune★	-50–+50	<p>Adjusts the pitch of the partial's sound up or down in 1-cent steps (+/-50 cents).</p> <p>* You can control this parameter using the Matrix Control.</p> <p>* One cent is 1/100th of a semitone.</p>
Random Pitch Depth	0, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 20, 30, 40, 50, 60, 70, 80, 90, 100, 200, 300, 400, 500, 600, 700, 800, 900, 1000, 1100, 1200	<p>This specifies the width of random pitch deviation that will occur each time a key is pressed. If you do not want the pitch to change randomly, set this to “0.” These values are in units of cents (1/100th of a semitone).</p>
Pitch Keyfollow	-200–+200	<p>This specifies the amount of pitch change that will occur when you play a key one octave higher (i.e., 12 keys upward on the keyboard).</p> <p>If you want the pitch to rise one octave as on a conventional keyboard, set this to “+100.” If you want the pitch to rise two octaves, set this to “+200.” Conversely, set this to a negative value if you want the pitch to fall. With a setting of “0,” all keys will produce the same pitch.</p> <p>Pitch</p> <p>C1 C2 C3 C4 C5 C6 C7</p>

Parameter	Value	Explanation
Pitch Bend Range Up	0–+48	Specifies the degree of pitch change in semitones when the Pitch Bend lever is all the way right. For example, if this parameter is set to “ 12 ,” the pitch will rise one octave when the pitch bend lever is moved to the right-most position.
Pitch Bend Range Down	0–48	Specifies the degree of pitch change in semitones when the Pitch Bend lever is all the way left. For example if this is set to “ -48 ” and you move the pitch bend lever all the way to the left, the pitch will fall 4 octaves.

PITCH ENV tab

Pitch Env Depth	-12–+12	Adjusts the effect of the Pitch Envelope. Higher settings will cause the pitch envelope to produce greater change. Negative “ - ” settings will invert the shape of the envelope.
Pitch Env V-Sens	-63–+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 T1 V-Sens	-63–+63	This allows keyboard dynamics to affect the Time 1 of the Pitch envelope. If you want Time 1 to be speeded up for strongly played notes, set this parameter to a positive “ + ” value. If you want it to be slowed down, set this to a negative “ - ” value.
Pitch Env T4 V-Sens	-63–+63	Use this parameter when you want key release speed to affect the Time 4 value of the pitch envelope. If you want Time 4 to be speeded up for quickly released notes, set this parameter to a positive “ + ” value. If you want it to be slowed down, set this to a negative “ - ” value.
Pitch Env Time KF	-100–+100	<p>Use this setting if you want the pitch envelope times (Time 2–Time 4) to be affected by the keyboard location. Based on the pitch envelope times for the C4 key, positive “+” settings will cause notes higher than C4 to have increasingly shorter times, and negative “-” settings will cause them to have increasingly longer times. Larger settings will produce greater change.</p>
Pitch Env Time 1–4★	0–127	<p>Specify the pitch envelope times (Time 1–Time 4). Higher settings will result in a longer time until the next pitch is reached. (For example, Time 2 is the time over which the pitch changes from Level 1 to Level 2.)</p> <p>* You can control this parameter using the Matrix Control.</p>
Pitch Env Level 0–4	-63–+63	Specify the pitch envelope levels (Level 0–Level 4). It determines how much the pitch changes from the reference pitch (the value set with Coarse Tune or Fine Tune on the Pitch screen) at each point. Positive “ + ” settings will cause the pitch to be higher than the standard pitch, and negative “ - ” settings will cause it to be lower.

PCM Synth Tone (PCMS) – TVF tab

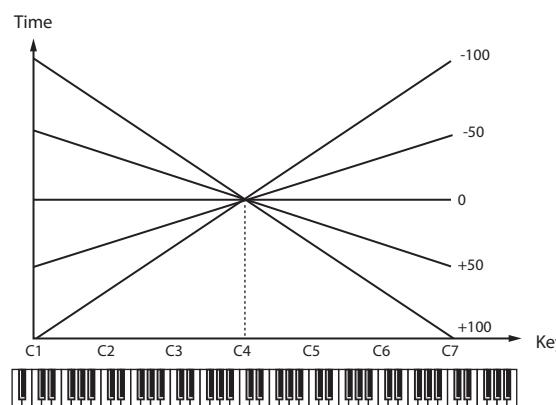
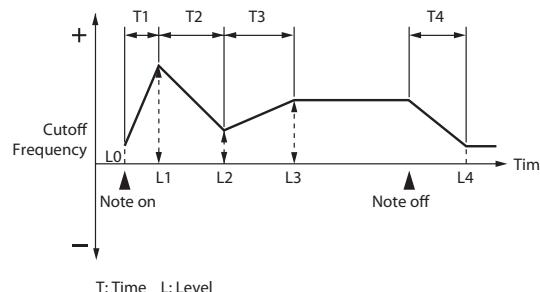
Parameter	Value	Explanation
TVF tab		
Filter Type	Selects the type of filter. A filter cuts or boosts a specific frequency region to change a sound's brightness, thickness, or other qualities.	
	OFF	No filter is used.
	LPF	Low Pass Filter. This reduces the volume of all frequencies above the cutoff frequency (Cutoff Freq) in order to round off, or un-brighten the sound. This is the most common filter used in synthesizers.
	BPF	Band Pass Filter. This leaves only the frequencies in the region of the cutoff frequency (Cutoff Freq), and cuts the rest. This can be useful when creating distinctive sounds.
	HPF	High Pass Filter. This cuts the frequencies in the region below the cutoff frequency (Cutoff Freq). This is suitable for creating percussive sounds emphasizing their higher tones.
	PKG	Peaking Filter. This emphasizes the frequencies in the region of the cutoff frequency (Cutoff Freq). You can use this to create wah-wah effects by employing an LFO to change the cutoff frequency cyclically.
	LPF2	Low Pass Filter 2. Although frequency components above the Cutoff frequency (Cutoff Freq) are cut, the sensitivity of this filter is half that of the LPF. This makes it a comparatively warmer low pass filter. This filter is good for use with simulated instrument sounds such as the acoustic piano. * If you set "LPF2," the setting for the Resonance parameter will be ignored (p. 56).
Cutoff Frequency★	0–127	Selects the frequency at which the filter begins to have an effect on the waveform's frequency components. With "LPF/LPF2/LPF3" selected for the Filter Type parameter, lower cutoff frequency settings reduce a tone's upper harmonics for a more rounded, warmer sound. Higher settings make it sound brighter. If "BPF" is selected, harmonic components will change depending on the TVF Cutoff Frequency setting. This can be useful when creating distinctive sounds. With "HPF" selected, higher Cutoff Frequency settings will reduce lower harmonics to emphasize just the brighter components of the sound. With "PKG" selected, the harmonics to be emphasized will vary depending on Cutoff Frequency setting. * You can control this parameter using the Matrix Control.
Resonance★	0–127	Emphasizes the portion of the sound in the region of the cutoff frequency, adding character to the sound. Excessively high settings can produce oscillation, causing the sound to distort. * You can control this parameter using the Matrix Control.
<p>MEMO</p> <p>To edit the overall tone while preserving the relative differences in the Cutoff Frequency values set for each partial, set the Cutoff Offset parameter (p. 48).</p> <p>MEMO</p> <p>To edit the overall tone while preserving the relative differences in the Resonance values set for each partial, set the Resonance Offset parameter (p. 48).</p>		

Parameter	Value	Explanation
Cutoff Keyfollow	-200–+200	<p>Use this parameter if you want the cutoff frequency to change according to the key that is pressed. Relative to the cutoff frequency at the C4 key (center C), positive “+” settings will cause the cutoff frequency to rise for notes higher than C4, and negative “-” settings will cause the cutoff frequency to fall for notes higher than C4.</p> <p>Larger settings will produce greater change.</p> <p>Cutoff frequency (Octave)</p>
Cutoff V-Curve	FIXED, 1–7	<p>Selects one of the following seven curves that determine how keyboard playing dynamics (velocity) influence the cutoff frequency. Set this to “FIXED” if you don’t want the Cutoff frequency to be affected by the keyboard velocity.</p>
Cutoff V-Sens	-63–+63	<p>Use this parameter when changing the cutoff frequency to be applied as a result of changes in playing velocity. If you want strongly played notes to raise the cutoff frequency, set this parameter to positive “+” settings. If you want strongly played notes to lower the cutoff frequency, use negative “-” settings.</p> <p>MEMO To edit the overall tone while preserving the relative differences in the Cutoff V-Sens values set for each partial, set the Velocity Sens Offset parameter (p. 48). However, this setting is shared by the Level V-Sens parameter (p. 58).</p>
Resonance V-Sens	-63–+63	<p>This allows keyboard velocity to modify the amount of Resonance. If you want strongly played notes to have a greater Resonance effect, set this parameter to positive “+” settings. If you want strongly played notes to have less Resonance, use negative “-” settings.</p>

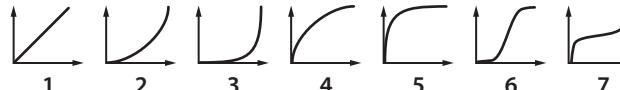
TVF ENV tab

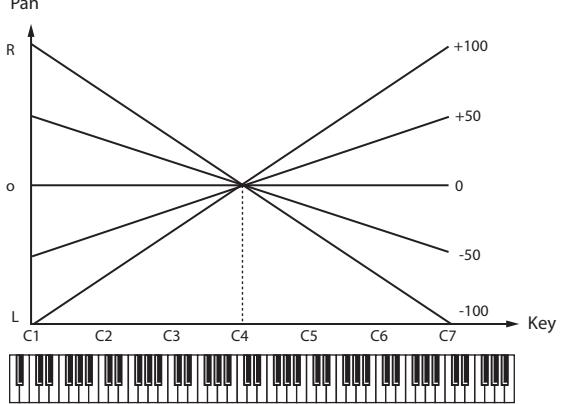
TVF Env Depth	-63–+63	Specifies the depth of the TVF envelope. Higher settings will cause the TVF envelope to produce greater change. Negative “-” settings will invert the shape of the envelope.
TVF Env V-Curve	FIXED, 1–7	<p>Selects one of the following 7 curves that will determine how keyboard playing dynamics will affect the TVF envelope. Set this to “FIXED” if you don’t want the TVF Envelope to be affected by the keyboard velocity.</p>
TVF Env V-Sens	-63–+63	Specifies how keyboard playing dynamics will affect the depth of the TVF envelope. Positive “+” settings will cause the TVF envelope to have a greater effect for strongly played notes, and negative “-” settings will cause the effect to be less.
TVF Env T1 V-Sens	-63–+63	This allows keyboard dynamics to affect the Time 1 of the TVF envelope. If you want Time 1 to be speeded up for strongly played notes, set this parameter to a positive “+” value. If you want it to be slowed down, set this to a negative “-” value.
TVF Env T4 V-Sens	-63–+63	The parameter to use when you want key release speed to control the Time 4 value of the TVF envelope. If you want Time 4 to be speeded up for quickly released notes, set this parameter to a positive “+” value. If you want it to be slowed down, set this to a negative “-” value.

PCM Synth Tone (PCMS) – TVA tab

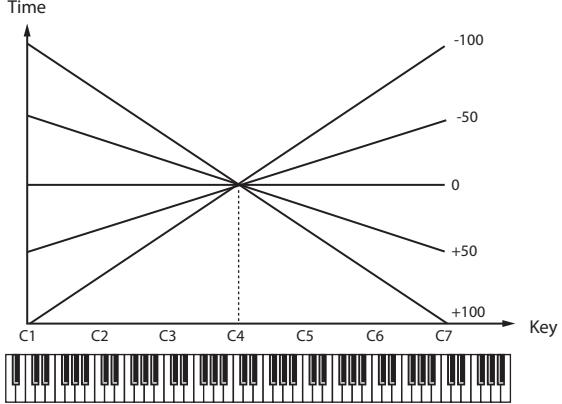
Parameter	Value	Explanation
TVF Env Time KF	-100–+100	<p>Use this setting if you want the TVF envelope times (Time 2–Time 4) to be affected by the keyboard location. Based on the TVF envelope times for the C4 key (center C), positive “+” settings will cause notes higher than C4 to have increasingly shorter times, and negative “-” settings will cause them to have increasingly longer times. Larger settings will produce greater change.</p> 
TVF Env Time 1–4 ★	0–127	<p>Specify the TVF envelope times (Time 1–Time 4). Higher settings will lengthen the time until the next cutoff frequency level is reached. (For example, Time 2 is the time over which Level 1 will change to Level 2.)</p> <p>* You can control this parameter using the Matrix Control.</p> 
TVF Env Level 0–4	0–127	<p>Specify the TVF envelope levels (Level 0–Level 4). These settings specify how the cutoff frequency will change at each point, relative to the standard cutoff frequency (the cutoff frequency value specified in the TVF screen).</p>

TVA tab

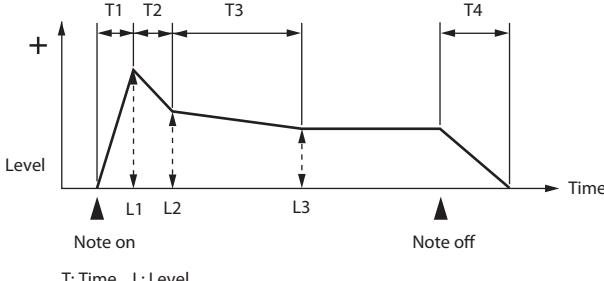
Partial Level ★	0–127	Sets the volume of the partial. This setting is useful primarily for adjusting the volume balance between partials. * You can control this parameter using the Matrix Control.
Level V-Curve	FIXED, 1–7	You can select from seven curves that determine how keyboard playing strength will affect the volume. If you do not want the volume of the partial to be affected by the force with which you play the key, set this to “ FIXED .”
		
Level V-Sens	-63–+63	Set this when you want the volume of the partial to change depending on the force with which you press the keys. Set this to a positive “+” value to have the changes in partial volume increase the more forcefully the keys are played; to make the partial play more softly as you play harder, set this to a negative “-” value.
Bias Level	-100–+100	<p>MEMO</p> <p>If you wish to make adjustments to the entire tone while maintaining the relative values of TVA Level V-Sens among partials, adjust the Velocity Sens Offset parameter (p. 48). However, this setting is shared by the Cutoff V-Sens parameter (p. 57).</p>
Bias Position	C-1–G9	Specifies the key relative to which the volume will be modified.
Bias Direction	Selects the direction in which change will occur starting from the Bias Position.	
	LWR	The volume will be modified for the keyboard area below the Bias Point.
	UPR	The volume will be modified for the keyboard area above the Bias Point.
	L&U	The volume will be modified symmetrically toward the left and right of the Bias Point.
	ALL	The volume changes linearly with the bias point at the center.

Parameter	Value	Explanation
Partial Pan ★	L64–63R	Sets the pan of the partial. "L64" is far left, "0" is center, and "63R" is far right. * You can control this parameter using the Matrix Control.
Pan Keyfollow	-100–+100	Use this parameter if you want key position to affect panning. Positive "+" settings will cause notes higher than C4 key (center C) to be panned increasingly further toward the right, and negative "-" settings will cause notes higher than C4 key (center C) to be panned toward the left. Larger settings will produce greater change. 
Random Pan Depth	0–63	Use this parameter when you want the stereo location to change randomly each time you press a key. Higher settings will produce a greater amount of change.
Alternate Pan Depth	L63–63R	This setting causes panning to be alternated between left and right each time a key is pressed. Higher settings will produce a greater amount of change. "L" or "R" settings will reverse the order in which the pan will alternate between left and right. For example if two tones are set to "L" and "R" respectively, the panning of the two tones will alternate each time they are played. NOTE In the Pan Key Follow, Random Pan Depth, Alternate Pan Depth parameter settings, if the Structure Type set in the range of "2"–"10," the output of partial 1 and 2 will be combined into partial 2, and the output of partial 3 and 4 will be combined into partial 4. For this reason, partial 1 will follow the settings of partial 2, and partial 3 will follow the settings of partial 4 (p. 52).

TVA ENV tab

TVA Env T1 V-Sens	-63–+63	This allows keyboard dynamics to affect the Time 1 of the TVA envelope. If you want Time 1 to be speeded up for strongly played notes, set this parameter to a positive "+" value. If you want it to be slowed down, set this to a negative "-" value.
TVA Env T4 V-Sens	-63–+63	The parameter to use when you want key release speed to control the Time 4 value of the TVA envelope. If you want Time 4 to be speeded up for quickly released notes, set this parameter to a positive "+" value. If you want it to be slowed down, set this to a negative "-" value.
TVA Env Time KF	-100–+100	Use this setting if you want the TVA envelope times (Time 2–Time 4) to be affected by the keyboard location. Based on the TVA envelope times for the C4 key (center C), positive "+" settings will cause notes higher than C4 to have increasingly shorter times, and negative "-" settings will cause them to have increasingly longer times. Larger settings will produce greater change. 
TVA Env Time 1–4 ★	0–127	Specify the TVA envelope times (Time 1–Time 4). Higher settings will lengthen the time until the next volume level is reached. (For example, Time 2 is the time over which Level 1 will change to Level 2.) * You can control this parameter using the Matrix Control.

PCM Synth Tone (PCMS) – OUTPUT tab

Parameter	Value	Explanation
TVA Env Level 1–3	0–127	<p>Specify the TVA envelope levels (Level 1–Level 3). These settings specify how the volume will change at each point, relative to the standard volume (the Partial Level value specified in the TVA screen).</p>  <p>Note on Note off T: Time L: Level</p>

OUTPUT tab

Output Level	0–127	Specifies the signal level of each partial.
Chorus Send Level	0–127	Specifies the level of the signal sent to the chorus for each partial.
Reverb Send Level	0–127	Specifies the level of the signal sent to the reverb for each partial.

LFO1/LFO2 tab

An LFO (Low Frequency Oscillator) causes change over a cycle in a sound. Each partial has two LFOs (LFO1/LFO2), and these can be used to cyclically change the pitch, cutoff frequency and volume to create modulation-type effects such as vibrato, wah and tremolo. Both LFOs have the same parameters.

Waveform	Selects the waveform of the LFO.							
	SIN	Sine wave						
	TRI	Triangle wave						
	SAW-U	Sawtooth wave						
	SAW-D	Sawtooth wave (negative polarity)						
	SQR	Square wave						
	RND	Random wave						
	BND-U	Once the attack of the waveform output by the LFO is allowed to develop in standard fashion, the waveform then continues without further change. NOTE You must turn the Key Trigger parameter to “ON.” If this is “OFF,” it will have no effect.						
	BND-D	Once the decay of the waveform output by the LFO is allowed to develop in standard fashion, the waveform then continues without further change. NOTE You must turn the Key Trigger parameter to “ON.” If this is “OFF,” it will have no effect.						
	TRP	Trapezoidal wave						
	S&H	Sample & Hold wave (one time per cycle, LFO value is changed)						
	CHAOS	Chaos wave						
	VSIN	Modified sine wave. The amplitude of a sine wave is randomly varied once each cycle.						
	STEP	A waveform generated by the data specified by LFO Step 1–64. This produces stepped change with a fixed pattern similar to a step modulator.						
Rate★	0–127, Note	Adjusts the modulation rate, or speed, of the LFO. If you want the LFO rate to be synchronized with the tempo, specify the setting as a note value relative to the synchronization tempo. * You can control this parameter using the Matrix Control. (Example) For a tempo of 120 (120 quarter notes occur in 1 minute (60 seconds))						
		<table border="1"> <thead> <tr> <th>Value</th> <th>LFO Rate</th> </tr> </thead> <tbody> <tr> <td>♩ (half note)</td> <td>1 second (60/60 = 1 [second])</td> </tr> <tr> <td>♩ (quarter note)</td> <td>0.5 seconds (60/120 = 0.5 [second])</td> </tr> <tr> <td>♪ (eighth note)</td> <td>0.25 seconds (60/240 = 0.25 [second])</td> </tr> </tbody> </table>	Value	LFO Rate	♩ (half note)	1 second (60/60 = 1 [second])	♩ (quarter note)	0.5 seconds (60/120 = 0.5 [second])
Value	LFO Rate							
♩ (half note)	1 second (60/60 = 1 [second])							
♩ (quarter note)	0.5 seconds (60/120 = 0.5 [second])							
♪ (eighth note)	0.25 seconds (60/240 = 0.25 [second])							
 NOTE This setting will be ignored if the Waveform parameter is set to “CHAOS.”								
 LFO Rate Detune makes subtle changes in the LFO cycle rate (Rate parameter) each time a key is pressed. Higher settings will cause greater change. This parameter is invalid when Rate is set to “note.”								

Parameter	Value	Explanation
Offset	-100, -50, 0, +50, +100	Raises or lowers the LFO waveform relative to the central value (pitch or cutoff frequency). Positive "+" settings will move the waveform so that modulation will occur from the central value upward. Negative "-" settings will move the waveform so that modulation will occur from the central value downward.
Delay Time	0–127	<p>Delay Time (LFO Delay Time) specifies the time elapsed before the LFO effect is applied (the effect continues) after the key is pressed (or released).</p> <p>* After referring to “How to Apply the LFO” (p. 62), change the setting until the desired effect is achieved.</p> <p>MEMO</p> <p>When using violin, wind, or certain other instrument sounds in a performance, rather than having vibrato added immediately after the sounds are played, it can be effective to add the vibrato after the note is drawn out somewhat. If you set the Delay Time in conjunction with the Pitch Depth parameter and Rate parameter, the vibrato will be applied automatically following a certain interval after the key is pressed. This effect is called “Delay Vibrato.”</p>
Delay Time KF	-100–+100	<p>Adjusts the value for the Delay Time parameter depending on the key position, relative to the C4 key (center C). To decrease the time that elapses before the LFO effect is applied (the effect is continuous) with each higher key that is pressed in the upper registers, select a positive value; to increase the elapsed time, select a negative value. Larger settings will produce greater change. If you do not want the elapsed time before the LFO effect is applied (the effect is continuous) to change according to the key pressed, set this to “0.”</p> <p>MEMO</p> <p>A piano keyboard diagram is shown below the graph, with the keys C1 through C7 indicated.</p>
Fade Mode	ON<, ON>, OFF<, OFF>	<p>Specifies how the LFO will be applied.</p> <p>* After referring to “How to Apply the LFO” (p. 62), change the setting until the desired effect is achieved.</p>
Fade Time	0–127	<p>Specifies the time over which the LFO amplitude will reach the maximum (minimum).</p> <p>* After referring to “How to Apply the LFO” (p. 62), change the setting until the desired effect is achieved.</p>
Key Trigger	OFF, ON	<p>Specifies whether the LFO cycle will be synchronized to begin when the key is pressed (ON) or not (OFF).</p>
Pitch Depth ★	-63–+63	<p>Specifies how deeply the LFO will affect pitch.</p> <p>* You can control this parameter using the Matrix Control.</p>
TVF Depth ★	-63–+63	<p>Specifies how deeply the LFO will affect the cutoff frequency.</p> <p>* You can control this parameter using the Matrix Control.</p>
TVA Depth ★	-63–+63	<p>Specifies how deeply the LFO will affect the volume.</p> <p>* You can control this parameter using the Matrix Control.</p>
Pan Depth ★	-63–+63	<p>Specifies how deeply the LFO will affect the pan.</p> <p>* You can control this parameter using the Matrix Control.</p> <p>MEMO</p> <p>Positive "+" and negative "-" settings for the Depth parameter result in differing kinds of change in pitch and volume. For example, if you set the Depth parameter to a positive "+" value for one partial, and set another partial to the same numerical value, but make it negative "-", the modulation phase for the two partials will be the reverse of each other. This allows you to shift back and forth between two different partials, or combine it with the Pan setting to cyclically change the location of the sound image.</p> <p>NOTE</p> <p>In the Pan Depth parameter settings, if the Structure Type parameter is set to any value from “2” through “10,” the output of partial 1 and 2 will be combined into partial 2, and the output of partial 3 and 4 will be combined into partial 4. For this reason, partial 1 will follow the settings of partial 2, and partial 3 will follow the settings of partial 4 (p. 52).</p>

STEP LFO tab

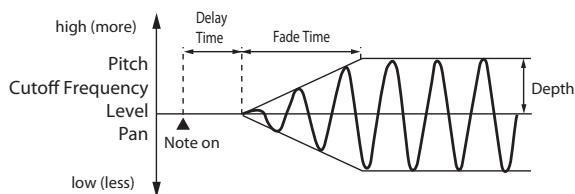
Step Type	TYP1, TYP2	When generating an LFO waveform from the data specified in LFO Step1–16, specify whether the level will change abruptly at each step (TYP1) or will be connected linearly (TYP2).
LFO Step1–16	-36–+36	<p>Specifies the data for the Step LFO.</p> <p>If the LFO Pitch Depth is +63, each +1 unit of the step data corresponds to a pitch of +50 cents.</p>

PCM Synth Tone (PCMS) – How to Apply the LFO

Parameter	Value	Explanation
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How to Apply the LFO

Apply the LFO gradually after the key is pressed



Parameter	Explanation
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Fade Mode

ON <

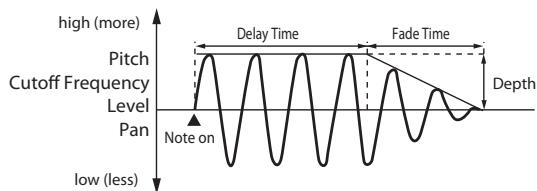
Delay Time

The time from when the keyboard is played until the LFO begins to be applied.

Fade Time

The time over which the LFO amplitude will reach the maximum after the Delay Time has elapsed.

Apply the LFO immediately when the key is pressed, and then gradually begin to decrease the effect



Parameter	Explanation
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Fade Mode

ON >

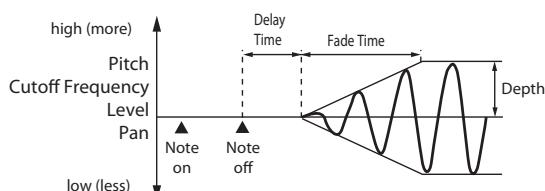
Delay Time

The time that the LFO will continue after the keyboard is played.

Fade Time

The time over which the LFO amplitude will reach the minimum after the Delay Time has elapsed.

Apply the LFO gradually after the key is released



Parameter	Explanation
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Fade Mode

OFF <

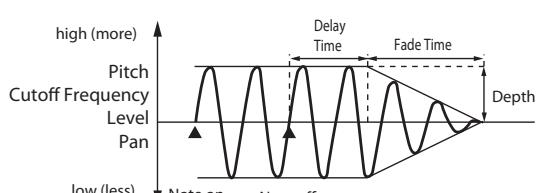
Delay Time

The time from when the keyboard is released until the LFO begins to be applied.

Fade Time

The time over which the LFO amplitude will reach the maximum after the Delay Time has elapsed.

Apply the LFO from when the key is pressed until it is released, and gradually begin to decrease the effect when the key is released



Parameter	Explanation
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Fade Mode

OFF >

Delay Time

The time that the LFO will continue after the keyboard is released.

Fade Time

The time over which the LFO amplitude will reach the minimum after the Delay Time has elapsed.

Parameter	Value	Explanation
CTRL tab		
Env Mode	NOSUS, SUST	When a loop waveform is selected, the sound will normally continue as long as the key is pressed. If you want the sound to decay naturally even if the key remains pressed, set this to “ NO SUS .” NOTE If a one-shot type Wave is selected, it will not sustain even if this parameter is set to “ SUST .”
Rx Bender	OFF, ON	For each partial, specify whether MIDI Pitch Bend messages will be received (ON), or not (OFF).
Rx Expression	OFF, ON	For each partial, specify whether MIDI Expression messages will be received (ON), or not (OFF).
Rx Hold-1	OFF, ON	For each partial, specify whether MIDI Hold-1 messages will be received (ON), or not (OFF). NOTE If “ NO SUS ” is selected for Env Mode parameter, this setting will have no effect.
Redamper Sw	OFF, ON	You can specify, on an individual partial basis, whether or not the sound will be held when a Hold 1 message is received after a key is released, but before the sound has decayed to silence. If you want to sustain the sound, set this “ ON .” When using this function, also set the Rx Hold-1 parameter “ ON .” This function is effective for piano sounds.

MTRX CTRL1–4 tab

Matrix Control

Ordinarily, if you wanted to change partial parameters using an external MIDI device, you would need to send System Exclusive messages-MIDI messages designed exclusively for the INTEGRA-7. 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 INTEGRA-7's partial parameters have been designed so they accept the use of Control Change (or other) MIDI messages for the purpose of making changes in their values. This provides you with a variety of means of changing the way patches 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 partial parameters is called the “**Matrix Control**.” Up to four Matrix Controls can be used in a single tone.

To use the Matrix Control, specify which MIDI message (Src) will be used to control which parameter (Dest), and how greatly (Sns), and the partial to which the effect is applied (Switch).

Control1–4 Source	OFF, CC01–CC31, CC33–CC95, PITCH BEND, AFTERTOUCH, SYS CTRL1–SYS CTRL4, VELOCITY, KEYFOLLOW, TEMPO, LFO1, LFO2, PITCH ENV, TVF ENV, TVA ENV	<p>Sets the MIDI message used to change the partial parameter with the Matrix Control. OFF: Matrix control will not be used. CC01–31, 33–95: Controller numbers 1–31, 33–95 PITCH BEND: Pitch Bend AFTERTOUCH: Aftertouch SYS CTRL1–4: 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 LFO1: LFO 1 LFO2: LFO 2 PITCH ENV: Pitch envelope TVF ENV: TVF envelope TVA ENV: TVA envelope</p> <p>* Velocity and Keyfollow correspond to Note messages. * Although there are no MIDI messages for LFO 1 through TVA Envelope, they can be used as Matrix Control. In this case, you can change the partial settings in realtime by playing patches. * If you want to use common controllers for the entire INTEGRA-7, select “SYS CTRL1”–“SYS CTRL4.” MIDI messages used as System Control 1–4 are set with the Tone Control 1–4 Src (p. 5).</p> <p>Reference For more information about Control Change messages, please refer to “MIDI Implementation (PDF).”</p> <p>NOTE</p> <ul style="list-style-type: none"> There are parameters that determine whether or not Pitch Bend, Controller Number 11 (Expression) and Controller Number 64 (Hold 1) are received (p. 63). When these settings are “ON,” and the MIDI messages are received, then when any change is made in the settings of the desired parameter, the Pitch Bend, Expression, and Hold 1 settings also change simultaneously. If you want to change the targeted parameters only, then set these to “OFF.” There are parameters that let you specify whether specific MIDI messages will be received for each part in a studio set (p. 10). When a tone with Matrix Control settings is assigned to a part, confirm that any MIDI messages used for the Matrix Control will be received. If the INTEGRA-7 is set up such that reception of MIDI messages is disabled, then the Matrix Control will not function.
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Parameter	Value	Explanation
Control1–4 Dest1–4	OFF, PITCH, CUTOFF, RESONANCE, LEVEL, PAN, OUTPUT LEVEL, CHORUS SEND, REVERB SEND, LFO1/LFO2 PITCH DEPTH, LFO1/LFO2 TVF DEPTH, LFO1/LFO2 TVA DEPTH, LFO1/LFO2 PAN DEPTH, LFO1/LFO2 RATE, PIT ENV A-TIME, PIT ENV D-TIME, PIT ENV R-TIME, TVF ENV A-TIME, TVF ENV D-TIME, TVF ENV R-TIME, TVA ENV A-TIME, TVA ENV D-TIME, TVA ENV R-TIME, PMT, FXM DEPTH	<p>Selects the partial parameter that is to be controlled when using the Matrix Control. The following parameters can be controlled. When not controlling parameters with the Matrix Control, set this to “OFF.” Up to four parameters can be specified for each Matrix Control, and controlled simultaneously.</p> <p>MEMO In this manual, Parameters that can be controlled using the Matrix Control (p. 63) are marked with a “★.”</p> <p>If you’re not using Matrix Control OFF: Matrix Control will not be used.</p> <p>Changing the Pitch PITCH: Changes the pitch.</p> <p>Opening and Closing the Filter CUTOFF: Changes the cutoff frequency. RESONANCE: Emphasizes the overtones in the region of the cutoff frequency, adding character to the sound.</p> <p>Changing the Volume and Pan LEVEL: Changes the volume level. PAN: Changes the pan.</p> <p>Changing How the Effects Are Applied OUTPUT LEVEL: Changes the volume of the original sound. CHORUS SEND: Changes the amount of chorus. REVERB SEND: Changes the amount of reverb.</p> <p>Applying LFO to Modulate Sounds LFO1/LFO2 PCH DEPTH: Changes the vibrato depth. LFO1/LFO2 TVF DEPTH: Changes the wah depth. LFO1/LFO2 TVA DEPTH: Changes the tremolo depth. LFO1/LFO2 PAN DEPTH: Changes the effect that the LFO will have on pan. LFO1/LFO2 RATE: Changes the speed of the LFO cycles. The speed will not change if LFO Rate is set to “note.”</p> <p>Changing the Pitch Envelope PIT ENV A-TIME: Changes the Env Time 1 of the pitch envelope. PIT ENV D-TIME: Changes the Env Time 2 and Env Time 3 of the pitch envelope. PIT ENV R-TIME: Changes the Env Time 4 of the pitch envelope.</p> <p>Changing the TVF Envelope TVF ENV A-TIME: Changes the Env Time 1 of the TVF envelope. TVF ENV D-TIME: Changes the Env Time 2 and Env Time 3 of the TVF envelope. TVF ENV R-TIME: Changes the Env Time 4 of the TVF envelope.</p> <p>Changing the TVA Envelope TVA ENV A-TIME: Changes the Env Time 1 of the TVA envelope. TVA ENV D-TIME: Changes the Env Time 2 and Env Time 3 of the TVA envelope. TVA ENV R-TIME: Changes the Env Time 4 of the TVA envelope.</p> <p>Splitting Partials That Are Played PMT If the Matrix Control is used to split partials, set the PMT Velocity Control (p. 53) to “OFF” and the PMT Control Switch (p. 54) to “ON.” <ul style="list-style-type: none"> If the Matrix Control is used to split partials, we recommend setting the Sens (p. 64) to “+63.” Selecting a lower value may prevent switching of the partials. Furthermore, if you want to reverse the effect, set the value to “-63.” If you want to use matrix control to switch smoothly between partials, use the Velo Fade Lower and Velo Fade Upper (p. 54). The higher the values set, the smoother the switch is between the partials. </p> <p>Changing the Depth of Frequency Modulation Produced by FXM FXM DEPTH</p> <p>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, toward the right, 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, toward the left, 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.</p>
Control1–4 Sens1–4	-63–+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, toward the right, 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, toward the left, 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.
Control1–4 Switch1–4	OFF, ON, REV	Selects the partial to which the effect is applied when using the Matrix Control. OFF: The effect will not be applied. ON: The effect will be applied. REV: The effect will be applied in reverse.

Parameter	Value	Explanation
MFX tab		
MFX Switch	OFF, ON	Specifies whether tone MFX will be used (ON) or not used (OFF).
MFX Type	0–67	Use this parameter to select from among the 67 available multi-effects. For details on multi-effects parameters, refer to “ MFX Parameters ” (p. 73).
Parameters for each MFX type	Edit the parameters for the selected MFX type.	
MFX Chorus Send Level	0–127	Adjusts the amount of chorus for the sound that passes through multi-effects. If you don't want to add the Chorus effect, set it to “ 0 ”. * This has no effect if motion surround is on.
MFX Reverb Send Level	0–127	Adjusts the amount of reverb for the sound that passes through multi-effects. If you don't want to add the Reverb effect, set it to “ 0 ”. * This has no effect if motion surround is on.

MFX CTRL tab

Source (1–4)	OFF, CC01–31, 33–95, PITCH BEND, AFTERTOUCH, SYS CTRL1–SYS CTRL4	Sets the MIDI message used to change the multi-effects parameter with the multi-effects control. OFF: Multi-effects control will not be used. CC01–31, 33–95: Control Change PITCH BEND: Pitch Bend AFTERTOUCH: Aftertouch SYS CTRL1–SYS CTRL4: MIDI messages used as common multi-effects controls.
Destination (1–4)		Sets the multi-effects parameters to be controlled with the multi-effects control. The multi-effects parameters available for control will depend on the multi-effects type. For details, refer to “ MFX Parameters ” (p. 97).
Sens (1–4)	-63–+63	Sets the amount of the multi-effects control's effect that is applied. 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.

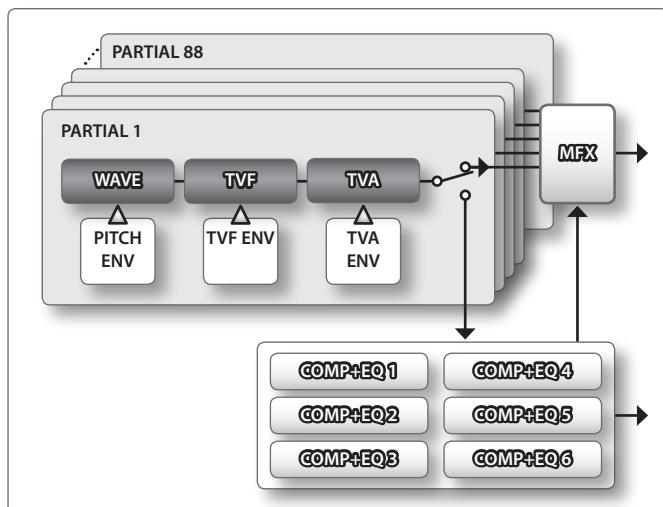
PCM Drum Kit (PCMD)

TONE EDIT (PCMD)

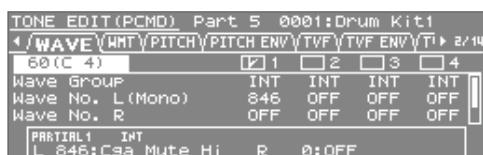
Each kit has 88 sets (Partial 1–88) of WAVE, TVF, and TVA settings, in addition to multi-effect (MFX) settings.

Each partial has four wave generators. You can assign a different note number that will sound each of the 88 partials.

For the one part specified by the Drum Comp+EQ Assign setting, you'll be able to use six sets of compressor + equalizer units to make the sound more consistent or to adjust the tonal character.



1. In the tone screen, press the [EDIT] button.



Parameter	Value	Explanation
COMMON tab		
Phrase Number	0–18	Number of the phrase that plays when you press the [VOLUME] knob (PREVIEW).
Drum Kit Level	0–127	Sets the volume of the drum kit. MEMO The volume levels of the partials from which the drum kit is composed is set with the Partial Level parameter (p. 70). The volume levels of the Waves from which the drum partial is composed is set with the Wave Level parameter (p. 67).
Partial Name	12 characters	You can assign a name of up to 12 characters to the drum partial. By pressing [ENTER], you can assign a name to the drum partial. MEMO For details on assigning names, refer to “ Assigning a Name ” (Owner’s Manual).
Assign Type	MULTI, SINGLE	Assign Type sets the way sounds are played when the same key is pressed a number of times. MULTI: Layer the sound of the same keys. Even with continuous sounds where the sound plays for an extended time, such as with crash cymbals, the sounds are layered, without previously played sounds being eliminated. SINGLE: Only one sound can be played at a time when the same key is pressed. With continuous sounds where the sound plays for an extended time, the previous sound is stopped when the following sound is played.
Mute Group	OFF, 1–31	On an actual acoustic drum set, an open hi-hat and a closed hi-hat sound can never occur simultaneously. To reproduce the reality of this situation, you can set up a Mute Group. The Mute Group function allows you to designate two or more drum partials that are not allowed to sound simultaneously. Up to 31 Mute Groups can be used. Drum partials that are not belong to any such group should be set to “ OFF ”.
Partial Env Mode	NO-SUS, SUSTAIN	When a loop waveform is selected, the sound will normally continue as long as the key is pressed. If you want the sound to decay naturally even if the key remains pressed, set this to “ NO-SUS .” * If a one-shot type Wave is selected, it will not sustain even if this parameter is set to “ SUSTAIN .”
Partial Pitch Bend Range	0–48	Specifies the amount of pitch change in semitones (4 octaves) that will occur when the Pitch Bend Lever is moved. The amount of change when the lever is tilted is set to the same value for both left and right sides.
Partial Rx Expression	OFF, ON	For each drum partial, specify whether MIDI Expression messages will be received (ON), or not (OFF).

Parameter	Value	Explanation
Partial Rx Hold-1	OFF, ON	For each drum partial, specify whether MIDI Hold-1 messages will be received (ON), or not (OFF). NOTE If “NO-SUS” is selected for Partial Env Mode parameter (p. 66), this setting will have no effect.
One Shot Mode	OFF, ON	The sound will play back until the end of the waveform (or the end of the envelope, whichever comes first). The result will be the same as when the envelope’s Partial Env Mode parameter is set to “NO-SUS.”

WAVE tab

Wave 1–4 Switch	OFF, ON	Turns the wave on/off.
Wave Group	INT, SRX (only if an expansion is loaded)	Select the groups containing the Waves comprising the drum partial. INT: Waveforms stored in internal SRX: Expansion sound banks
Wave No.L (Mono)	OFF, 1–	This selects the Waves comprising the drum partial. Along with the Wave number, the Wave name appears at the lower part of the display.
Wave No.R		When in monaural mode, only the left side (L) is specified. When in stereo, the right side (R) is also specified.
Wave Gain	-6, 0, +6, +12 [dB]	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.
Wave Tempo Sync	OFF, ON	When you wish to synchronize a Phrase Loop to the clock (tempo), set this to “ON.” This is valid only when an SRX waveform which indicates a tempo (BPM) is selected. (Example: SRX05 3:080:BladeBtL, SRX08 5:75:BoomRvBel, etc.) If a waveform from an SRX is selected for the partial, turning the Wave Tempo Sync parameter “ON” will cause pitch-related settings and FXM-related settings to be ignored. Phrase Loop “Phrase Loop” refers to the repeated playback of a phrase that’s been pulled out of a song (e.g., by using a sampler). One technique involving the use of Phrase Loops is the excerpting of a Phrase from a pre-existing song in a certain genre, for example dance music, and then creating a new song with that Phrase used as the basic motif. This is referred to as “Break Beats.”
Wave FXM Switch	OFF, ON	This sets whether FXM will be used (ON) or not (OFF). FXM FXM (Frequency Cross Modulation) uses a specified waveform to apply frequency modulation to the currently selected waveform, creating complex overtones. This is useful for creating dramatic sounds or sound effects.
Wave FXM Color	1–4	Specifies how FXM will perform frequency modulation. Higher settings result in a grainier sound, while lower settings result in a more metallic sound.
Wave FXM Depth	0–16	Specifies the depth of the modulation produced by FXM. NOTE When the Tempo Sync is set to “ON,” settings related to Pitch (p. 68) and FXM are disabled.
Wave Coarse Tune	-48–+48	Adjusts the pitch of the waveform’s sound up or down in semitone steps (+/-4 octaves). MEMO The Coarse Tune of the entire drum partial is set by the Partial Coarse Tune (p. 68).
Wave Fine Tune	-50–+50	Adjusts the pitch of the waveform’s sound up or down in 1-cent steps (+/-50 cents). * One cent is 1/100th of a semitone. MEMO The Fine Tune of the entire drum partial is set by the Partial Fine Tune (p. 68).
Wave Level	0–127	You can set the volume of the waveform. MEMO The volume level of each drum partial is set with the Partial Level; the volume levels of the entire drum kit is set with the Drum Kit Level (p. 66*).
Wave Pan	L64–63R	This specifies the pan of the waveform. “L64” is far left, “0” is center, and “63R” is far right.
Wave Random Pan Sw	OFF, ON	Use this setting to cause the waveform’s panning to change randomly each time a key is pressed (ON) or not (OFF). * The range of the panning change is set by the Random Pan Depth (p. 71).
Wave Alter Pan Sw	OFF, ON, REVS	This setting causes panning of the waveform to be alternated between left and right each time a key is pressed. Set Alter Pan Sw to “ON” to pan the Wave according to the Alter Pan Depth settings, or to “REVS” when you want the panning reversed. If you do not want the panning to change each time a key is pressed, set this to “OFF.”

PCM Drum Kit (PCMD) – WMT tab

Parameter	Value	Explanation
WMT tab		
WMT Velocity Control	OFF, ON, RANDOM	<p>WMT Velocity Control determines whether a different drum partial is played (ON) or not (OFF) depending on the force with which the key is played (velocity).</p> <p>When set to “RANDOM,” the drum kit’s constituent drum partials will sound randomly, regardless of any Velocity messages.</p>



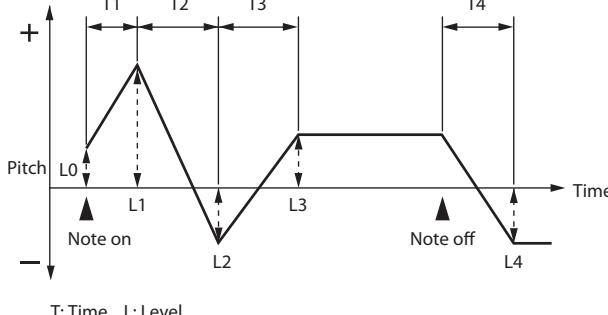
Velo Fade Upper	0–127	This determines what will happen to the tone’s level when the tone is played at a velocity greater than its specified velocity range. Higher settings produce a more gradual change in volume. If you want notes played outside the specified key velocity range to not be sounded at all, set this to “0.”
Velo Range Upper	LOWER–127	This sets the highest velocity at which the waveform will sound. Make these settings when you want different waveforms to sound in response to notes played at different strengths.
Velo Range Lower	1–UPPER	This sets the lowest velocity at which the waveform will sound. Make these settings when you want different waveforms to sound in response to notes played at different strengths.
Velo Fade Lower	0–127	This determines what will happen to the tone’s level when the tone is played at a velocity lower than its specified velocity range. Higher settings produce a more gradual change in volume. If you want notes played outside the specified key velocity range to not be sounded at all, set this to “0.”

PITCH tab

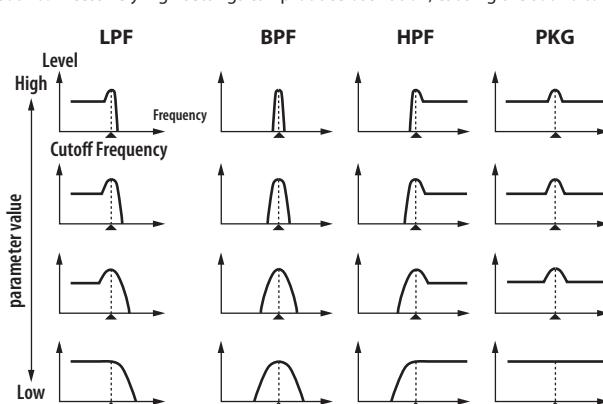
Partial Coarse Tune	C-1–G9	Selects the pitch at which a drum partial sounds.
MEMO Set the coarse tuning for Waves comprising the drum partials with the Wave Coarse Tune parameter (p. 67).		
Partial Fine Tune	-50–+50	Adjusts the pitch of the drum partial’s sound up or down in 1-cent steps (+/-50 cents). * One cent is 1/100th of a semitone. MEMO Set the fine tuning for Waves comprising the drum partials with the Wave Fine Tune parameter (p. 67).
Partial Random Pitch Depth	0, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 20, 30, 40, 50, 60, 70, 80, 90, 100, 200, 300, 400, 500, 600, 700, 800, 900, 1000, 1100, 1200	This specifies the width of random pitch deviation that will occur each time a key is pressed. If you do not want the pitch to change randomly, set this to “0.” These values are in units of cents (1/100th of a semitone).

PITCH ENV tab

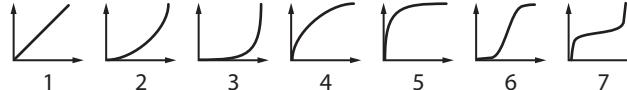
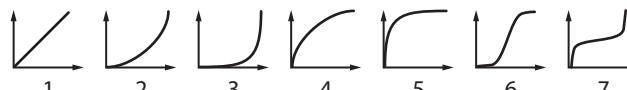
Pitch Env Depth	-12–+12	Adjusts the effect of the Pitch Envelope. Higher settings will cause the pitch envelope to produce greater change. Negative “-” settings will invert the shape of the envelope.
Pitch Env V-Sens	-63–+63	Keyboard playing dynamics can be used to control the depth of the pitch envelope. 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 T1 V-Sens	-63–+63	This allows keyboard dynamics to affect the Time 1 of the Pitch envelope. If you want Time 1 to be speeded up for strongly played notes, set this parameter to a positive “+” value. If you want it to be slowed down, set this to a negative “-” value.
Pitch Env T4 V-Sens	-63–+63	Use this parameter when you want key release speed to affect the Time 4 value of the pitch envelope. If you want Time 4 to be speeded up for quickly released notes, set this parameter to a positive “+” value. If you want it to be slowed down, set this to a negative “-” value.
Pitch Env Time 1–4	0–127	Specify the pitch envelope times (Time 1–Time 4). Higher settings will result in a longer time until the next pitch is reached. (For example, Time 2 is the time over which the pitch changes from Level 1 to Level 2.)

Parameter	Value	Explanation
Pitch Env Level 0-4	-63--+63	<p>Specify the pitch envelope levels (Level 0–Level 4). It determines how much the pitch changes from the reference pitch (the value set with Coarse Tune or Fine Tune on the Pitch screen) at each point. Positive “+” settings will cause the pitch to be higher than the standard pitch, and negative “-” settings will cause it to be lower.</p>  <p>T: Time L: Level</p>

TVF tab

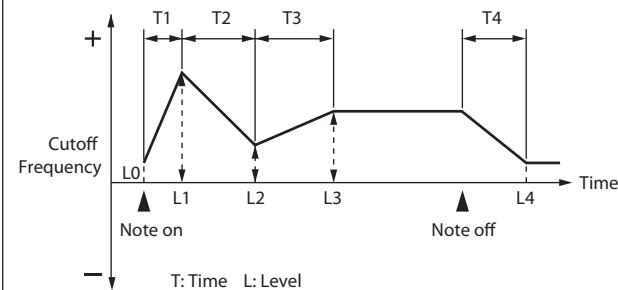
Filter Type	OFF, LPF, BPF, HPF, PKG, LPF2, LPF3	<p>Selects the type of filter. A filter cuts or boosts a specific frequency region to change a sound's brightness, thickness, or other qualities.</p> <p>LPF: Low Pass Filter. This reduces the volume of all frequencies above the cutoff frequency (Cutoff Freq) in order to round off, or un-brighten the sound. This is the most common filter used in synthesizers.</p> <p>BPF: Band Pass Filter. This leaves only the frequencies in the region of the cutoff frequency (Cutoff Frequency), and cuts the rest. This can be useful when creating distinctive sounds.</p> <p>HPF: High Pass Filter. This cuts the frequencies in the region below the cutoff frequency (Cutoff Frequency). This is suitable for creating percussive sounds emphasizing their higher ones.</p> <p>PKG: Peaking Filter. This emphasizes the frequencies in the region of the cutoff frequency (Cutoff Frequency). You can use this to create wah-wah effects by employing an LFO to change the cutoff frequency cyclically.</p> <p>LPF2: Low Pass Filter 2. Although frequency components above the Cutoff frequency (Cutoff Frequency) are cut, the sensitivity of this filter is half that of the LPF. This makes it a comparatively warmer low pass filter. This filter is good for use with simulated instrument sounds such as the acoustic piano.</p> <p>LPF3: Low Pass Filter 3. Although frequency components above the Cutoff frequency (Cutoff Frequency) are cut, the sensitivity of this filter changes according to the Cutoff frequency. While this filter is also good for use with simulated acoustic instrument sounds, the nuance it exhibits differs from that of the LPF2, even with the same TVF Envelope settings.</p> <p>NOTE If you set “LPF2” or “LPF3,” the setting for the Resonance parameter will be ignored.</p>
Cutoff Frequency	0–127	<p>Selects the frequency at which the filter begins to have an effect on the waveform's frequency components.</p> <p>With “LPF/LPF2/LPF3” selected for the Filter Type parameter, lower cutoff frequency settings reduce a tone's upper harmonics for a more rounded, warmer sound. Higher settings make it sound brighter.</p> <p>If “BPF” is selected, harmonic components will change depending on the TVF Cutoff Frequency setting. This can be useful when creating distinctive sounds.</p> <p>With “HPF” selected, higher Cutoff Frequency settings will reduce lower harmonics to emphasize just the brighter components of the sound.</p> <p>With “PKG” selected, the harmonics to be emphasized will vary depending on Cutoff Frequency setting.</p>
Resonance	0–127	<p>Emphasizes the portion of the sound in the region of the cutoff frequency, adding character to the sound. Excessively high settings can produce oscillation, causing the sound to distort.</p> 

PCM Drum Kit (PCMD) – TVF ENV tab

Parameter	Value	Explanation
Cutoff V-Curve	FIXED, 1–7	Selects one of the following seven curves that determine how keyboard playing dynamics (velocity) influence the cutoff frequency. Set this to “ FIXED ” if you don’t want the Cutoff frequency to be affected by the keyboard velocity.
		
Cutoff V-Sens	-63–+63	Use this parameter when changing the cutoff frequency to be applied as a result of changes in playing velocity. If you want strongly played notes to raise the cutoff frequency, set this parameter to positive “ + ” settings. If you want strongly played notes to lower the cutoff frequency, use negative “ - ” settings.
Resonance V-Sens	-63–+63	This allows keyboard velocity to modify the amount of Resonance. If you want strongly played notes to have a greater Resonance effect, set this parameter to positive “ + ” settings. If you want strongly played notes to have less Resonance, use negative “ - ” settings.
TVF Env V-Curve	FIXED, 1–7	Selects one of the following 7 curves that will determine how keyboard playing dynamics will affect the TVF envelope. Set this to “ FIXED ” if you don’t want the TVF Envelope to be affected by the keyboard velocity.
		
TVF Env V-Sens	-63–+63	Specifies how keyboard playing dynamics will affect the depth of the TVF envelope. Positive “ + ” settings will cause the TVF envelope to have a greater effect for strongly played notes, and negative “ - ” settings will cause the effect to be less.
TVF Env T1 V-Sens	-63–+63	This allows keyboard dynamics to affect the Time 1 of the TVF envelope. If you want Time 1 to be speeded up for strongly played notes, set this parameter to a positive “ + ” value. If you want it to be slowed down, set this to a negative “ - ” value.
TVF Env T4 V-Sens	-63–+63	The parameter to use when you want key release speed to control the Time 4 value of the TVF envelope. If you want Time 4 to be speeded up for quickly released notes, set this parameter to a positive “ + ” value. If you want it to be slowed down, set this to a negative “ - ” value.

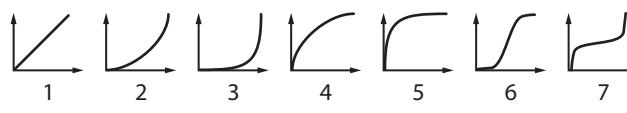
TVF ENV tab

TVF Env Depth	-63–+63	Specifies the depth of the TVF envelope. Higher settings will cause the TVF envelope to produce greater change. Negative “ - ” settings will invert the shape of the envelope.
TVF Env Time 1–4	0–127	Specify the TVF envelope times (Time 1–Time 4). Higher settings will lengthen the time until the next cutoff frequency level is reached. (For example, Time 2 is the time over which Level 1 will change to Level 2.)
TVF Env Level 0–4	0–127	Specify the TVF envelope levels (Level 0–Level 4). These settings specify how the cutoff frequency will change at each point, relative to the standard cutoff frequency (the cutoff frequency value specified in the TVF screen).



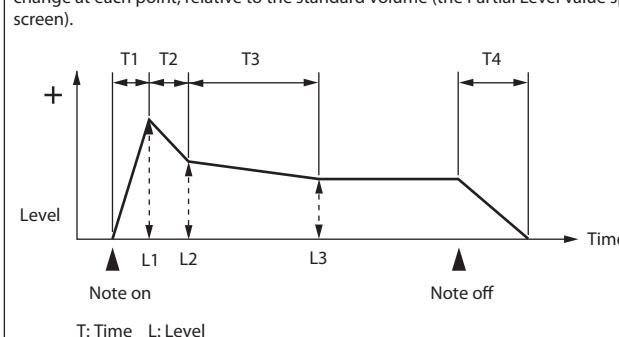
TVA tab

Partial Level	0–127	Sets the volume of the drum partial. Use this parameter to adjust the volume balance between drum partials. MEMO The volume levels of the Waves from which the drum partial is composed is set with the Wave Level parameter (p. 67).
Level V-Curve	FIXED, 1–7	You can select from seven curves that determine how keyboard playing strength will affect the volume. If you do not want the volume of the drum partial to be affected by the force with which you press the key, select “ FIXED ”.



Parameter	Value	Explanation
Level V-Sens	-63–+63	Set this when you want the volume of the drum partial to change depending on the force with which you press the keys. Set this to a positive “+” value to have the changes in drum partial volume increase the more forcefully the keys are played; to make the tone play more softly as you play harder, set this to a negative “-” value.
Partial Pan	L64–63R	Sets the pan for the drum partial. “L64” is far left, “0” is center, and “63R” is far right. MEMO Set the Pan for Waves comprising the drum partials with the Wave Pan parameter (p. 67).
Random Pan Depth	0–63	Use this parameter when you want the stereo location to change randomly each time you press a key. Higher settings will produce a greater amount of change. NOTE This will affect only waves whose Wave Random Pan Sw parameter (p. 67) is ON.
Alternate Pan Depth	L63–63R	This setting causes panning to be alternated between left and right each time a key is pressed. Higher settings will produce a greater amount of change. “L” or “R” settings will reverse the order in which the pan will alternate between left and right. For example if two drum partials are set to “L” and “R” respectively, the panning of the two drum partials will alternate each time they are played. NOTE This will affect only waves whose Wave Alter Pan Sw parameter (p. 67) is ON or REVS.
Relative Level	-64–+63	Corrects for the volume of the drum partial. This parameter is set by the key-based controller system exclusive message. Normally, you should leave it set to 0. NOTE If the drum partial level is set to 127, the volume will not increase beyond that point.

TVA ENV tab

TVA Env T1 V-Sens	-63–+63	This allows keyboard dynamics to affect the Time 1 of the TVA envelope. If you want Time 1 to be speeded up for strongly played notes, set this parameter to a positive “+” value. If you want it to be slowed down, set this to a negative “-” value.
TVA Env T4 V-Sens	-63–+63	The parameter to use when you want key release speed to control the Time 4 value of the TVA envelope. If you want Time 4 to be speeded up for quickly released notes, set this parameter to a positive “+” value. If you want it to be slowed down, set this to a negative “-” value.
TVA Env Time 1–4	0–127	Specify the TVA envelope times (Time 1–Time 4). Higher settings will lengthen the time until the next volume level is reached. (For example, Time 2 is the time over which Level 1 will change to Level 2.)
TVA Env Level 1–3	0–127	Specify the TVA envelope levels (Level 1–Level 3). These settings specify how the volume will change at each point, relative to the standard volume (the Partial Level value specified in the TVA screen).  <p>T: Time L: Level</p>

OUTPUT tab

Partial Output Assign	PART, COMP+EQ1–6	Specifies how the sound of each partial will be output.
Partial Output Level	0–127	Specifies the signal level of each partial.
Partial Chorus Send Level	0–127	Specifies the level of the signal sent to the chorus for each partial.
Partial Reverb Send Level	0–127	Specifies the level of the signal sent to the reverb for each partial.

COMP tab

* COMP+EQ can be used only for the part specified by Drum Comp+EQ Assign.

Comp 1–6 Switch	OFF, ON	Compressor on/off
Comp 1–6 Attack Time	0.05–50.0 ms	Time from when the input exceeds the threshold until compression begins
Comp 1–6 Release Time	0.05–2000 ms	Time from when the input falls below the threshold until compression is turned off

PCM Drum Kit (PCMD) – EQ tab

Parameter	Value	Explanation
Comp 1–6 Threshold	0–127	Level above which compression is applied
Comp 1–6 Ratio	1:1–inf:1	Compression ratio
Comp 1–6 Output Gain	0–+24[dB]	Level of the output sound

EQ tab

* COMP + EQ can be used only for the part specified by the Drum Comp+EQ Assign setting.

EQ 1–6 Switch	OFF, ON	Equalizer on/off
EQ 1–6 Low Freq	200, 400 [Hz]	Frequency of the low range
EQ 1–6 Low Gain	-15–+15 [dB]	Gain of the low range
EQ 1–6 Mid Freq	200, 250, 315, 400, 500, 630, 800, 1000, 1250, 1600, 2000, 2500, 3150, 4000, 5000, 6300, 8000 [Hz]	Frequency of the middle range
EQ 1–6 Mid Gain	-15–+15 [dB]	Gain of the middle range
EQ 1–6 Mid Q	0.5, 1.0, 2.0, 4.0, 8.0	Width of the middle range Set a higher value for Q to narrow the range to be affected.
EQ 1–6 High Freq	2000, 4000, 8000 [Hz]	Frequency of the high range
EQ 1–6 High Gain	-15–+15 [dB]	Gain of the high range

MFX tab

MFX Switch	OFF, ON	Specifies whether MFX will be used (ON) or not used (OFF).
MFX Type	0–67	Use this parameter to select from among the 67 available patch multi-effects. For details on patch multi-effects parameters, refer to “ MFX Parameters ” (p. 73).
Parameters for each MFX type	Edit the parameters for the selected MFX type.	
MFX Chorus Send Level	0–127	Adjusts the amount of chorus for the sound that passes through multi-effects. If you don't want to add the Chorus effect, set it to “ 0 .” * This has no effect if motion surround is on.
MFX Reverb Send Level	0–127	Adjusts the amount of reverb for the sound that passes through multi-effects. If you don't want to add the Reverb effect, set it to “ 0 .” * This has no effect if motion surround is on.

MFX CTRL tab

Source (1–4)	OFF, CC01–31, 33–95, PITCH BEND, AFTERTOUCH, SYS CTRL1–SYS CTRL4	Sets the MIDI message used to change the multi-effects parameter with the multi-effects control. OFF: Multi-effects control will not be used. CC01–31, 33–95: Control Change PITCH BEND: Pitch Bend AFTERTOUCH: Aftertouch SYS CTRL1–SYS CTRL4: MIDI messages used as common multi-effects controls.
Destination (1–4)	Sets the multi-effects parameters to be controlled with the multi-effects control. The multi-effects parameters available for control will depend on the multi-effects type. For details, refer to “ MFX Parameters ” (p. 97).	
Sens (1–4)	-63–+63	Sets the amount of the multi-effects control's effect that is applied. 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.

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. 97).

(Two setting items will change simultaneously for “#1” and “#2”).

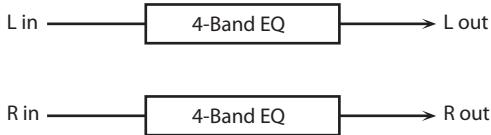
Type	MFX Name	Page
FILTER	0 Thru	–
	1 Equalizer	p. 74
	2 Spectrum	p. 74
	3 Low Boost	p. 74
	4 Step Filter	p. 74
	5 Enhancer	p. 75
	6 Auto Wah	p. 75
	7 Humanizer	p. 75
MODULATION	8 Speaker Simulator	p. 75
	9 Phaser 1	p. 76
	10 Phaser 2	p. 76
	11 Phaser 3	p. 76
	12 Step Phaser	p. 77
	13 Multi Stage Phaser	p. 77
	14 Infinite Phaser	p. 77
	15 Ring Modulator	p. 78
	16 Tremolo	p. 78
	17 Auto Pan	p. 78
	18 Slicer	p. 78
	19 Rotary 1	p. 79
	20 Rotary 2	p. 79
	21 Rotary 3	p. 80
CHORUS	22 Chorus	p. 80
	23 Flanger	p. 81
	24 Step Flanger	p. 81
	25 Hexa-Chorus	p. 82
	26 Tremolo Chorus	p. 82
	27 Space-D	p. 82
	28 Overdrive	p. 82
DYNAMICS	29 Distortion	p. 82
	30 Guitar Amp Simulator	p. 83
	31 Compressor	p. 83
	32 Limiter	p. 83
	33 Gate	p. 84
	34 Delay	p. 84
DELAY	35 Modulation Delay	p. 85
	36 3Tap Pan Delay	p. 85
	37 4Tap Pan Delay	p. 85
	38 Multi Tap Delay	p. 86
	39 Reverse Delay	p. 86
	40 Time Ctrl Delay	p. 87
	41 LOFI Compress	p. 87
LO-FI	42 Bit Crash	p. 87
	43 Pitch Shifter	p. 87
PITCH	44 2Voice Pitch Shifter	p. 88

Type	MFX Name	Page
COMBINATION	45 Overdrive → Chorus	p. 88
	46 Overdrive → Flanger	p. 88
	47 Overdrive → Delay	p. 89
	48 Distortion → Chorus	p. 89
	49 Distortion → Flanger	p. 89
	50 Distortion → Delay	p. 89
	51 OD/DS → TouchWah	p. 89
	52 OD/DS → AutoWah	p. 90
	53 GuitarAmpSim → Chorus	p. 90
	54 GuitarAmpSim → Flanger	p. 91
	55 GuitarAmpSim → Phaser	p. 91
	56 GuitarAmpSim → Delay	p. 92
	57 EP AmpSim → Tremolo	p. 93
	58 EP AmpSim → Chorus	p. 93
	59 EP AmpSim → Flanger	p. 93
	60 EP AmpSim → Phaser	p. 94
	61 EP AmpSim → Delay	p. 94
	62 Enhancer → Chorus	p. 95
	63 Enhancer → Flanger	p. 95
	64 Enhancer → Delay	p. 95
	65 Chorus → Delay	p. 95
	66 Flanger → Delay	p. 96
	67 Chorus → Flanger	p. 96

MFX Parameters

01: Equalizer

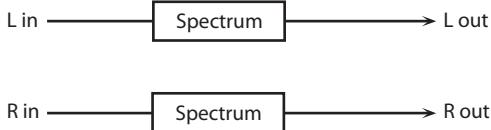
This is a four-band stereo equalizer (low, mid x 2, high).



Parameter	Value	Explanation
Low Freq	200, 400 Hz	Frequency of the low range
Low Gain #	-15~+15 dB	Gain of the low range
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	Gain of the high range
Level #	0~127	Output Level

02: Spectrum

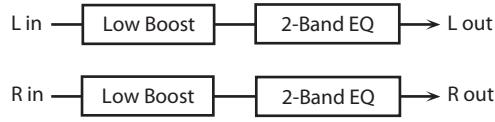
This is a stereo spectrum. Spectrum is a type of filter which modifies the timbre by boosting or cutting the level at specific frequencies.



Parameter	Value	Explanation
Band1 (250 Hz)		
Band2 (500 Hz)		
Band3 (1000 Hz)		
Band4 (1250 Hz)		
Band5 (2000 Hz)		
Band6 (3150 Hz)		
Band7 (4000 Hz)		
Band8 (8000 Hz)		
Q	0.5, 1.0, 2.0, 4.0, 8.0	Simultaneously adjusts the width of the adjusted ranges for all the frequency bands.
Level #	0~127	Output Level

03: Low Boost

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



Parameter	Value	Explanation
Boost Frequency #	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 Width	WIDE, MID, NARROW	Width of the lower range that will be boosted
Low Gain	-15~+15 dB	Gain of the low frequency range
High Gain	-15~+15 dB	Gain of the high frequency range
Level	0~127	Output level

04: 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.

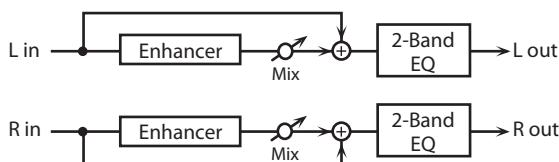
You can use MFX CONTROL to restart the step sequence from the beginning (p. 97).



Parameter	Value	Explanation
Step 01~16	0~127	Cutoff frequency at each step
Rate #	0.05~10.00 Hz, note	Rate of modulation
Attack #	0~127	Speed at which the cutoff frequency changes between steps
Filter Type	LPF, BPF, HPF, NOTCH	Filter type Frequency range that will pass through each filter LPF: frequencies below the cutoff BPF: frequencies in the region of the cutoff HPF: frequencies above the cutoff NOTCH: frequencies other than the region of the cutoff
Filter Slope	-12, -24, -36 dB	Amount of attenuation per octave -12 dB: gentle -24 dB: steep -36 dB: extremely steep
Filter Resonance #	0~127	Filter resonance level Increasing this value will emphasize the region near the cutoff frequency.
Filter Gain	0~+12 dB	Amount of boost for the filter output
Level	0~127	Output level

05: Enhancer

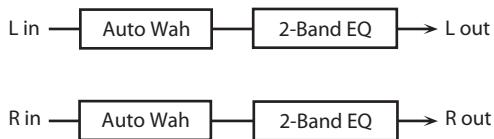
Controls the overtone structure of the high frequencies, adding sparkle and tightness to the sound.



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

06: Auto Wah

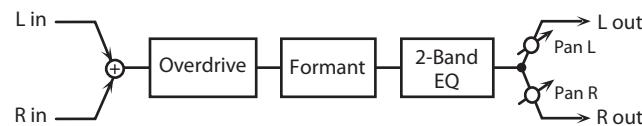
Cyclically controls a filter to create cyclic change in timbre.



Parameter	Value	Explanation
Filter Type	LPF, BPF	Type of filter LPF: The wah effect will be applied over a wide frequency range. BPF: The wah effect will be applied over a narrow frequency range.
Manual #	0–127	Adjusts the center frequency at which the effect is applied.
Peak	0–127	Adjusts the amount of the wah effect that will occur in the range of the center frequency. Set a higher value for Q to narrow the range to be affected.
Sens #	0–127	Adjusts the sensitivity with which the filter is controlled.
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.
Rate #	0.05–10.00 Hz, note	Frequency of modulation
Depth #	0–127	Depth of modulation
Phase #	0–180 deg	Adjusts the degree of phase shift of the left and right sounds when the wah effect is applied.
Low Gain	-15–+15 dB	Gain of the low range
High Gain	-15–+15 dB	Gain of the high range
Level	0–127	Output Level

07: Humanizer

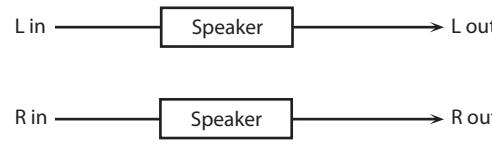
Adds a vowel character to the sound, making it similar to a human voice.



Parameter	Value	Explanation
Drive Sw	OFF, ON	Turns Drive on/off.
Drive #	0–127	Degree of distortion Also changes the volume.
Vowel1	a, e, i, o, u	Selects the vowel.
Vowel2	a, e, i, o, u	
Rate #	0.05–10.00 Hz, note	Frequency at which the two vowels switch
Depth #	0–127	Effect depth
		LFO reset on/off
Input Sync Sw	OFF, ON	Determines whether the LFO for switching the vowels is reset by the input signal (ON) or not (OFF).
Input Sync Threshold	0–127	Volume level at which reset is applied
		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.
Manual #	0–100	
Low Gain	-15–+15 dB	Gain of the low frequency range
High Gain	-15–+15 dB	Gain of the high frequency range
Pan #	L64–63R	Stereo location of the output
Level	0–127	Output level

08: Speaker Simulator

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



Parameter	Value	Explanation
Type	(See the table right.)	Type of speaker
Mic Setting	1, 2, 3	Adjusts the location of the mic that is recording the sound of the speaker. This can be adjusted in three steps, with the mic becoming more distant in the order of 1, 2, and 3.
Mic Level #	0–127	Volume of the microphone
Direct Level #	0–127	Volume of the direct sound
Level #	0–127	Output Level

MFX Parameters

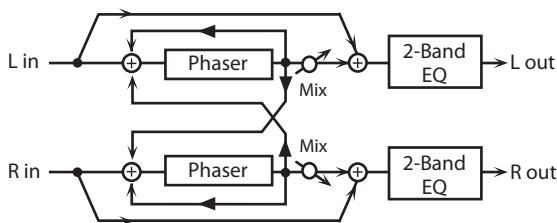
Specifications of each Speaker Type

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: Phaser 1

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



Parameter	Value	Explanation
Mode	4-STAGE, 8-STAGE, 12-STAGE	Number of stages in the phaser
Manual #	0 –127	Adjusts the basic frequency from which the sound will be modulated.
Rate #	0.05–10.00 Hz, note	Frequency of modulation
Depth	0 –127	Depth of modulation
Polarity	INVERSE, SYNCHRO	Selects whether the left and right phase of the modulation will be the same or the opposite. INVERSE: The left and right phase will be opposite. When using a mono source, this spreads the sound. SYNCHRO: The left and right phase will be the same. Select this when inputting a stereo source.
Resonance #	0 –127	Amount of feedback
Cross Feedback	-98–+98 %	Adjusts the proportion of the phaser sound that is fed back into the effect. Negative “-” settings will invert the phase.
Mix #	0 –127	Level of the phase-shifted sound
Low Gain	-15–+15 dB	Gain of the low range
High Gain	-15–+15 dB	Gain of the high range
Level	0 –127	Output Level

10: Phaser 2

This simulates an analog phaser of the past.

It is particularly suitable for electric piano.



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

11: Phaser 3

This simulates a different analog phaser than Phaser 2.

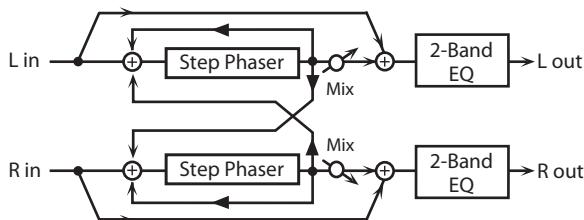
It is particularly suitable for electric piano.



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

12: Step Phaser

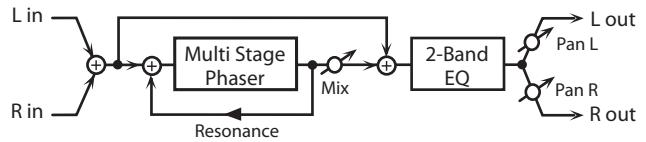
The phaser effect will be varied gradually.



Parameter	Value	Explanation
Mode	4-STAGE, 8-STAGE, 12-STAGE	Number of stages in the phaser
Manual #	0–127	Adjusts the basic frequency from which the sound will be modulated.
Rate #	0.05–10.00 Hz, note	Frequency of modulation
Depth	0–127	Depth of modulation
Polarity	INVERSE, SYNCHRO	Selects whether the left and right phase of the modulation will be the same or the opposite. INVERSE: The left and right phase will be opposite. When using a mono source, this spreads the sound. SYNCHRO: The left and right phase will be the same. Select this when inputting a stereo source.
Resonance #	0–127	Amount of feedback
Cross Feedback	-98–+98 %	Adjusts the proportion of the phaser sound that is fed back into the effect. Negative “-” settings will invert the phase.
Step Rate #	0.10–20.00 Hz, note	Rate of the step-wise change in the phaser effect
Mix #	0–127	Level of the phase-shifted sound
Low Gain	-15–+15 dB	Level of the phase-shifted sound
High Gain	-15–+15 dB	Gain of the high range
Level	0–127	Output Level

13: Multi Stage Phaser

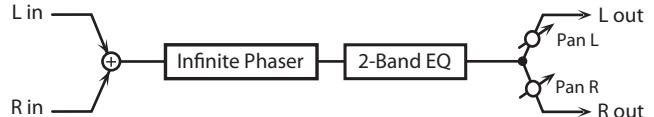
Extremely high settings of the phase difference produce a deep phaser effect.



Parameter	Value	Explanation
Mode	4-STAGE, 8-STAGE, 12-STAGE, 16-STAGE, 20-STAGE, 24-STAGE	Number of phaser stages
Manual #	0–127	Adjusts the basic frequency from which the sound will be modulated.
Rate #	0.05–10.00 Hz, note	Frequency of modulation
Depth	0–127	Depth of modulation
Resonance #	0–127	Amount of feedback
Mix #	0–127	Level of the phase-shifted sound
Pan #	L64–63R	Stereo location of the output sound
Low Gain	-15–+15 dB	Gain of the low range
High Gain	-15–+15 dB	Gain of the high range
Level	0–127	Output Level

14: 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 the phase-shifted sound
Pan #	L64–63R	Panning of the output sound
Low Gain	-15–+15 dB	Amount of boost/cut for the low-frequency range
High Gain	-15–+15 dB	Amount of boost/cut for the high-frequency range
Level	0–127	Output volume

MFX Parameters

15: 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 (UP) or lower frequencies (DOWN).
Low Gain	-15–+15 dB	Gain of the low frequency range
High Gain	-15–+15 dB	Gain of the high frequency range
Balance #	D100:0W -D0:100W	Volume balance between the direct sound (D) and the effect sound (W)
Level	0–127	Output level

16: 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	
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	Gain of the low range
High Gain	-15–+15 dB	Gain of the high range
Level	0–127	Output Level

17: Auto Pan

Cyclically modulates the stereo location of the sound.

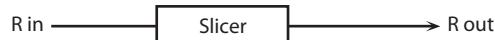


Parameter	Value	Explanation
Mod Wave	TRI, SQR, SIN, SAW1, SAW2	Modulation Wave TRI: triangle wave SQR: square wave SIN: sine wave SAW1/2: sawtooth wave
	SAW1	
	SAW2	
Rate #	0.05–10.00 Hz, note	Frequency of the change
Depth #	0–127	Depth to which the effect is applied
Low Gain	-15–+15 dB	Gain of the low range
High Gain	-15–+15 dB	Gain of the high range
Level	0–127	Output Level

18: 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. 97).



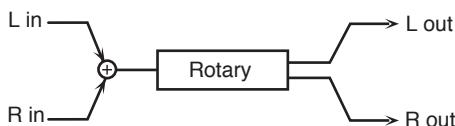
Parameter	Value	Explanation
Step 01–16	L64 –63R	Level at each step
Rate #	0.05 –10.00 Hz, note	Rate at which the 16-step sequence will cycle
Attack #	0–127	Speed at which the level changes between steps
Input Sync Sw	OFF, ON	Specifies whether an input note will cause the sequence to resume from the first step of the sequence (ON) or not (OFF)
Input Sync Threshold	0–127	Volume at which an input note will be detected
Mode	LEGATO, SLASH	Sets the manner in which the volume changes as one step progresses to the next. LEGATO: The change in volume from one step's level to the next remains unaltered. If the level of a following step is the same as the one preceding it, there is no change in volume. SLASH: The level is momentarily set to 0 before progressing to the level of the next step. This change in volume occurs even if the level of the following step is the same as the preceding step.

Parameter	Value	Explanation
Shuffle #	0–127	Timing of volume changes in levels for even-numbered steps (step 2, step 4, step 6...). The higher the value, the later the beat progresses.
Level	0–127	Output level

19: 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 patches.

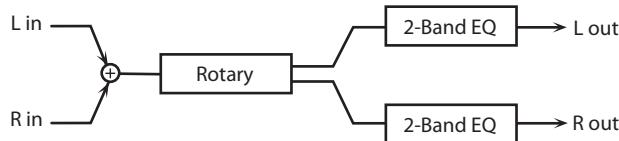


Parameter	Value	Explanation
Speed #	SLOW, FAST	Simultaneously switch the rotational speed of the low frequency rotor and high frequency rotor. SLOW: Slows down the rotation to the Slow Rate. FAST: Speeds up the rotation to the Fast Rate.
Woofer Slow Speed	0.05–10.00 Hz	Slow speed (SLOW) of the low frequency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

20: 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.

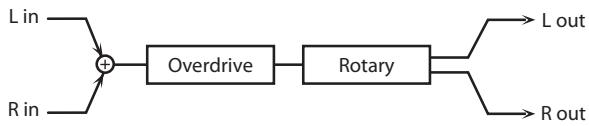


Parameter	Value	Explanation
Speed #	SLOW, FAST	Rotational speed of the rotating speaker
Brake #	OFF, ON	Switches the rotation of the rotary speaker. When this is turned on, the rotation will gradually stop. When it is turned off, the rotation will gradually resume.
Woofer Slow Speed	0.05–10.00 Hz	Low-speed rotation speed of the woofer
Woofer Fast Speed	0.05–10.00 Hz	High-speed rotation speed of the woofer
Woofer Trans Up	0–127	Adjusts the rate at which the woofer rotation speeds up when the rotation is switched from Slow to Fast.
Woofer Trans Down	0–127	Adjusts the rate at which the woofer rotation speeds up when the rotation is switched from Fast to Slow.
Woofer Level	0–127	Volume of the woofer
Tweeter Slow Speed	0.05–10.00 Hz	Settings of the tweeter The parameters are the same as for the woofer.
Tweeter Fast Speed	0.05–10.00 Hz	
Tweeter Trans Up	0–127	
Tweeter Trans Down	0–127	
Tweeter Level	0–127	
Spread	0–10	Sets the rotary speaker stereo image. The higher the value set, the wider the sound is spread out.
Low Gain	-15–+15 dB	Gain of the low range
High Gain	-15–+15 dB	Gain of the high range
Level #	0–127	Output Level

MFX Parameters

21: Rotary 3

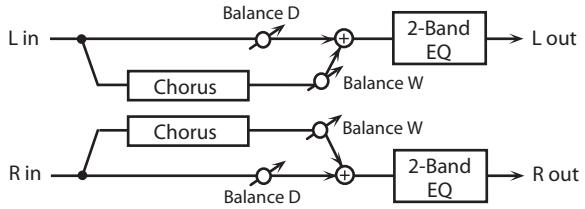
This type includes an overdrive. By distorting the sound you can produce the intense organ sound used in hard rock.



Parameter	Value	Explanation
Speed #	SLOW, FAST	Rotational speed of the rotating speaker
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.
OD Switch	OFF, ON	Overdrive on/off
OD Gain #	0-127	Overdrive input level Higher values will increase the distortion.
OD Drive #	0-127	Degree of distortion
OD Level	0-127	Volume of the overdrive
Woofer Slow Speed	0.05-10.00 Hz	Low-speed rotation speed of the woofer
Woofer Fast Speed	0.05-10.00 Hz	High-speed rotation speed of the woofer
Woofer Trans Up	0-127	Adjusts the rate at which the woofer rotation speeds up when the rotation is switched from Slow to Fast.
Woofer Trans Down	0-127	Adjusts the rate at which the woofer rotation speeds up when the rotation is switched from Fast to Slow.
Woofer Level	0-127	Volume of the woofer
Tweeter Slow Speed	0.05-10.00 Hz	Settings of the tweeter The parameters are the same as for the woofer.
Tweeter Fast Speed	0.05-10.00 Hz	
Tweeter Trans Up	0-127	
Tweeter Trans Down	0-127	
Tweeter Level	0-127	
Spread	0-10	Sets the rotary speaker stereo image. The higher the value set, the wider the sound is spread out.
Low Gain	-15-+15 dB	Gain of the low range
High Gain	-15-+15 dB	Gain of the high range
Level #	0-127	Output Level

22: Chorus

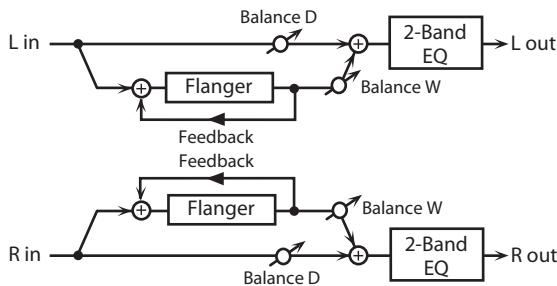
This is a stereo chorus. A filter is provided so that you can adjust the timbre of the chorus sound.



Parameter	Value	Explanation
Filter Type	OFF, LPF, HPF	Type of filter OFF: no filter is used LPF: cuts the frequency range above the Cutoff Freq HPF: cuts the frequency range below the Cutoff Freq
Cutoff Freq	200-8000 Hz	Basic frequency of the filter
Pre Delay	0.0-100.0 ms	Adjusts the delay time from the direct sound until the chorus sound is heard.
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	Gain of the low range
High Gain	-15-+15 dB	Gain of the high range
Balance #	D100:W -D0:100W	Volume balance between the direct sound (D) and the chorus sound (W)
Level	0-127	Output Level

23: Flanger

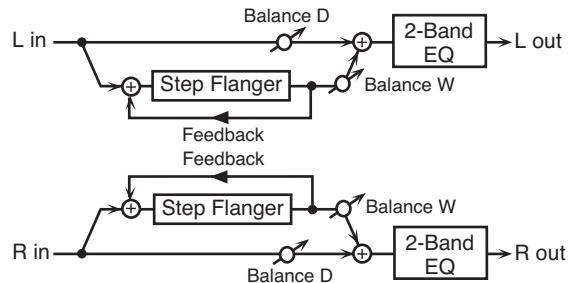
This is a stereo flanger. (The LFO has the same phase for left and right.) It produces a metallic resonance that rises and falls like a jet airplane taking off or landing. A filter is provided so that you can adjust the timbre of the flanged sound.



Parameter	Value	Explanation
Filter Type	OFF, LPF, HPF	Type of filter OFF: no filter is used LPF: cuts the frequency range above the Cutoff Freq HPF: cuts the frequency range below the Cutoff Freq
Cutoff Freq	200–8000 Hz	Basic frequency of the filter
Pre Delay	0.0–100.0 ms	Adjusts the delay time from when the direct sound begins until the flanger sound is heard.
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
Feedback #	-98–+98 %	Adjusts the proportion of the flanger sound that is fed back into the effect. Negative “-” settings will invert the phase.
Low Gain	-15–+15 dB	Gain of the low range
High Gain	-15–+15 dB	Gain of the high range
Balance #	D100:0W -D0:100W	Volume balance between the direct sound (D) and the flanger sound (W)
Level	0–127	Output Level

24: Step Flanger

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

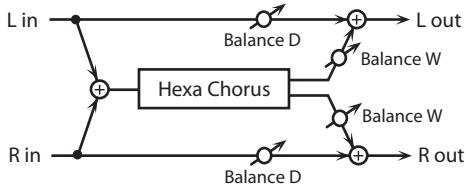


Parameter	Value	Explanation
Filter Type	OFF, LPF, HPF	Type of filter OFF: no filter is used LPF: cuts the frequency range above the Cutoff Freq HPF: cuts the frequency range below the Cutoff Freq
Cutoff Freq	200–8000 Hz	Basic frequency of the filter
Pre Delay	0.0–100.0 ms	Adjusts the delay time from when the direct sound begins until the flanger sound is heard.
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
Feedback #	-98–+98 %	Adjusts the proportion of the flanger sound that is fed back into the effect. Negative “-” settings will invert the phase.
Step Rate #	0.10–20.00 Hz, note	Rate (period) of pitch change
Low Gain	-15–+15 dB	Gain of the low range
High Gain	-15–+15 dB	Gain of the high range
Balance #	D100:0W -D0:100W	Volume balance between the direct sound (D) and the flanger sound (W)
Level	0–127	Output Level

MFX Parameters

25: Hexa-Chorus

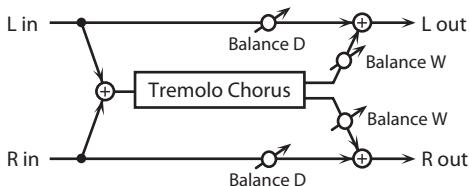
Uses a six-phase chorus (six layers of chorused sound) to give richness and spatial spread to the sound.



Parameter	Value	Explanation
Pre Delay	0.0–100.0 ms	Adjusts the delay time from the direct sound until the chorus sound is heard.
Rate #	0.05–10.00 Hz, note	Frequency of modulation
Depth	0–127	Depth of modulation
Pre Delay Deviation	0–20	Adjusts the differences in Pre Delay between each chorus sound.
Depth Deviation	-20–+20	Adjusts the difference in modulation depth between each chorus sound.
Pan Deviation	0–20	Adjusts the difference in stereo location between each chorus sound. 0: All chorus sounds will be in the center. 20: Each chorus sound will be spaced at 60 degree intervals relative to the center.
Balance #	D100:0W -D0:100W	Volume balance between the direct sound (D) and the chorus sound (W)
Level	0–127	Output Level

26: Tremolo Chorus

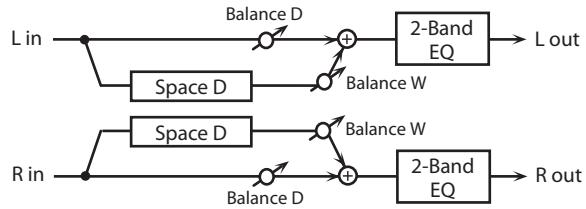
This is a chorus effect with added Tremolo (cyclic modulation of volume).



Parameter	Value	Explanation
Pre Delay	0.0–100.0 ms	Adjusts the delay time from the direct sound until the chorus sound is heard.
Chorus Rate #	0.05–10.00 Hz, note	Modulation frequency of the chorus effect
Chorus Depth	0–127	Modulation depth of the chorus effect
Tremolo Rate #	0.05–10.00 Hz, note	Modulation frequency of the tremolo effect
Tremolo Separation	0–127	Spread of the tremolo effect
Tremolo Phase	0–180 deg	Spread of the tremolo effect
Balance #	D100:0W -D0:100W	Volume balance between the direct sound (D) and the tremolo chorus sound (W)
Level	0–127	Output Level

27: Space-D

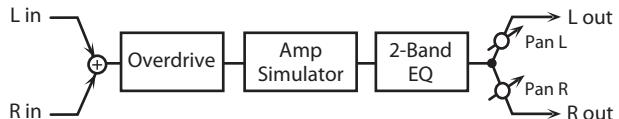
This is a multiple chorus that applies two-phase modulation in stereo. It gives no impression of modulation, but produces a transparent chorus effect.



Parameter	Value	Explanation
Pre Delay	0.0–100.0 ms	Adjusts the delay time from the direct sound until the chorus sound is heard.
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	Gain of the low range
High Gain	-15–+15 dB	Gain of the high range
Balance #	D100:0W -D0:100W	Volume balance between the direct sound (D) and the chorus sound (W)
Level	0–127	Output Level

28: Overdrive

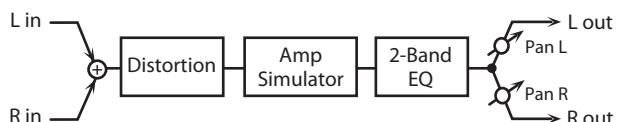
This is an overdrive that provides heavy distortion.



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

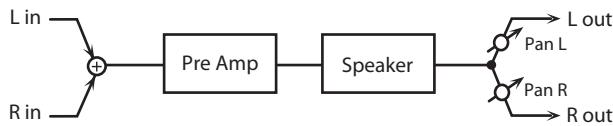
29: Distortion

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



30: Guitar Amp Simulator

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



Parameter	Value	Explanation
Amp Sw	OFF, ON	Turns the amp switch on/off.
Amp Type	JC-120, CLEAN TWIN, MATCH DRIVE, BG LEAD, MS1959I, MS1959II, MS1959I+II, SLDN LEAD, METAL5150, METAL LEAD, OD-1, OD-2 TURBO, DISTORTION, FUZZ	Type of guitar amp
Amp Volume #	0–127	Volume and amount of distortion of the amp
Amp Master #	0–127	Volume of the entire pre-amp
Amp Gain	LOW, MIDDLE, HIGH	Amount of pre-amp distortion
Amp Bass		Tone of the bass/mid/treble frequency range
Amp Middle	0–127	* Middle cannot be set if "Match Drive" is selected as the Pre Amp Type.
Amp Treble		
Amp Presence	0–127	Tone for the ultra-high frequency range
Amp Bright	OFF, ON	Turning this "On" produces a sharper and brighter sound. * This parameter applies to the "JC-120", "Clean Twin", and "BG Lead" Pre Amp Types.
Speaker Sw	OFF, ON	Determines whether the signal passes through the speaker (ON), or not (OFF).
Speaker Type	(See the table below.)	Type of speaker
Mic Setting	1, 2, 3	Adjusts the location of the microphone that's capturing 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 Level

Specifications for 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

Type	Cabinet	Speaker	Microphone
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: Compressor

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



Parameter	Value	Explanation
Attack #	0–127	Sets the speed at which compression starts
Threshold #	0–127	Adjusts the volume at which compression begins
Post Gain	0–+18 dB	Adjusts the output gain.
Low Gain	-15–+15 dB	Gain of the low frequency range
High Gain	-15–+15 dB	Gain of the high frequency range
Level #	0–127	Output Level

32: Limiter

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



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

MFX Parameters

33: Gate

Cuts the reverb's delay according to the volume of the sound sent into the effect. Use this when you want to create an artificial-sounding decrease in the reverb's decay.

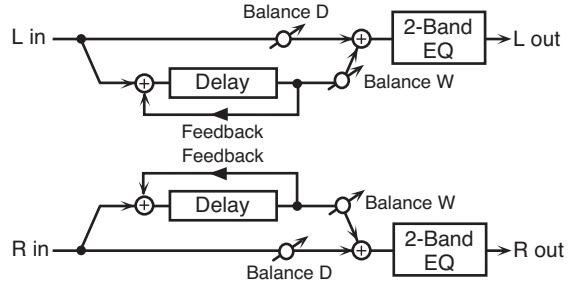


Parameter	Value	Explanation
Threshold #	0-127	Volume level at which the gate begins to close
Mode	GATE, DUCK	Type of gate GATE: The gate will close when the volume of the original sound decreases, cutting the original sound. DUCK (Ducking): The gate will close when the volume of the original sound increases, 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 source sound falls beneath the Threshold.
Release	0-127	Adjusts the time it takes the gate to fully close after the hold time.
Balance #	D100:0W -D0:100W	Volume balance between the direct sound (D) and the effect sound (W)
Level	0-127	Output Level

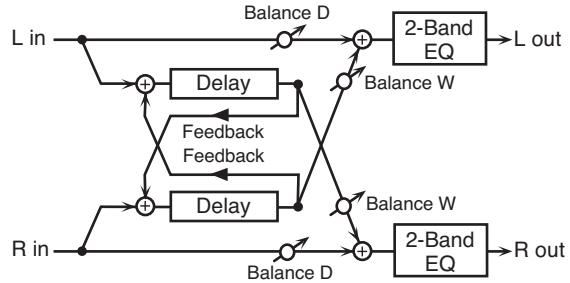
34: Delay

This is a stereo delay.

When Feedback Mode is NORMAL:



When Feedback Mode is CROSS:

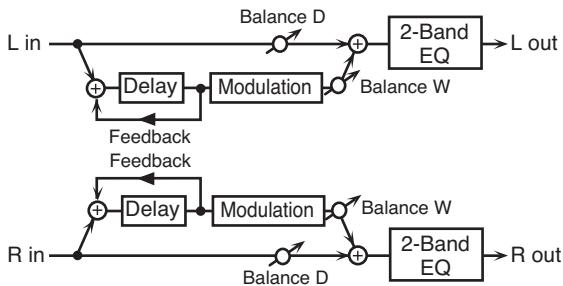


Parameter	Value	Explanation
Delay Left	0-1300 ms, note	Adjusts the time until the delay sound is heard.
Delay Right		
Phase Left	NORMAL, INVERSE	Phase of the delay sound
Phase Right		
Feedback Mode	NORMAL, CROSS	Selects the way in which delay sound is fed back into the effect. (See the figures above.)
Feedback #	-98-+98 %	Adjusts the amount of the delay sound that's fed back into the effect. Negative “-” settings 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 don't want to filter out any high frequencies, set this parameter to BYPASS.
Low Gain	-15-+15 dB	Gain of the low frequency range
High Gain	-15-+15 dB	Gain of the high frequency range
Balance #	D100:0W -D0:100W	Volume balance between the direct sound (D) and the delay sound (W)
Level	0-127	Output Level

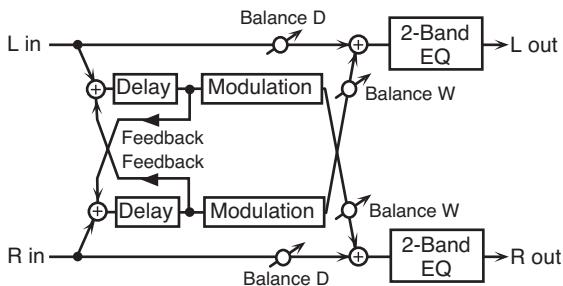
35: Modulation Delay

Adds modulation to the delayed sound.

When Feedback Mode is NORMAL:



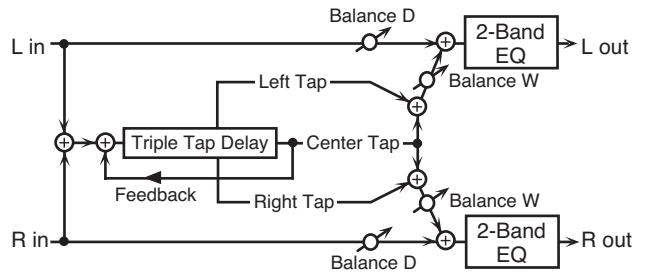
When Feedback Mode is CROSS:



Parameter	Value	Explanation
Delay Left	0–1300 ms, note	Adjusts the time until the delay sound is heard.
Delay Right	0–1300 ms, note	Adjusts the time until the delay sound is heard.
Feedback Mode	NORMAL, CROSS	Selects the way in which delay sound is fed back into the effect (See the figures above.)
Feedback #	-98–+98 %	Adjusts the amount of the delay sound that's fed back into the effect. Negative “-” settings 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 don't want to filter out any high frequencies, set this parameter to BYPASS.
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	Gain of the low frequency range
High Gain	-15–+15 dB	Gain of the high frequency range
Balance #	D100:0W -D0:100W	Volume balance between the direct sound (D) and the delay sound (W)
Level	0–127	Output Level

36: 3Tap Pan Delay

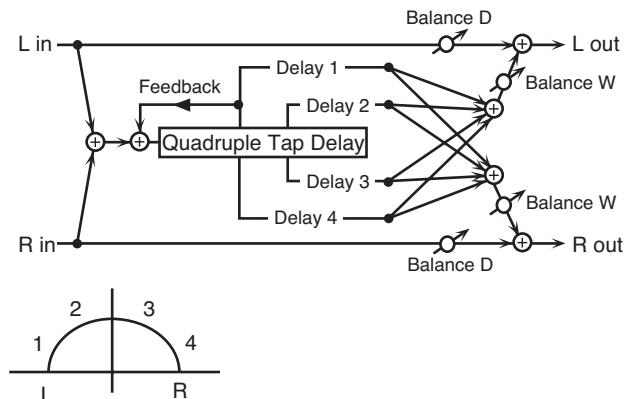
Produces three delay sounds; center, left and right.



Parameter	Value	Explanation
Delay Left/ Right/Center	0–2600 ms, note	Adjusts the time until the delay sound is heard.
Center Feedback #	-98–+98 %	Adjusts the amount of the delay sound that's fed back into the effect. Negative “-” settings 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
Low Gain	-15–+15 dB	Gain of the low frequency range
High Gain	-15–+15 dB	Gain of the high frequency range
Balance #	D100:0W -D0:100W	Volume balance between the direct sound (D) and the delay sound (W)
Level	0–127	Output Level

37: 4Tap Pan Delay

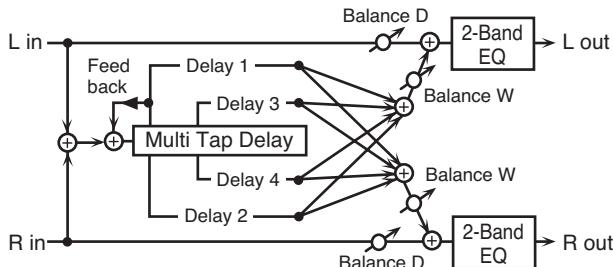
This effect has four delays.



Parameter	Value	Explanation
Delay 1–4 Time	0–2600 ms, note	Adjusts the time until the delay sound is heard.
Delay 1 Feedback #	-98–+98 %	Adjusts the amount of the delay sound that's fed back into the effect. Negative “-” settings 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 Level	0–127	Volume of each delay
Low Gain	-15–+15 dB	Gain of the low frequency range
High Gain	-15–+15 dB	Gain of the high frequency range
Balance #	D100:0W -D0:100W	Volume balance between the direct sound (D) and the delay sound (W)
Level	0–127	Output Level

38: Multi Tap Delay

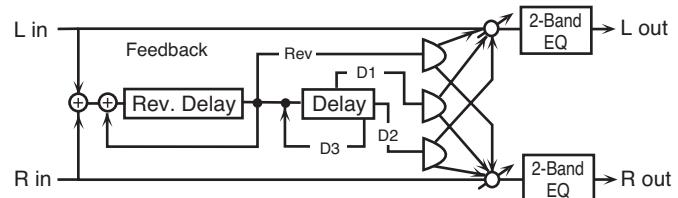
This effect provides four delays. Each of the Delay Time parameters can be set to a note length based on the selected tempo. You can also set the panning and level of each delay sound.



Parameter	Value	Explanation
Delay 1–4 Time	0–2600 ms, note	Adjusts the time until Delays 1–4 are heard.
Delay 1 Feedback #	-98–+98 %	Adjusts the amount of the delay sound that's fed back into the effect. Negative “-” settings 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 don't want to filter out any the high frequencies, set this parameter to BYPASS.
Delay 1–4 Pan	L64–63R	Stereo location of Delays 1–4
Delay 1–4 Level	0–127	Output level of Delays 1–4
Low Gain	-15–+15 dB	Gain of the low frequency range
High Gain	-15–+15 dB	Gain of the high frequency range
Balance #	D100:0W -D0:100W	Volume balance between the direct sound (D) and the effect sound (W)
Level	0–127	Output Level

39: Reverse Delay

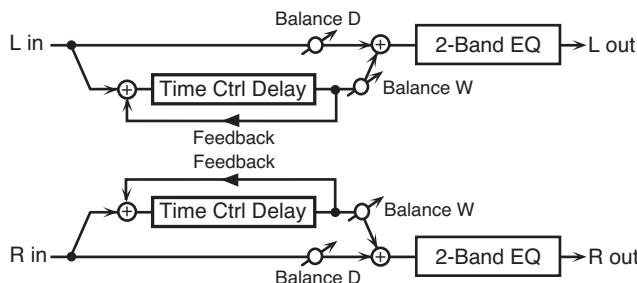
This is a reverse delay that adds a reversed and delayed sound to the input sound. A tap delay is connected immediately after the reverse delay.



Parameter	Value	Explanation
Threshold	0–127	Volume at which the reverse delay will begin to be applied
Rev Delay Tme	0–1300 ms, note	Delay time from when sound is input into the reverse delay until the delay sound is heard
Rev Delay Feedback #	-98–+98 %	Proportion of the delay sound that is to be returned to the input of the reverse delay (negative values invert the phase)
Rev Delay HF Damp	200–8000 Hz, BYPASS	Frequency at which the high-frequency content of the reverse-delayed sound will be cut (BYPASS: no cut)
Rev Delay Pan	L64–63R	Panning of the reverse delay sound
Rev Delay Level	0–127	Volume of the reverse delay sound
Delay 1–3 Time	0–1300 ms, note	Delay time from when sound is input into the tap delay until the delay sound is heard
Delay 3 Feedback #	-98–+98 %	Proportion of the delay sound that is to be returned to the input of the tap delay (negative values invert the phase)
Delay HF Damp	200–8000 Hz, BYPASS	Frequency at which the low-frequency content of the tap delay sound will be cut (BYPASS: no cut)
Delay 1 Pan, Delay 2 Pan	L64–63R	Panning of the tap delay sounds
Delay 1 Level, Delay 2 Level	0–127	Volume of the tap delay sounds
Low Gain	-15–+15 dB	Amount of boost/cut for the low-frequency range
High Gain	-15–+15 dB	Amount of boost/cut for the high-frequency range
Balance #	D100:0W -D0:100W	Volume balance of the original sound (D) and delay sound (W)
Level	0–127	Output Level

40: Time Ctrl Delay

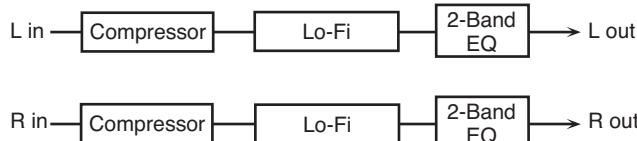
A stereo delay in which the delay time can be varied smoothly.



Parameter	Value	Explanation
Delay Time #	0–1300 ms, note	Adjusts the time until the delay 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 that's fed back into the effect. Negative “-” settings 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	Gain of the low frequency range
High Gain	-15–+15 dB	Gain of the high frequency range
Balance #	D100:0W -D0:100W	Volume balance between the direct sound (D) and the delay sound (W)
Level	0–127	Output Level

41: LOFI Compress

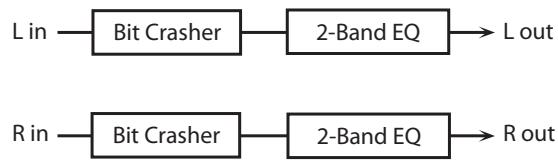
This is an effect that intentionally degrades the sound quality for creative purposes.



Parameter	Value	Explanation
Pre Filt 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.
PostFilt 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
PostFilt Cof	200–8000 Hz	Basic frequency of the Post Filter
Low Gain	-15–+15 dB	Gain of the low range
High Gain	-15–+15 dB	Gain of the high range
Balance #	D100:0W -D0:100W	Volume balance between the direct sound (D) and the effect sound (W)
Level #	0–127	Output Level

42: Bit Crash

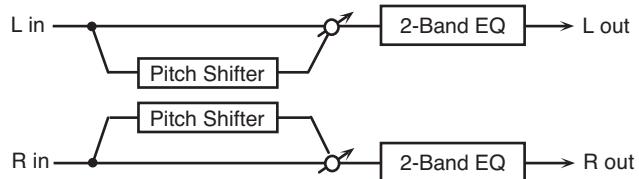
This creates a lo-fi sound.



Parameter	Value	Explanation
Sample Rate #	0–127	Adjusts the sample rate.
Bit Down #	0–20	Adjusts the bit depth.
Filter #	0–127	Adjusts the filter depth.
Low Gain	-15–+15 dB	Gain of the low frequency range
High Gain	-15–+15 dB	Gain of the high frequency range
Level	0–127	Output Level

43: Pitch Shifter

A stereo pitch shifter.

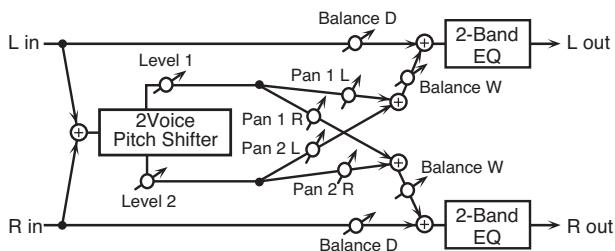


Parameter	Value	Explanation
Coarse #1	-24–+12 semi	Adjusts the pitch of the pitch shifted sound in semitone steps.
Fine #1	-100–+100 cent	Adjusts the pitch of the pitch shifted sound in 2-cent steps.
Delay Time	0–1300 ms, note	Adjusts the delay time from the direct sound until the pitch shifted sound is heard.
Feedback #	-98–+98 %	Adjusts the proportion of the pitch shifted sound that is fed back into the effect. Negative “-” settings will invert the phase.
Low Gain	-15–+15 dB	Gain of the low range
High Gain	-15–+15 dB	Gain of the high range
Balance #	D100:0W -D0:100W	Volume balance between the direct sound (D) and the pitch shifted sound (W)
Level	0–127	Output Level

MFX Parameters

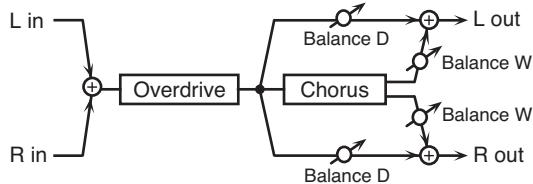
44: 2Voice Pitch Shifter

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



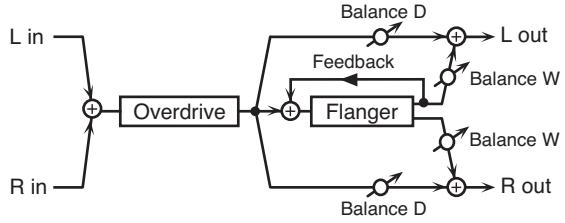
Parameter	Value	Explanation
Pitch1 Coarse #1	-24→+12 semi	Adjusts the pitch of Pitch Shift 1 in semitone steps.
Pitch1 Fine #1	-100→+100 cent	Adjusts the pitch of Pitch Shift Pitch 1 in 2-cent steps.
Pitch1 Delay	0→1300 ms, note	Adjusts the delay time from the direct sound until the Pitch Shift 1 sound is heard.
Pitch1 Feedback #	-98→+98 %	Adjusts the proportion of the pitch shifted sound that is fed back into the effect. Negative “-” settings will invert the phase.
Pitch1 Pan #	L64→63R	Stereo location of the Pitch Shift 1 sound
Pitch1 Level	0→127	Volume of the Pitch Shift 1 sound
Pitch2 Coarse #2	-24→+12 semi	Settings of the Pitch Shift 2 sound. The parameters are the same as for the Pitch Shift 1 sound.
Pitch2 Fine #2	-100→+100 cent	
Pitch2 Delay	0→1300 ms, note	
Pitch2 Feedback #	-98→+98 %	
Pitch2 Pan #	L64→63R	
Pitch2 Level	0→127	
Low Gain	-15→+15 dB	Gain of the low range
High Gain	-15→+15 dB	Gain of the high range
Balance #	D100:0W→-D0:100W	Volume balance between the direct sound (D) and the pitch shifted sound (W)
Level	0→127	Output Level

45: Overdrive → Chorus



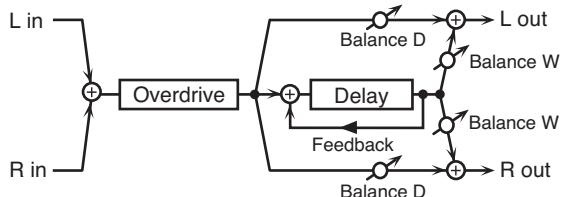
Parameter	Value	Explanation
Overdrive Drive #	0→127	Degree of distortion Also changes the volume.
Overdrive Pan #	L64→63R	Stereo location of the overdrive sound
Chorus Pre Delay	0.0→100.0 ms	Adjusts the delay time from the direct sound until the chorus sound is heard.
Chorus Rate #	0.05→10.00 Hz, note	Frequency of modulation
Chorus Depth	0→127	Depth of modulation
Chorus Balance #	D100:0W→-D0:100W	Adjusts the volume balance between the sound that is sent through the chorus (W) and the sound that is not sent through the chorus (D).
Level	0→127	Output Level

46: Overdrive → Flanger



Parameter	Value	Explanation
Overdrive Drive #	0→127	Degree of distortion Also changes the volume.
Overdrive Pan #	L64→63R	Stereo location of the overdrive sound
Flanger Pre Delay	0.0→100.0 ms	Adjusts the delay time from when the direct sound begins until the flanger sound is heard.
Flanger Rate #	0.05→10.00 Hz, note	Frequency of modulation
Flanger Depth	0→127	Depth of modulation
Flanger Feedback #	-98→+98 %	Adjusts the proportion of the flanger sound that is fed back into the effect. Negative “-” settings will invert the phase.
Flanger Balance #	D100:0W→-D0:100W	Adjusts the volume balance between the sound that is sent through the flanger (W) and the sound that is not sent through the flanger (D).
Level	0→127	Output Level

47: Overdrive -> Delay

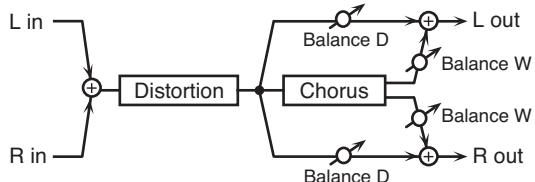


Parameter	Value	Explanation
Overdrive Drive #	0–127	Degree of distortion Also changes the volume.
Overdrive Pan #	L64–63R	Stereo location of the overdrive sound
Delay Time	0–2600 ms, note	Adjusts the delay time from the direct sound until the delay sound is heard.
Delay Feedback #	-98–+98 %	Adjusts the proportion of the delay sound that is fed back into the effect. Negative “-” settings will invert the phase.
Delay HF Damp	200–8000 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.
Delay Balance #	D100:0W–D0:100W	Adjusts the volume balance between the sound that is sent through the delay (W) and the sound that is not sent through the delay (D).
Level	0–127	Output Level

48: Distortion -> Chorus

The parameters are essentially the same as in “45: Overdrive → Chorus,” with the exception of the following two.

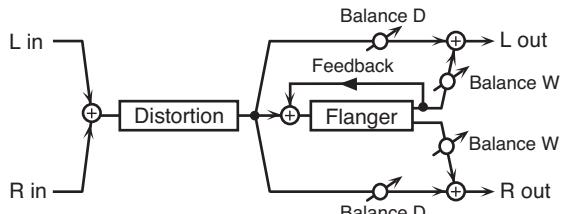
OD Drive → Dst Drive, OD Pan → Dst Pan



49: Distortion -> Flanger

The parameters are essentially the same as in “46: Overdrive → Flanger,” with the exception of the following two.

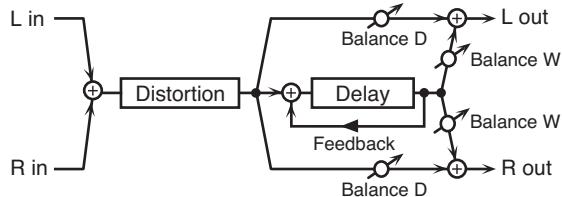
OD Drive → Dst Drive, OD Pan → Dst Pan



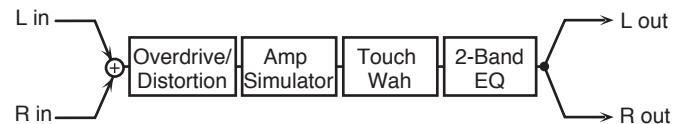
50: Distortion -> Delay

The parameters are essentially the same as in “47: Overdrive → Delay,” with the exception of the following two.

OD Drive → Dst Drive, OD Pan → Dst Pan



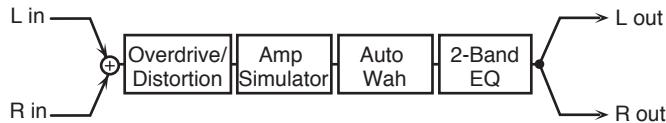
51: OD/DS -> TouchWah



Parameter	Value	Explanation
Drive Switch	OFF, ON	Turns overdrive/distortion on/off
Drive Type	OVERDRIVE, DISTORTION	Type of distortion
Drive #	0–127	Degree of distortion Also changes the volume.
Tone #	0–127	Sound quality of the Overdrive effect
Amp Sw	OFF, ON	Turns the Amp Simulator on/off.
Amp Type	SMALL, BUILTIN, 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 Switch	OFF, ON	Wah on/off
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.
Touch Wah Polarity	DOWN, UP	Direction in which the filter will move UP: Move toward a higher frequency DOWN: Move toward a lower frequency
Touch Wah Sens #	0–127	Sensitivity with which the filter is modified
Touch Wah Manual #	0–127	Center frequency at which the wah effect is applied
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.
Touch Wah Balance #	D100:0W–D0:100W	Volume balance of the sound that passes through the wah (W) and the unprocessed sound (D)
Low Gain	-15–+15 dB	Gain of the low range
High Gain	-15–+15 dB	Gain of the high range
Level	0–127	Output Level

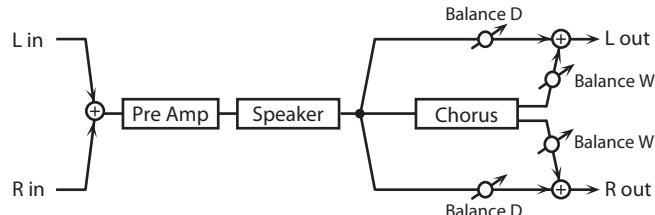
MFX Parameters

52: OD/DS -> AutoWah



Parameter	Value	Explanation
Drive Switch	OFF, ON	Overdrive/distortion on/off
Drive Type	OVERDRIVE, DISTORTION	Type of distortion
Drive #	0–127	Degree of distortion Also changes the volume.
Tone #	0–127	Sound quality of the Overdrive effect
Amp Sw	OFF, ON	Turns the Amp Simulator on/off.
Amp Type	SMALL, BUILT-IN, 2-STACK, 3-STACK	Type of guitar amp SMALL: small amp BUILT-IN: single-unit type amp 2-STACK: large double stack amp 3-STACK: large triple stack amp
Auto Wah Switch	OFF, ON	Wah on/off
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.
Auto Wah Manual #	0–127	Center frequency at which the wah effect is applied
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.
Auto Wah Rate #	0.05–10.00 Hz, note	Rate at which the wah effect is modulated
Auto Wah Depth #	0–127	Depth at which the wah effect is modulated
Auto Wah Balance #	D100:0W– D0:100W	Volume balance of the sound that passes through the wah (W) and the unprocessed sound (D)
Low Gain	-15–+15 dB	Gain of the low range
High Gain	-15–+15 dB	Gain of the high range
Level	0–127	Output Level

53: GuitarAmpSim -> Chorus



Parameter	Value	Explanation
Amp Sw	OFF, ON	Turns the amp switch on/off.
Amp Type	Type of guitar amp	JC-120, CLEAN TWIN, MATCH DRIVE, BG LEAD, MS1959I, MS1959II, MS1959I+II, SLDN LEAD, METAL5150, METAL LEAD, OD-1, OD-2, TURBO, DISTORTION, FUZZ
Amp Volume #	0–127	Volume and amount of distortion of the amp
Amp Master #	0–127	Volume of the entire pre-amp
Amp Gain	LOW, MIDDLE, HIGH	Amount of pre-amp distortion

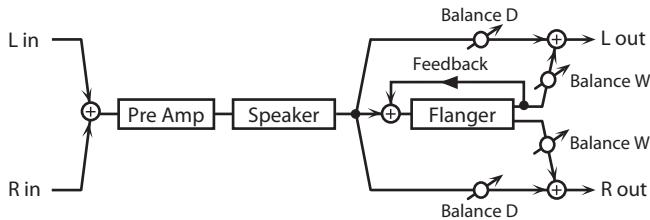
Parameter	Value	Explanation
Amp Bass		Tone of the bass/mid/treble frequency range
Amp Middle	0–127	* Middle cannot be set if "Match Drive" is selected as the Pre Amp Type.
Amp Treble		
Chorus Switch #	OFF, ON	Chorus on/off
Chorus Pre Delay	0.0–100.0 ms	Adjusts the delay time from the direct sound until the chorus sound is heard.
Chorus Rate (Hz) #	0.05–10.00 Hz	Frequency of modulation
Chorus Depth #	0–127	Depth of modulation
Chorus Balance #	D100:0W– D0:100W	Volume balance of the sound that passes through the chorus (W) and the unprocessed sound (D)
Speaker Sw	OFF, ON	Selects whether the sound will be sent through the speaker simulation (ON) or not (OFF)
Speaker Type	(See the table below.)	Type of speaker
Level	0–127	Output Level

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: GuitarAmpSim -> Flanger



Parameter	Value	Explanation
Amp Sw	OFF, ON	Turns the amp switch on/off.
Amp Type	Type of guitar amp	JC-120, CLEAN TWIN, MATCH DRIVE, BG LEAD, MS1959I, MS1959II, MS1959+II, SLDN LEAD, METAL5150, METAL LEAD, OD-1, OD-2, TURBO, DISTORTION, FUZZ
Amp Volume #	0–127	Volume and amount of distortion of the amp
Amp Master #	0–127	Volume of the entire pre-amp
Amp Gain	LOW, MIDDLE, HIGH	Amount of pre-amp distortion
Amp Bass	0–127	Tone of the bass/mid/treble frequency range
Amp Middle		* Middle cannot be set if "Match Drive" is selected as the Pre Amp Type.
Amp Treble		
Flanger Switch #	OFF, ON	Flanger on/off
Flanger Pre Delay	0.0–100.0 ms	Adjusts the delay time from when the direct sound begins until the flanger sound is heard.
Flanger Rate (Hz) #	0.05–10.00 Hz	Frequency of modulation
Flanger Depth #	0–127	Depth of modulation
Flanger Feedback #	-98–+98 %	Adjusts the proportion of the flanger sound that is fed back into the effect. Negative "-" settings will invert the phase.
Flanger Balance #	D100:0W–D0:100W	Adjusts the volume balance between the sound that is sent through the flanger (W) and the sound that is not sent through the flanger (D).
Speaker Sw	OFF, ON	Selects whether the sound will be sent through the speaker simulation (ON) or not (OFF)
Speaker Type	(See the table below.)	Type of speaker
Level	0–127	Output Level

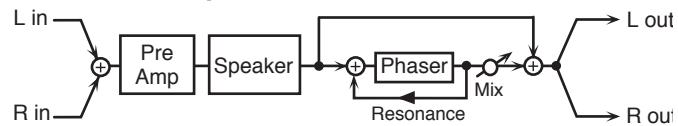
Specifications of each Speaker Type

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

Type	Cabinet	Speaker	Microphone
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: GuitarAmpSim -> Phaser



Parameter	Value	Explanation
Amp Sw	OFF, ON	Turns the amp switch on/off.
Amp Type	Type of guitar amp	JC-120, CLEAN TWIN, MATCH DRIVE, BG LEAD, MS1959I, MS1959II, MS1959+II, SLDN LEAD, METAL5150, METAL LEAD, OD-1, OD-2, TURBO, DISTORTION, FUZZ
Amp Volume #	0–127	Volume and amount of distortion of the amp
Amp Master #	0–127	Volume of the entire pre-amp
Amp Gain	LOW, MIDDLE, HIGH	Amount of pre-amp distortion
Amp Bass	0–127	Tone of the bass/mid/treble frequency range
Amp Middle		* Middle cannot be set if "Match Drive" is selected as the Pre Amp Type.
Amp Treble		
Phaser Switch #	OFF, ON	Phaser on/off
Phaser Manual #	0–127	Center frequency at which the sound is modulated
Phaser Resonance #	0–127	Amount of feedback
Phaser Mix #	0–127	Volume of phase-shifted sound
Phaser Rate (Hz) #	0.05–10.00 Hz	Modulation rate
Phaser Depth #	0–127	Modulation depth
Speaker Sw	OFF, ON	Selects whether the sound will be sent through the speaker simulation (ON) or not (OFF)
Speaker Type	(See the table below.)	Type of speaker
Level	0–127	Output Level

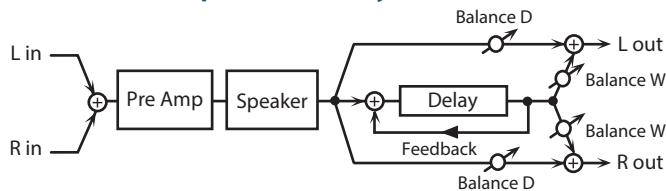
MFX Parameters

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: GuitarAmpSim -> Delay



Parameter	Value	Explanation
Speaker Sw	OFF, ON	Selects whether the sound will be sent through the speaker simulation (ON) or not (OFF)
Speaker Type	(See the table below.)	Type of speaker
Level	0–127	Output Level

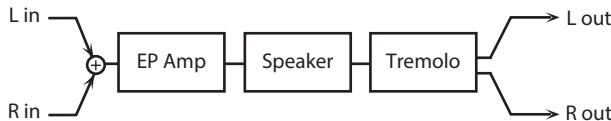
Specifications of each Speaker Type

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

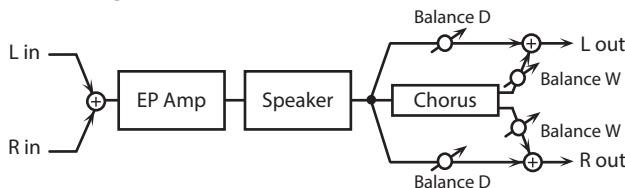
Parameter	Value	Explanation
Amp Sw	OFF, ON	Turns the amp switch on/off.
Amp Type	Type of guitar amp	JC-120, CLEAN TWIN, MATCH DRIVE, BG LEAD, MS1959I, MS1959II, MS1959I+II, SLDN LEAD, METAL150, METAL LEAD, OD-1, OD-2, TURBO, DISTORTION, FUZZ
Amp Volume #	0–127	Volume and amount of distortion of the amp
Amp Master #	0–127	Volume of the entire pre-amp
Amp Gain	LOW, MIDDLE, HIGH	Amount of pre-amp distortion
Amp Bass		Tone of the bass/mid/treble frequency range
Amp Middle	0–127	* Middle cannot be set if “Match Drive” is selected as the Pre Amp Type.
Amp Treble		
Delay Switch #	OFF, ON	Delay on/off
Delay Time #	0–1300 ms	Adjusts the delay time from the direct sound until the delay sound is heard.
Delay Feedback #	-98–+98 %	Adjusts the proportion of the delay sound that is fed back into the effect. Negative “-” settings will invert the phase.
Delay HF Damp	200–8000 Hz, BYPASS	Frequency at which the high-frequency portion of the delay sound will be cut (BYPASS: no cut)
Delay Balance #	D100:0W–D0:100W	Adjusts the volume balance between the sound that is sent through the delay (W) and the sound that is not sent through the delay (D).

57: EP AmpSim -> 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
OD Switch	OFF, ON	Overdrive on/off
OD Gain	0--127	Overdrive input level
OD Drive	0--127	Degree of distortion
Tremolo Switch #	OFF, ON	Tremolo on/off
Tremolo Rate #	0.05--10.00 Hz, note	Rate of the tremolo effect
Tremolo Depth #	0--127	Depth of the tremolo effect
Tremolo Duty	-10--+10	Adjusts the duty cycle of the LFO waveform used to apply tremolo.
Speaker Type	LINE, OLD, NEW, WURLY, TWIN	Type of speaker * If LINE is selected, the sound will not be sent through the speaker simulation.
Level	0--127	Output Level

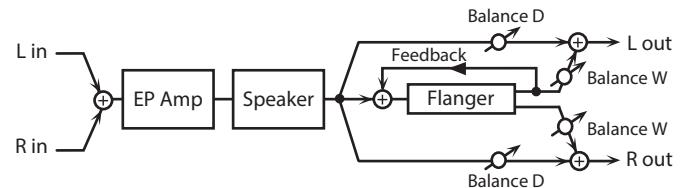
58: EP AmpSim -> Chorus



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
OD Switch	OFF, ON	Overdrive on/off
OD Gain	0--127	Overdrive input level
OD Drive	0--127	Degree of distortion
Chorus Switch #	OFF, ON	Chorus on/off
Chorus Pre Delay	0.0--100.0 ms	Adjusts the delay time from the direct sound until the chorus sound is heard.
Chorus Rate #	0.05--10.00 Hz, note	Frequency of modulation
Chorus Depth #	0--127	Depth of modulation
Chorus Balance #	D100:0W--D0:100W	Volume balance of the sound that passes through the chorus (W) and the unprocessed sound (D)

Parameter	Value	Explanation
Speaker Type	LINE, OLD, NEW, WURLY, TWIN	Type of speaker * If LINE is selected, the sound will not be sent through the speaker simulation.
Level	0--127	Output Level

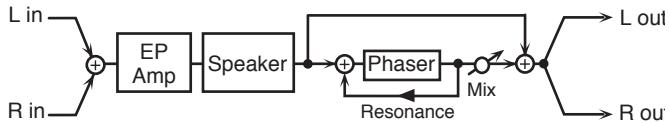
59: EP AmpSim -> Flanger



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
OD Switch	OFF, ON	Overdrive on/off
OD Gain	0--127	Overdrive input level
OD Drive	0--127	Degree of distortion
Flanger Switch #	OFF, ON	Flanger on/off
Flanger Pre Delay	0.0--100.0 ms	Adjusts the delay time from when the direct sound begins until the flanger sound is heard.
Flanger Rate #	0.05--10.00 Hz, note	Frequency of modulation
Flanger Depth #	0--127	Depth of modulation
Flanger Feedback #	-98--+98 %	Adjusts the proportion of the flanger sound that is fed back into the effect. Negative “-” settings will invert the phase.
Flanger Balance #	D100:0W--D0:100W	Adjusts the volume balance between the sound that is sent through the flanger (W) and the sound that is not sent through the flanger (D).
Speaker Type	LINE, OLD, NEW, WURLY, TWIN	Type of speaker * If LINE is selected, the sound will not be sent through the speaker simulation.
Level	0--127	Output Level

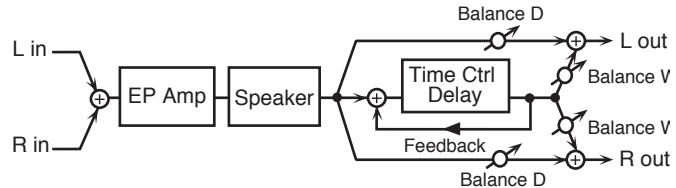
MFX Parameters

60: EP AmpSim -> Phaser



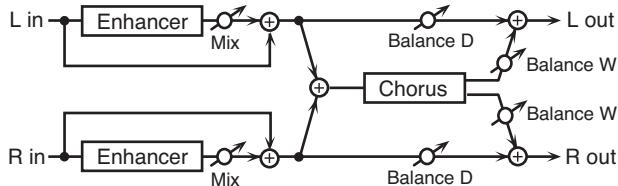
Parameter	Value	Explanation
Type	OLDCASE, NEWCASE, WURLY	Type of amp OLDCASE: a standard electric piano sound of the early 70s NEWCASE: a standard electric piano sound of the late 70s and early 80s WURLY: a standard electric piano sound of the 60s
Bass #	-50--+50	Amount of low-frequency boost/cut
Treble #	-50--+50	Amount of high-frequency boost/cut
OD Switch	OFF, ON	Overdrive on/off
OD Gain	0-127	Overdrive input level
OD Drive	0-127	Degree of distortion
Phaser Switch #	OFF, ON	Phaser on/off
Phaser Manual #	0-127	Center frequency at which the sound is modulated
Phaser Resonance #	0-127	Amount of feedback
Phaser Mix #	0-127	Volume of phase-shifted sound
Phaser Rate #	0.05-10.00 Hz, note	Modulation rate
Phaser Depth #	0-127	Modulation depth
Speaker Type	LINE, OLD, NEW, WURLY, TWIN	Type of speaker * If LINE is selected, the sound will not be sent through the speaker simulation.
Level	0-127	Output Level

61: EP AmpSim -> Delay



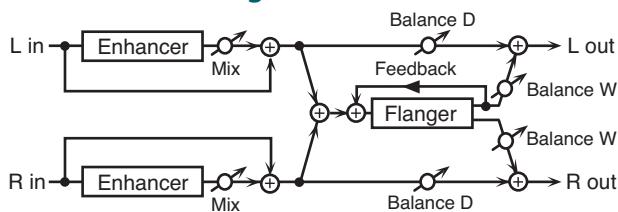
Parameter	Value	Explanation
Type	OLDCASE, NEWCASE, WURLY	Type of amp OLDCASE: a standard electric piano sound of the early 70s NEWCASE: a standard electric piano sound of the late 70s and early 80s WURLY: a standard electric piano sound of the 60s
Bass #	-50--+50	Amount of low-frequency boost/cut
Treble #	-50--+50	Amount of high-frequency boost/cut
OD Switch	OFF, ON	Overdrive on/off
OD Gain	0-127	Overdrive input level
OD Drive	0-127	Degree of distortion
Delay Switch #	OFF, ON	Delay on/off
Delay Time #	0-1300 ms, note	Adjusts the delay time from the direct sound until the delay sound is heard.
Delay Acceleration	0-15	Speed at which the current delay time changes to the specified delay time when you change the delay time. The speed of the pitch change will change simultaneously with the delay time.
Delay Feedback #	-98--+98 %	Adjusts the proportion of the delay sound that is fed back into the effect. Negative <i>“-”</i> settings will invert the phase.
Delay HF Damp	200-8000 Hz, BYPASS	Frequency at which the high-frequency portion of the delay sound will be cut (BYPASS: no cut)
Delay Balance #	D100:0W- D0:100W	Adjusts the volume balance between the sound that is sent through the delay (W) and the sound that is not sent through the delay (D).
Speaker Type	LINE, OLD, NEW, WURLY, TWIN	Type of speaker * If LINE is selected, the sound will not be sent through the speaker simulation.
Level	0-127	Output Level

62: Enhancer -> Chorus



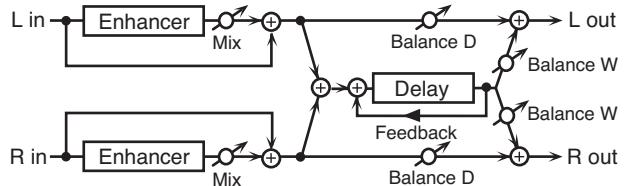
Parameter	Value	Explanation
Enhancer Sens #	0–127	Sensitivity of the enhancer
Enhancer Mix #	0–127	Level of the overtones generated by the enhancer
Chorus Pre Delay	0.0–100.0 ms	Adjusts the delay time from the direct sound until the chorus sound is heard.
Chorus Rate #	0.05–10.00 Hz, note	Frequency of modulation
Chorus Depth	0–127	Depth of modulation
Chorus Balance #	D100:0W–D0:100W	Adjusts the volume balance between the sound that is sent through the chorus (W) and the sound that is not sent through the chorus (D).
Level	0–127	Output Level

63: Enhancer -> Flanger



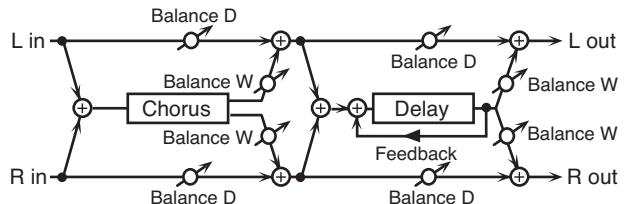
Parameter	Value	Explanation
Enhancer Sens #	0–127	Sensitivity of the enhancer
Enhancer Mix #	0–127	Level of the overtones generated by the enhancer
Flanger Pre Delay	0.0–100.0 ms	Adjusts the delay time from when the direct sound begins until the flanger sound is heard.
Flanger Rate #	0.05–10.00 Hz, note	Frequency of modulation
Flanger Depth	0–127	Depth of modulation
Flanger Feedback #	-98–+98 %	Adjusts the proportion of the flanger sound that is fed back into the effect. Negative “-” settings will invert the phase.
Flanger Balance #	D100:0W–D0:100W	Adjusts the volume balance between the sound that is sent through the flanger (W) and the sound that is not sent through the flanger (D).
Level	0–127	Output Level

64: Enhancer -> Delay



Parameter	Value	Explanation
Enhancer Sens #	0–127	Sensitivity of the enhancer
Enhancer Mix #	0–127	Level of the overtones generated by the enhancer
Delay Time	0–2600 ms, note	Adjusts the delay time from the direct sound until the delay sound is heard.
Delay Feedback #	-98–+98 %	Adjusts the proportion of the delay sound that is fed back into the effect. Negative “-” settings will invert the phase.
Delay HF Damp	200–8000 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.
Delay Balance #	D100:0W–D0:100W	Adjusts the volume balance between the sound that is sent through the delay (W) and the sound that is not sent through the delay (D).
Level	0–127	Output Level

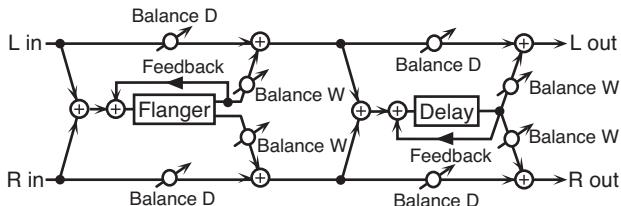
65: Chorus -> Delay



Parameter	Value	Explanation
Chorus Pre Delay	0.0–100.0 ms	Adjusts the delay time from the direct sound until the chorus sound is heard.
Chorus Rate #	0.05–10.00 Hz, note	Frequency of modulation
Chorus Depth	0–127	Depth of modulation
Chorus Balance #	D100:0W–D0:100W	Volume balance between the direct sound (D) and the chorus sound (W)
Delay Time	0–2600 ms, note	Adjusts the delay time from the direct sound until the delay sound is heard.
Delay Feedback #	-98–+98 %	Adjusts the proportion of the delay sound that is fed back into the effect. Negative “-” settings will invert the phase.
Delay HF Damp	200–8000 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.
Delay Balance #	D100:0W–D0:100W	Adjusts the volume balance between the sound that is sent through the delay (W) and the sound that is not sent through the delay (D).
Level	0–127	Output Level

MFX Parameters

66: Flanger -> Delay



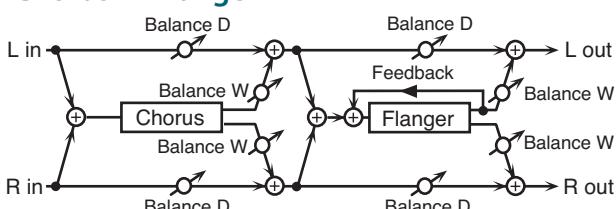
Parameter	Value	Explanation
Flanger Pre Delay	0.0–100.0 ms	Adjusts the delay time from when the direct sound begins until the flanger sound is heard.
Flanger Rate #	0.05–10.00 Hz, note	Frequency of modulation
Flanger Depth	0–127	Depth of modulation
Flanger Feedback #	-98–+98 %	Adjusts the proportion of the flanger sound that is fed back into the effect. Negative “-” settings will invert the phase.
Flanger Balance #	D100:0W–D0:100W	Volume balance between the direct sound (D) and the flanger sound (W)
Delay Time	0–2600 ms, note	Adjusts the delay time from the direct sound until the delay sound is heard.
Delay Feedback #	-98–+98 %	Adjusts the proportion of the delay sound that is fed back into the effect. Negative “-” settings will invert the phase.
Delay HF Damp	200–8000 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.
Delay Balance #	D100:0W–D0:100W	Adjusts the volume balance between the sound that is sent through the delay (W) and the sound that is not sent through the delay (D).
Level	0–127	Output Level

Parameter	Value	Explanation
Flanger Feedback #	-98–+98 %	Adjusts the proportion of the flanger sound that is fed back into the effect. Negative “-” settings will invert the phase.
Flanger Balance #	D100:0W–D0:100W	Adjusts the volume balance between the sound that is sent through the flanger (W) and the sound that is not sent through the flanger (D).
Level	0–127	Output Level

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)

67: Chorus -> Flanger



Parameter	Value	Explanation
Chorus Pre Delay	0.0–100.0 ms	Adjusts the delay time from the direct sound until the chorus sound is heard.
Chorus Rate #	0.05–10.00 Hz, note	Modulation frequency of the chorus effect
Chorus Depth	0–127	Modulation depth of the chorus effect
Chorus Balance #	D100:0W–D0:100W	Volume balance between the direct sound (D) and the chorus sound (W)
Flanger Pre Delay	0.0–100.0 ms	Adjusts the delay time from when the direct sound begins until the flanger sound is heard.
Flanger Rate #	0.05–10.00 Hz, note	Modulation frequency of the flanger effect
Flanger Depth	0–127	Modulation depth of the flanger effect

About the STEP RESET function

04: Step Filter

18: Slicer

The above types contain a sixteen-step sequencer. For these types, you can use a 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 a 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 following explanations of each MFX parameter. Up to four multi-effects control settings can be assigned using MFX 1–16.

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 will not be used.
	CC01–31	Controller number 1–31
	CC33–95	Controller number 33–95
	PITCH BEND	Pitch bend
	AFTERTOUCH	Aftertouch
	SYS CTRL1–4	Use the controller that is assigned by the System Parameter setting System Control 1–4 Source.
Destination (1–4)	Refer to the parameters marked “#” on p. 74 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.

Chorus, Reverb

Chorus Parameters

The chorus section can be used as a delay.

Select either chorus or delay, and specify how the chorus/delay sound will be heard.

Parameter	Value	Explanation
Chorus Type	00: OFF, 01: Chorus, 02: Delay, 03: GM2 Chorus	Selects either Chorus or Delay. OFF: Neither Chorus or Delay is used. Chorus: Chorus is used. Delay: Delay is used. GM2: GM2 Chorus is used.
Chorus Level	0–127	Volume of the chorus sound
Chorus Output Assign	A, B, C, D	Selects the pair of OUTPUT jacks to which the chorus sound is routed when Chorus Output Select is set to " MAIN " or " MAIN+REV ".
Chorus Output Select	MAIN, REV, MAIN+REV	Specifies how the sound routed through chorus will be output. MAIN: Output in stereo to the OUTPUT jacks. REV: Output in monaural to the reverb. MAIN+REV: Output in stereo to the OUTPUT jacks, and in monaural to the reverb.
01: Chorus		
Filter Type	OFF, LPF, HPF	Type of filter OFF: No filter is used. LPF: Cuts the frequency range above the Cutoff Freq HPF: Cuts the frequency range below the Cutoff Freq
Cutoff Freq	200–8000 [Hz]	Basic frequency of the filter
Pre Delay	0.0–100 [msec]	Adjusts the delay time from the direct sound until the chorus sound is heard.
Rate	0.05–10.00 [Hz], note	Frequency of modulation
Depth	0–127	Depth of modulation
Phase	0–180 [deg]	Spatial spread of the sound
Feedback	0–127	Adjusts the amount of the chorus sound that is fed back into the effect.
02: Delay		
Delay Left	0–1000 [msec], note	Adjusts the delay time from the direct sound until the delay sound is heard.
Delay Right		
Delay Center		
Center Feedback	-98–+98 [%]	Adjusts the proportion of the delay sound that is fed back into the effect. Negative “-” settings will invert the phase.
HF Damp	200–8000 [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.
Left Level	0–127	Volume of each delay sound
Right Level		
Center Level		
03: GM2 Chorus		
Pre-LPF	0–7	Cuts the high frequency range of the sound coming into the chorus. Higher values will cut more of the high frequencies.
Level	0–127	Volume of the chorus sound
Feedback	0–127	Adjusts the amount of the chorus sound that is fed back into the effect.
Delay	0–127	Adjusts the delay time from the direct sound until the chorus sound is heard.
Rate	0–127	Frequency of modulation
Depth	0–127	Depth of modulation

Parameter	Value	Explanation
Send Level to Reverb	0–127	Adjusts the amount of chorus sound that will be sent to the reverb.

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	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 (a reverb device that uses a metal plate) GM2 Reverb: GM2 reverb
Reverb Level	0–127	Volume of the reverb sound
Reverb Output Assign	A, B, C, D	Specifies how the sound routed through reverb will be output.
01–05: Room 1/2, Hall 1/2, Plate		
Pre Delay	0–100 [msec]	Adjusts the delay time from the direct sound until the reverb sound is heard.
Time	0.1–10 [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

MEMO

SuperNATURAL Tone CC Assign

SuperNATURAL Acoustic (SN-A)

INST				CC16	CC17	CC18	CC19
BANK	NUM	NAME	Category				
INT	1	Concert Grand	Ac.Piano	-	-	-	-
INT	2	Grand Piano1	Ac.Piano	-	-	-	-
INT	3	Grand Piano2	Ac.Piano	-	-	-	-
INT	4	Grand Piano3	Ac.Piano	-	-	-	-
INT	5	Mellow Piano	Ac.Piano	-	-	-	-
INT	6	Bright Piano	Ac.Piano	-	-	-	-
INT	7	Upright Piano	Ac.Piano	-	-	-	-
INT	8	Concert Mono	Ac.Piano	-	-	-	-
INT	9	Honky-tonk	Ac.Piano	-	-	-	-
INT	10	Pure Vintage EP1	E.Piano	Noise Level	-	-	-
INT	11	Pure Vintage EP2	E.Piano	Noise Level	-	-	-
INT	12	Pure Wurly	E.Piano	Noise Level	-	-	-
INT	13	Pure Vintage EP3	E.Piano	Noise Level	-	-	-
INT	14	Old Hammer EP	E.Piano	Noise Level	-	-	-
INT	15	Dyno Piano	E.Piano	Noise Level	-	-	-
INT	16	Clav CB Flat	Other Keyboards	Noise Level	-	-	-
INT	17	Clav CA Flat	Other Keyboards	Noise Level	-	-	-
INT	18	Clav CB Medium	Other Keyboards	Noise Level	-	-	-
INT	19	Clav CA Medium	Other Keyboards	Noise Level	-	-	-
INT	20	Clav CB Brillia	Other Keyboards	Noise Level	-	-	-
INT	21	Clav CA Brillia	Other Keyboards	Noise Level	-	-	-
INT	22	Clav CB Combo	Other Keyboards	Noise Level	-	-	-
INT	23	Clav CA Combo	Other Keyboards	Noise Level	-	-	-
INT	24	Glockenspiel	Bell/Mallet	Mallet Hardness	Roll Speed	Mute	Bend Mode
INT	25	Vibraphone	Bell/Mallet	Mallet Hardness	Roll Speed	Mute	Bend Mode
				• Tremolo Speed is assigned to CC76.			
INT	26	Marimba	Bell/Mallet	Mallet Hardness	Roll Speed	Mute	Bend Mode
INT	27	Xylophone	Bell/Mallet	Mallet Hardness	Roll Speed	Mute	Bend Mode
INT	28	Tubular Bells	Bell/Mallet	Mallet Hardness	Roll Speed	Mute	Bend Mode
INT	29	TW Organ	Organ	Noise Level * 1	-	-	-
INT	30	French Accordion	Accordion/Harmonica	Noise Level	-	-	Bend Mode
INT	31	Italian Accordion	Accordion/Harmonica	Noise Level	-	-	Bend Mode
INT	32	Harmonica	Accordion/Harmonica	Noise Level	-	Growl Sens	Bend Mode
INT	33	Bandoneon	Accordion/Harmonica	Noise Level	-	-	Bend Mode
INT	34	Nylon Guitar	Ac.Guitar	Noise Level	Strum Speed	-	Strum Mode
INT	35	Flamenco Guitar	Ac.Guitar	Noise Level	Strum Speed	-	Strum Mode
INT	36	SteelStr Guitar	Ac.Guitar	Noise Level	Strum Speed	-	Strum Mode
INT	37	Jazz Guitar	E.Guitar	Noise Level	Strum Speed	-	Strum Mode
INT	38	ST Guitar Half	E.Guitar	Noise Level	Strum Speed	-	Strum Mode
INT	39	ST Guitar Front	E.Guitar	Noise Level	Strum Speed	-	Strum Mode
INT	40	TC Guitar Rear	E.Guitar	Noise Level	Strum Speed	-	Strum Mode
INT	41	Acoustic Bass	Ac.Bass	Noise Level	-	-	-
INT	42	Fingered Bass	E.Bass	Noise Level	-	-	-
INT	43	Picked Bass	E.Bass	Noise Level	-	-	-
INT	44	Fretless Bass	E.Bass	Noise Level	-	-	-
INT	45	Violin	Strings	Noise Level	-	-	-
INT	46	Violin 2	Strings	Noise Level	-	-	-
INT	47	Viola	Strings	Noise Level	-	-	-
INT	48	Cello	Strings	Noise Level	-	-	-

INST			CC80	CC81	CC82	CC65	CC01 (SYS_CTRL1)*3	AFTERTOUCH (SYS_CTRL2)*4
BANK	NUM	NAME						
INT	1	Concert Grand	-	-	-	Portamento	Vibrato * 2	-
INT	2	Grand Piano1	-	-	-	Portamento	Vibrato * 2	-
INT	3	Grand Piano2	-	-	-	Portamento	Vibrato * 2	-
INT	4	Grand Piano3	-	-	-	Portamento	Vibrato * 2	-
INT	5	Mellow Piano	-	-	-	Portamento	Vibrato * 2	-
INT	6	Bright Piano	-	-	-	Portamento	Vibrato * 2	-
INT	7	Upright Piano	-	-	-	Portamento	Vibrato * 2	-
INT	8	Concert Mono	-	-	-	Portamento	Vibrato * 2	-
INT	9	Honky-tonk	-	-	-	Portamento	Vibrato * 2	-
INT	10	Pure Vintage EP1	-	-	-	Portamento	Vibrato	-
INT	11	Pure Vintage EP2	-	-	-	Portamento	Vibrato	-
INT	12	Pure Wurly	-	-	-	Portamento	Vibrato	-
INT	13	Pure Vintage EP3	-	-	-	Portamento	Vibrato	-
INT	14	Old Hammer EP	-	-	-	Portamento	Vibrato	-
INT	15	Dyno Piano	-	-	-	Portamento	Vibrato	-
INT	16	Clav CB Flat	-	-	-	Portamento	Vibrato	-
INT	17	Clav CA Flat	-	-	-	Portamento	Vibrato	-
INT	18	Clav CB Medium	-	-	-	Portamento	Vibrato	-
INT	19	Clav CA Medium	-	-	-	Portamento	Vibrato	-
INT	20	Clav CB Brillia	-	-	-	Portamento	Vibrato	-
INT	21	Clav CA Brillia	-	-	-	Portamento	Vibrato	-
INT	22	Clav CB Combo	-	-	-	Portamento	Vibrato	-
INT	23	Clav CA Combo	-	-	-	Portamento	Vibrato	-
INT	24	Glockenspiel	Dead Stroke		-	Glissando	Roll Sw/Dynamics * 2	-
INT	25	Vibraphone	Dead Stroke	Tremolo Sw	-	Glissando	Roll Sw/Dynamics * 2	-
INT	26	Marimba	Dead Stroke		-	Glissando	Roll Sw/Dynamics * 2	-
INT	27	Xylophone	Dead Stroke		-	Glissando	Roll Sw/Dynamics * 2	-
INT	28	Tubular Bells	Dead Stroke			Glissando	Roll Sw/Dynamics * 2	
INT	29	TW Organ	-	-	-	-	-	-
INT	30	French Accordion	-	-	-	Portamento	Dynamics	-
INT	31	Italian Accordion	-	-	-	Portamento	Dynamics	-
INT	32	Harmonica	-	-	-	Portamento	Dynamics	Vibrato
INT	33	Bandoneon	-	-	-	Portamento	Dynamics	-
INT	34	Nylon Guitar	Mute	Harmonics	-	Portamento	Vibrato	Vibrato
INT	35	Flamenco Guitar	Rasgueado	Harmonics	-	Portamento	Vibrato	Vibrato
INT	36	SteelStr Guitar	Mute	Harmonics	-	Portamento	Vibrato	Vibrato
INT	37	Jazz Guitar	FingerPicking	Octave Tone	-	Portamento	Vibrato	Vibrato
INT	38	ST Guitar Half	Mute	Harmonics	-	Portamento	Vibrato	Vibrato
INT	39	ST Guitar Front	Mute	Harmonics	-	Portamento	Vibrato	Vibrato
INT	40	TC Guitar Rear	Mute	Harmonics	-	Portamento	Vibrato	Vibrato
INT	41	Acoustic Bass	Staccato	Harmonics	-	Portamento	Vibrato	Vibrato
INT	42	Fingered Bass	Slap	Harmonics	-	Portamento	Vibrato	Vibrato
INT	43	Picked Bass	Bridge Mute	Harmonics	-	Portamento	Vibrato	Vibrato
INT	44	Fretless Bass	Staccato	Harmonics	-	Portamento	Vibrato	Vibrato
INT	45	Violin	Staccato	Pizzicato	Tremolo	Portamento	Dynamics+Vib	Vibrato
INT	46	Violin 2	Staccato	Pizzicato	Tremolo	Portamento	Dynamics+Vib	Vibrato
INT	47	Viola	Staccato	Pizzicato	Tremolo	Portamento	Dynamics+Vib	Vibrato
INT	48	Cello	Staccato	Pizzicato	Tremolo	Portamento	Dynamics+Vib	Vibrato

SuperNATURAL Tone CC Assign – SuperNATURAL Acoustic (SN-A)

INST				CC16	CC17	CC18	CC19
BANK	NUM	NAME	Category				
INT	49	Cello 2	Strings	Noise Level	-	-	-
INT	50	Contrabass	Strings	Noise Level	-	-	-
INT	51	Harp	Plucked/Stroke	-	-	Mute	GlissandoMode
INT	52	Timpani	Percussion	-	Roll Speed	Mute	-
INT	53	Strings	Strings	-	-	-	HoldLegato Mode
INT	54	Marcato Strings	Strings	-	-	-	HoldLegato Mode
INT	55	London Choir	Vox/Choir	-	-	-	HoldLegato Mode
INT	56	Boys Choir	Vox/Choir	-	-	-	HoldLegato Mode
INT	57	Trumpet	Brass	Noise Level	-	Growl Sens	Bend Mode
INT	58	Trombone	Brass	Noise Level	-	Growl Sens	Bend Mode
INT	59	Tb2 CupMute	Brass	Noise Level	-	Growl Sens	Bend Mode
INT	60	Mute Trumpet	Brass	Noise Level	-	Growl Sens	Bend Mode
INT	61	French Horn	Brass	Noise Level	-	Growl Sens	Bend Mode
INT	62	Soprano Sax 2	Sax	Noise Level	-	Growl Sens	Bend Mode
INT	63	Alto Sax 2	Sax	Noise Level	-	Growl Sens	Bend Mode
INT	64	Tenor Sax 2	Sax	Noise Level	-	Growl Sens	Bend Mode
INT	65	Baritone Sax 2	Sax	Noise Level	-	Growl Sens	Bend Mode
INT	66	Oboe	Wind	Noise Level	-	Growl Sens	Bend Mode
INT	67	Bassoon	Wind	Noise Level	-	Growl Sens	Bend Mode
INT	68	Clarinet	Wind	Noise Level	-	Growl Sens	Bend Mode
INT	69	Piccolo	Flute	Noise Level	-	Growl Sens	Bend Mode
INT	70	Flute	Flute	Noise Level	-	Growl Sens	Bend Mode
INT	71	Pan Flute	Flute	Noise Level	-	Growl Sens	Bend Mode
INT	72	Shakuhachi	Flute	Noise Level	-	Growl Sens	-
INT	73	Sitar	Plucked/Stroke	Resonance Level	-	-	-
INT	74	Uilleann Pipes	Wind	-	-	-	-
INT	75	Bag Pipes	Wind	-	-	-	-
INT	76	Erhu	Strings	Noise Level	-	-	-
INT	77	Steel Drums	Percussion	Resonance Level	Roll Speed	Mute	Bend Mode
ExSN1	1	Santoor	Bell/Mallet	Resonance Level	Roll Speed	Slide Roll	Bend Mode
ExSN1	2	Yang Chin	Bell/Mallet	Resonance Level	Roll Speed	Slide Roll	Bend Mode
ExSN1	3	Tin Whistle	Flute	Noise Level	-	Growl Sens	-
ExSN1	4	Ryuteki	Flute	Noise Level	-	Growl Sens	-
ExSN1	5	Tsugaru	Plucked/Stroke	Resonance Level	Bend Depth	-	-
ExSN1	6	Sansin	Plucked/Stroke	Resonance Level	Bend Depth	-	-
ExSN1	7	Koto	Plucked/Stroke	-	Tremolo Speed	Mute	GlissandoMode
ExSN1	8	Taishou Koto	Plucked/Stroke	Noise Level	Tremolo Speed	-	-
ExSN1	9	Kalimba	Plucked/Stroke	Resonance Level			-
ExSN1	10	Sarangi	Strings	Resonance Level	-	-	-
ExSN2	1	Soprano Sax	Sax	Noise Level	-	Growl Sens	Bend Mode
ExSN2	2	Alto Sax	Sax	Noise Level	-	Growl Sens	Bend Mode
ExSN2	3	Tenor Sax	Sax	Noise Level	-	Growl Sens	Bend Mode

SuperNATURAL Tone CC Assign — SuperNATURAL Acoustic (SN-A)

INST			CC80	CC81	CC82	CC65	CC01 (SYS_CTRL1) *3	AFTERTOUCH (SYS_CTRL2) *4
BANK	NUM	NAME						
INT	49	Cello 2	Staccato	Pizzicato	Tremolo	Portamento	Dynamics+Vib	Vibrato
INT	50	Contrabass	Staccato	Pizzicato	Tremolo	Portamento	Dynamics+Vib	Vibrato
INT	51	Harp	Nail	-	-	Glissando	Vibrato	Vibrato
INT	52	Timpani	Flam	Accent Roll	-	-	Roll Sw/Dynamics *2	-
INT	53	Strings	Staccato	Pizzicato	Tremolo	Portamento	Dynamics+Vib	Level
INT	54	Marcato Strings	Staccato	Pizzicato	Tremolo	Portamento	Dynamics+Vib	Level
INT	55	London Choir	Voice Woo	-	-	Portamento	Dynamics+Vib	Level
INT	56	Boys Choir	Voice Woo	-	-	Portamento	Dynamics+Vib	Level
INT	57	Trumpet	Staccato	Fall	-	Portamento	Dynamics+Vib	Vibrato
INT	58	Trombone	Staccato	Fall	-	Portamento	Dynamics+Vib	Vibrato
INT	59	Tb2 CupMute	Staccato	Fall	-	Portamento	Dynamics+Vib	Vibrato
INT	60	Mute Trumpet	Staccato	Fall	-	Portamento	Dynamics+Vib	Vibrato
INT	61	French Horn	Staccato	-	-	Portamento	Dynamics+Vib	Vibrato
INT	62	Soprano Sax 2	Staccato	Fall	SubTone	Porta/Glissando	Dynamics+Vib	Vibrato
INT	63	Alto Sax 2	Staccato	Fall	SubTone	Porta/Glissando	Dynamics+Vib	Vibrato
INT	64	Tenor Sax 2	Staccato	Fall	SubTone	Porta/Glissando	Dynamics+Vib	Vibrato
INT	65	Baritone Sax 2	Staccato	Fall	SubTone	Porta/Glissando	Dynamics+Vib	Vibrato
INT	66	Oboe	Staccato	-	-	Porta/Glissando	Dynamics+Vib	Vibrato
INT	67	Bassoon	Staccato	-	-	Porta/Glissando	Dynamics+Vib	Vibrato
INT	68	Clarinet	Staccato	-	-	Porta/Glissando	Dynamics+Vib	Vibrato
INT	69	Piccolo	Staccato	-	-	Porta/Glissando	Dynamics+Vib	Vibrato
INT	70	Flute	Staccato	-	-	Porta/Glissando	Dynamics+Vib	Vibrato
INT	71	Pan Flute	Staccato	Flutter	-	Portamento	Dynamics+Vib	Vibrato
INT	72	Shakuhachi	Staccato	Ornament	-	Portamento	Dynamics+Vib	Vibrato
INT	73	Sitar	Tambura	-	-	Portamento	Vibrato	Vibrato
INT	74	Uilleann Pipes	Drone	Ornament	-	Portamento	Dynamics	Vibrato
INT	75	Bag Pipes	Drone	Ornament	-	Portamento	Dynamics	Vibrato
INT	76	Erhu	Staccato	Ornament	-	Portamento	Dynamics+Vib *2	Vibrato
INT	77	Steel Drums	Mute	-	-	Glissando	Roll Sw/Dynamics	-
ExSN1	1	Santoor	Mute	Tremolo	-	Glissando	Roll Sw/Dynamics *2	-
ExSN1	2	Yang Chin	Mute	Tremolo	-	Glissando	Roll Sw/Dynamics *2	-
ExSN1	3	Tin Whistle	Cut	Ornament	-	Portamento	Dynamics+Vib	Vibrato
ExSN1	4	Ryuteki	Staccato	Ornament	-	Portamento	Dynamics+Vib	Vibrato
ExSN1	5	Tsugaru	Strum	Up Picking	Auto Bend	Portamento	Vibrato	-
ExSN1	6	Sansin	Strum	Up Picking	Auto Bend	Portamento	Vibrato	-
ExSN1	7	Koto	Tremolo	Ornament	-	Portamento	Vibrato (Dynamics)	Vibrato
ExSN1	8	Taishou Koto	-	-	-	Portamento	Tremolo	Vibrato
ExSN1	9	Kalimba	Buzz	-	-	Portamento	Vibrato	Vibrato
ExSN1	10	Sarangi	Tambura	-	-	Portamento	Dynamics	Vibrato
ExSN2	1	Soprano Sax	Staccato	Fall	SubTone	Porta/Glissando	Dynamics+Vib	Vibrato
ExSN2	2	Alto Sax	Staccato	Fall	SubTone	Porta/Glissando	Dynamics+Vib	Vibrato
ExSN2	3	Tenor Sax	Staccato	Fall	SubTone	Porta/Glissando	Dynamics+Vib	Vibrato

SuperNATURAL Tone CC Assign – SuperNATURAL Acoustic (SN-A)

INST				CC16	CC17	CC18	CC19
BANK	NUM	NAME	Category				
ExSN2	4	Baritone Sax	Sax	Noise Level	-	Growl Sens	Bend Mode
ExSN2	5	English Horn	Wind	Noise Level	-	Growl Sens	Bend Mode
ExSN2	6	Bass Clarinet	Wind	Noise Level	-	Growl Sens	Bend Mode
ExSN2	7	Flute2	Flute	Noise Level	-	Growl Sens	Bend Mode
ExSN2	8	Soprano Recorder	Recorder	Noise Level	-	Growl Sens	-
ExSN2	9	Alto Recorder	Recorder	Noise Level	-	Growl Sens	-
ExSN2	10	Tenor Recorder	Recorder	Noise Level	-	Growl Sens	-
ExSN2	11	Bass Recorder	Recorder	Noise Level	-	Growl Sens	-
ExSN2	12	Ocarina SopC	Recorder	Noise Level	-	Growl Sens	-
ExSN2	13	Ocarina SopF	Recorder	Noise Level	-	Growl Sens	-
ExSN2	14	Ocarina Alto	Recorder	Noise Level	-	Growl Sens	-
ExSN2	15	Ocarina Bass	Recorder	Noise Level	-	Growl Sens	-
ExSN3	1	TC Guitar w/Fing	Ac.Guitar	Noise Level	Strum Speed	-	Strum Mode
ExSN3	2	335Guitar w/Fing	Ac.Guitar	Noise Level	Strum Speed	-	Strum Mode
ExSN3	3	LP Guitar Rear	E.Guitar	Noise Level	Strum Speed	-	Strum Mode
ExSN3	4	LP Guitar Front	E.Guitar	Noise Level	Strum Speed	-	Strum Mode
ExSN3	5	335 Guitar Half	E.Guitar	Noise Level	Strum Speed	-	Strum Mode
ExSN3	6	Acoustic Bass 2	Ac.Bass	Noise Level	-	-	-
ExSN3	7	Fingered Bass 2	E.Bass	Noise Level	-	-	-
ExSN3	8	Picked Bass 2	E.Bass	Noise Level	-	-	-
ExSN4	1	Ukulele	Ac.Guitar	-	Strum Speed	-	Strum Mode
ExSN4	2	Nylon Guitar 2	Ac.Guitar	Noise Level	Strum Speed	-	Strum Mode
ExSN4	3	12th Steel Gtr	Ac.Guitar	Noise Level	Strum Speed	-	Strum Mode
ExSN4	4	Mandolin	Ac.Guitar	Noise Level	Tremolo Speed	-	Strum Mode
ExSN4	5	SteelFing Guitar	Ac.Guitar	Noise Level	Strum Speed	-	Strum Mode
ExSN4	6	SteelStr Guitar2	Ac.Guitar	Noise Level	Strum Speed	-	Strum Mode
ExSN5	1	Classical Trumpet	Brass	Noise Level	-	Growl Sens	Bend Mode
ExSN5	2	Frugal Horn	Brass	Noise Level	-	Growl Sens	Bend Mode
ExSN5	3	Trumpet 2	Brass	Noise Level	-	Growl Sens	Bend Mode
ExSN5	4	Mariachi Tp	Brass	Noise Level	Crescendo Depth	Growl Sens	Bend Mode
ExSN5	5	Trombone 2	Brass	Noise Level	-	Growl Sens	Bend Mode
ExSN5	6	Bass Trombone	Brass	Noise Level	-	Growl Sens	Bend Mode
ExSN5	7	Tuba	Brass	Noise Level	-	Growl Sens	Bend Mode
ExSN5	8	StraightMute Tp	Brass	Noise Level	-	Growl Sens	Bend Mode
ExSN5	9	Cup Mute Trumpet	Brass	Noise Level	-	Growl Sens	Bend Mode
ExSN5	10	French Horn 2	Brass	Noise Level	-	Growl Sens	Bend Mode
ExSN5	11	Mute French Horn	Brass	Noise Level	-	Growl Sens	Bend Mode

*1 Offset value relative to the Inst tab parameters KeyOn (Off) ClickLevel and LeakageLevel

*2 This can always be controlled by CC01 regardless of the SYS_CTRL1 setting.

*3 Follows the SYS_CTRL1 setting. If the Control Source Select parameter is set to SYSTEM, the System Control Src1 is used for SYS_CTRL1. If the Control Source Select parameter is set to STUDIO SET, then the Tone Control Src1 is used. In both cases, the factory setting is CC01.

*4 If the Control Source Select parameter is set to SYSTEM, the System Control Src2 setting is used for SYS_CTRL2. If the Control Source Select parameter is set to STUDIO SET, the Tone Control Src2 setting is used. In both cases, the factory setting is AFTERTOUCH.

SuperNATURAL Tone CC Assign — SuperNATURAL Acoustic (SN-A)

INST			CC80	CC81	CC82	CC65	CC01 (SYS_CTRL1) * 3	AFTERTOUCH (SYS_CTRL2) * 4
BANK	NUM	NAME						
ExSN2	4	Baritone Sax	Staccato	Fall	SubTone	Porta/Glissando	Dynamics+Vib	Vibrato
ExSN2	5	English Horn	Staccato	-	-	Porta/Glissando	Dynamics+Vib	Vibrato
ExSN2	6	Bass Clarinet	Staccato	-	-	Porta/Glissando	Dynamics+Vib	Vibrato
ExSN2	7	Flute2	Staccato	-	-	Porta/Glissando	Dynamics+Vib	Vibrato
ExSN2	8	Soprano Recorder	Staccato	-	-	Portamento	Dynamics	Vibrato
ExSN2	9	Alto Recorder	Staccato	-	-	Portamento	Dynamics	Vibrato
ExSN2	10	Tenor Recorder	Staccato	-	-	Portamento	Dynamics	Vibrato
ExSN2	11	Bass Recorder	Staccato	-	-	Portamento	Dynamics	Vibrato
ExSN2	12	Ocarina SopC	Staccato	Ornament	-	Portamento	Dynamics+Vib	Vibrato
ExSN2	13	Ocarina SopF	Staccato	Ornament	-	Portamento	Dynamics+Vib	Vibrato
ExSN2	14	Ocarina Alto	Staccato	Ornament	-	Portamento	Dynamics+Vib	Vibrato
ExSN2	15	Ocarina Bass	Staccato	Ornament	-	Portamento	Dynamics+Vib	Vibrato
ExSN3	1	TC Guitar w/Fing	FingerPicking	Octave Tone	-	Portamento	Vibrato	Vibrato
ExSN3	2	335Guitar w/Fing	FingerPicking	Octave Tone	-	Portamento	Vibrato	Vibrato
ExSN3	3	LP Guitar Rear	Mute	Harmonics	-	Portamento	Vibrato	Vibrato
ExSN3	4	LP Guitar Front	Mute	Harmonics	-	Portamento	Vibrato	Vibrato
ExSN3	5	335 Guitar Half	Mute	Harmonics	-	Portamento	Vibrato	Vibrato
ExSN3	6	Acoustic Bass 2	Staccato	Harmonics	-	Portamento	Vibrato	Vibrato
ExSN3	7	Fingered Bass 2	Slap	Harmonics	-	Portamento	Vibrato	Vibrato
ExSN3	8	Picked Bass 2	Bridge Mute	Harmonics	-	Portamento	Vibrato	Vibrato
ExSN4	1	Ukulele	-	-	-	Portamento	Vibrato	Vibrato
ExSN4	2	Nylon Guitar 2	Mute	Harmonics	-	Portamento	Vibrato	Vibrato
ExSN4	3	12th Steel Gtr	Mute	Harmonics	-	Portamento	Vibrato	Vibrato
ExSN4	4	Mandolin	Mute	Harmonics	-	Portamento	Tremolo	Vibrato
ExSN4	5	SteelFing Guitar	Mute	Harmonics	-	Portamento	Vibrato	Vibrato
ExSN4	6	SteelStr Guitar2	Mute	Harmonics	-	Portamento	Vibrato	Vibrato
ExSN5	1	Classical Trumpet	Staccato	Fall	-	Portamento	Dynamics+Vib	Vibrato
ExSN5	2	Frugal Horn	Staccato	Fall	-	Portamento	Dynamics+Vib	Vibrato
ExSN5	3	Trumpet 2	Staccato	Fall	-	Portamento	Dynamics+Vib	Vibrato
ExSN5	4	Mariachi Tp	Staccato	Fall	-	Portamento	Dynamics+Vib	Vibrato
ExSN5	5	Trombone 2	Staccato	Fall	-	Portamento	Dynamics+Vib	Vibrato
ExSN5	6	Bass Trombone	Staccato	Fall	-	Portamento	Dynamics+Vib	Vibrato
ExSN5	7	Tuba	Staccato	-	-	Portamento	Dynamics+Vib	Vibrato
ExSN5	8	StraightMute Tp	Staccato	Fall	-	Portamento	Dynamics+Vib	Vibrato
ExSN5	9	Cup Mute Trumpet	Staccato	Fall	-	Portamento	Dynamics+Vib	Vibrato
ExSN5	10	French Horn 2	Staccato	-	-	Portamento	Dynamics+Vib	Vibrato
ExSN5	11	Mute French Horn	Staccato	-	-	Portamento	Dynamics+Vib	Vibrato

SuperNATURAL Drum (SN-D)

Bank	No.	Inst Name	CC01 (* 5)
INT	1	Studio Kick	-
INT	2	Pop Kick	-
INT	3	Jazz Kick	-
INT	4	Rock Kick	-
INT	5	Studio Kick 2	-
INT	6	Rock Kick 2	-
INT	7	Orch Bass Drum	-
INT	8	Studio Sn	Roll + Dynamics
INT	9	Studio Sn Rim	Roll + Dynamics
INT	10	Studio Sn XStk	-
INT	11	Pop Sn	Roll + Dynamics
INT	12	Pop Sn Rim	Roll + Dynamics
INT	13	Pop Sn XStk	-
INT	14	Jazz Sn	Roll + Dynamics
INT	15	Jazz Sn Rim	Roll + Dynamics
INT	16	Jazz Sn XStk	-
INT	17	Rock Sn	Roll + Dynamics
INT	18	Rock Sn Rim	Roll + Dynamics
INT	19	Rock Sn XStk	-
INT	20	Tight Sn	Roll + Dynamics
INT	21	Tight Sn Rim	Roll + Dynamics
INT	22	Tight Sn XStk	-
INT	23	Studio Sn 2	Roll + Dynamics
INT	24	Studio Sn 2 Rim	Roll + Dynamics
INT	25	Studio Sn 2 XStk	-
INT	26	Rock Sn 2	Roll + Dynamics
INT	27	Rock Sn 2 Rim	Roll + Dynamics
INT	28	Rock Sn 2 XStk	-
INT	29	Brush Sn Slap	Roll + Dynamics
INT	30	Brush Sn Tap	Roll + Dynamics
INT	31	Brush Sn Slide	-
INT	32	Brush Sn Swirl 1	-
INT	33	Brush Sn Swirl 2	-
INT	34	Snare CrossStk	-
INT	35	Orch Snare	Roll + Dynamics
INT	36	Orch Snare XStk	-
INT	37	Pop Tom Hi	-
INT	38	Pop Tom Mid	-
INT	39	Pop Tom Flr	-
INT	40	Rock Tom Hi	-
INT	41	Rock Tom Mid	-
INT	42	Rock Tom Floor	-
INT	43	Jazz Tom Hi	-
INT	44	Jazz Tom Mid	-
INT	45	Jazz Tom Floor	-
INT	46	Brush Tom Hi	-
INT	47	Brush Tom Mid	-
INT	48	Brush Tom Floor	-
INT	49	Med HH Close	-
INT	50	Med HH Open	-
INT	51	Med HH Pedal	-
INT	52	Standard HH Cl	-
INT	53	Standard HH Op	-

Bank	No.	Inst Name	CC01 (* 5)
INT	54	Standard HH Pdl	-
INT	55	Jazz HH Close	-
INT	56	Jazz HH Open	-
INT	57	Jazz HH Pedal	-
INT	58	Brush HH Close	-
INT	59	Brush HH Open	-
INT	60	Standard Rd Edge	-
INT	61	Standard Rd Bell	-
INT	62	Std Rd Edge/Bell	-
INT	63	Medium Ride Edge	-
INT	64	Medium Ride Bell	-
INT	65	Med Rd Edge/Bell	-
INT	66	Flat 18"Ride	-
INT	67	Brush 18"Ride	-
INT	68	Brush 20"Ride	-
INT	69	Standard 16"Cr R	Roll + Dynamics
INT	70	Standard 16"Cr L	Roll + Dynamics
INT	71	Standard 18"Cr R	Roll + Dynamics
INT	72	Standard 18"Cr L	Roll + Dynamics
INT	73	Jazz 16"Cr R	Roll + Dynamics
INT	74	Jazz 16"Cr L	Roll + Dynamics
INT	75	Heavy 18"Cr R	Roll + Dynamics
INT	76	Heavy 18"Cr L	Roll + Dynamics
INT	77	Brush 16"Cr R	-
INT	78	Brush 16"Cr L	-
INT	79	Brush 18"Cr R	-
INT	80	Brush 18"Cr L	-
INT	81	Splash Cymbal 1	-
INT	82	Splash Cymbal 2	-
INT	83	Brush Splash Cym	-
INT	84	China Cymbal	-
INT	85	Orch Cymbal	-
INT	86	Orch Mallet Cym	Roll + Dynamics
INT	87	Gong	-
INT	88	Timpani F2	-
INT	89	Timpani F#2	-
INT	90	Timpani G2	-
INT	91	Timpani G#2	-
INT	92	Timpani A2	-
INT	93	Timpani A#2	-
INT	94	Timpani B2	-
INT	95	Timpani C3	-
INT	96	Timpani C#3	-
INT	97	Timpani D3	-
INT	98	Timpani D#3	-
INT	99	Timpani E3	-
INT	100	Timpani F3	-
INT	101	Tambourine 1	Roll + Dynamics
INT	102	Tambourine 2	-
INT	103	Cowbell 1	-
INT	104	Cowbell 2	-
INT	105	Vibra-slap	-
INT	106	High Bongo 1	Roll + Dynamics

SuperNATURAL Tone CC Assign – SuperNATURAL Drum (SN-D)

Bank	No.	Inst Name	CC01 (* 5)
INT	107	Low Bongo 1	-
INT	108	High Bongo 2	-
INT	109	Low Bongo 2	-
INT	110	MuteHi Conga 1	-
INT	111	OpenHi Conga 1	Roll + Dynamics
INT	112	Low Conga 1	Roll + Dynamics
INT	113	MuteHi Conga 2	-
INT	114	OpenHi Conga 2	-
INT	115	Low Conga 2	-
INT	116	High Timbale	-
INT	117	Low Timbale	-
INT	118	High Agogo 1	-
INT	119	Low Agogo 1	-
INT	120	High Agogo 2	-
INT	121	Low Agogo 2	-
INT	122	Cabasa 1	-
INT	123	Cabasa 2	-
INT	124	Maracas 1	-
INT	125	Maracas 2	-
INT	126	Short Whistle	-
INT	127	Long Whistle	-
INT	128	Short Guiro	-
INT	129	Long Guiro	-
INT	130	Claves 1	-
INT	131	Claves 2	-
INT	132	Hi WoodBlock 1	-
INT	133	Low WoodBlock 1	-
INT	134	Hi WoodBlock 2	-
INT	135	Low WoodBlock 2	-
INT	136	Mute Cuica 1	-
INT	137	Open Cuica 1	-
INT	138	Mute Cuica 2	-
INT	139	Open Cuica 2	-
INT	140	Mute Triangle 1	Roll + Dynamics
INT	141	Open Triangle 1	Roll + Dynamics
INT	142	Mute Triangle 2	-
INT	143	Open Triangle 2	-
INT	144	Shaker	-
INT	145	Sleigh Bell 1	-
INT	146	Sleigh Bell 2	-
INT	147	Wind Chimes	-
INT	148	Castanets 1	Roll + Dynamics
INT	149	Castanets 2	-
INT	150	Mute Surdo 1	-
INT	151	Open Surdo 1	-
INT	152	Mute Surdo 2	-
INT	153	Open Surdo 2	-
INT	154	Sticks	-
INT	155	Square Click	-
INT	156	Metro Click	-
INT	157	Metro Bell	-
INT	158	Hand Clap	-
INT	159	High Q	-
INT	160	Slap	-
INT	161	Scratch Push	-
INT	162	Scratch Pull	-

Bank	No.	Inst Name	CC01 (* 5)
INT	163	Gt Fret Noise	-
INT	164	Gt Cutting Up Nz	-
INT	165	Gt Cutting Dw Nz	-
INT	166	AcBass Noise	-
INT	167	Flute Key Click	-
INT	168	Applause	Dynamics
ExSN6	1	Laughing 1	-
ExSN6	2	Laughing 2	-
ExSN6	3	Laughing 3	-
ExSN6	4	Scream 1	-
ExSN6	5	Scream 2	-
ExSN6	6	Scream 3	-
ExSN6	7	Punch 1	-
ExSN6	8	Punch 2	-
ExSN6	9	Punch 3	-
ExSN6	10	Heart Beat 1	Dynamics
ExSN6	11	Heart Beat 2	Dynamics
ExSN6	12	Heart Beat 3	Dynamics
ExSN6	13	Foot Steps 1	Dynamics
ExSN6	14	Foot Steps 2	Dynamics
ExSN6	15	Foot Steps 3	Dynamics
ExSN6	16	Foot Step 1 A	-
ExSN6	17	Foot Step 1 B	-
ExSN6	18	Foot Step 2 A	-
ExSN6	19	Foot Step 2 B	-
ExSN6	20	Foot Step 3 A	-
ExSN6	21	Foot Step 3 B	-
ExSN6	22	Door Creaking 1	-
ExSN6	23	Door Creaking 2	-
ExSN6	24	Door Creaking 3	-
ExSN6	25	Door Slam 1	-
ExSN6	26	Door Slam 2	-
ExSN6	27	Door Slam 3	-
ExSN6	28	Scratch	-
ExSN6	29	MetalScratch	-
ExSN6	30	Matches	-
ExSN6	31	Car Engine 1	Dynamics
ExSN6	32	Car Engine 2	Dynamics
ExSN6	33	Car Engine 3	Dynamics
ExSN6	34	Car Stop 1 L>R	-
ExSN6	35	Car Stop 1 R>L	-
ExSN6	36	Car Stop 2 L>R	-
ExSN6	37	Car Stop 2 R>L	-
ExSN6	38	Car Stop 3 L>R	-
ExSN6	39	Car Stop 3 R>L	-
ExSN6	40	CarPassing 1 L>R	-
ExSN6	41	CarPassing 1 R>L	-
ExSN6	42	CarPassing 2 L>R	-
ExSN6	43	CarPassing 2 R>L	-
ExSN6	44	CarPassing 3 L>R	-
ExSN6	45	CarPassing 3 R>L	-
ExSN6	46	CarPassing 4	-
ExSN6	47	CarPassing 5	-
ExSN6	48	CarPassing 6	-
ExSN6	49	Car Crash 1 L>R	-
ExSN6	50	Car Crash 1 R>L	-

SuperNATURAL Tone CC Assign – SuperNATURAL Drum (SN-D)

Bank	No.	Inst Name	CC01 (* 5)
ExSN6	51	Car Crash 2 L>R	-
ExSN6	52	Car Crash 2 R>L	-
ExSN6	53	Car Crash 3 L>R	-
ExSN6	54	Car Crash 3 R>L	-
ExSN6	55	Crash 1	-
ExSN6	56	Crash 2	-
ExSN6	57	Crash 3	-
ExSN6	58	Siren 1	Dynamics
ExSN6	59	Siren 2 L>R	Dynamics
ExSN6	60	Siren 2 R>L	Dynamics
ExSN6	61	Siren 3	Dynamics
ExSN6	62	Train 1	Dynamics
ExSN6	63	Train 2	Dynamics
ExSN6	64	Jetplane 1 L>R	Dynamics
ExSN6	65	Jetplane 1 R>L	Dynamics
ExSN6	66	Jetplane 2 L>R	Dynamics
ExSN6	67	Jetplane 2 R>L	Dynamics
ExSN6	68	Jetplane 3 L>R	Dynamics
ExSN6	69	Jetplane 3 R>L	Dynamics
ExSN6	70	Helicopter 1 L	Dynamics
ExSN6	71	Helicopter 1 R	Dynamics
ExSN6	72	Helicopter 2 L	Dynamics
ExSN6	73	Helicopter 2 R	Dynamics
ExSN6	74	Helicopter 3 L	Dynamics
ExSN6	75	Helicopter 3 R	Dynamics
ExSN6	76	Starship 1 L>R	Dynamics
ExSN6	77	Starship 1 R>L	Dynamics
ExSN6	78	Starship 2 L>R	Dynamics
ExSN6	79	Starship 2 R>L	Dynamics
ExSN6	80	Starship 3 L>R	Dynamics
ExSN6	81	Starship 3 R>L	Dynamics
ExSN6	82	Gun Shot 1	-
ExSN6	83	Gun Shot 2	-
ExSN6	84	Gun Shot 3	-
ExSN6	85	Machine Gun 1	Dynamics
ExSN6	86	Machine Gun 2	Dynamics
ExSN6	87	Machine Gun 3	Dynamics
ExSN6	88	Laser Gun 1	-
ExSN6	89	Laser Gun 2	-
ExSN6	90	Laser Gun 3	-
ExSN6	91	Explosion 1	-
ExSN6	92	Explosion 2	-
ExSN6	93	Explosion 3	-
ExSN6	94	Dog 1	-
ExSN6	95	Dog 2	-
ExSN6	96	Dog 3	-
ExSN6	97	Dog 4	-
ExSN6	98	Horse 1 L>R	Dynamics
ExSN6	99	Horse 1 R>L	Dynamics
ExSN6	100	Horse 2 L>R	Dynamics
ExSN6	101	Horse 2 R>L	Dynamics
ExSN6	102	Horse 3 L>R	Dynamics
ExSN6	103	Horse 3 R>L	Dynamics
ExSN6	104	Birds 1	Dynamics
ExSN6	105	Birds 2	Dynamics
ExSN6	106	Rain 1	Dynamics

Bank	No.	Inst Name	CC01 (* 5)
ExSN6	107	Rain 2	Dynamics
ExSN6	108	Thunder 1	-
ExSN6	109	Thunder 2	-
ExSN6	110	Thunder 3	-
ExSN6	111	Wind	Dynamics
ExSN6	112	Seashore	Dynamics
ExSN6	113	Stream 1	Dynamics
ExSN6	114	Stream 2	Dynamics
ExSN6	115	Bubbles 1	Dynamics
ExSN6	116	Bubbles 2	Dynamics
ExSN6	117	Burst 1	-
ExSN6	118	Burst 2	-
ExSN6	119	Burst 3	-
ExSN6	120	Burst 4	-
ExSN6	121	Glass Burst 1	-
ExSN6	122	Glass Burst 2	-
ExSN6	123	Glass Burst 3	-
ExSN6	124	Telephone 1	Dynamics
ExSN6	125	Telephone 2	Dynamics
ExSN6	126	Telephone 3	Dynamics

*5 This can always be controlled by CC01 regardless of the SYS_CTRL1 setting.